

**APPENDIX N: ECONOMIC STUDY**



**Metago Strategy4Good**  
Strategy and Sustainability  
Consultants



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## Langer Heinrich Uranium Economic Impact Assessment

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## GLOSSARY

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CSR	32, 36
Corporate Social Responsibility, 4, 34	
EIA	HDI
Environmental Impact Assessment, 4	Human Development Index, 19, 21
FDI	LHU
Foreign Direct Investment, 28	Langer Heinrich Uranium, 4, 5, 6, 7, 8, 9,
GDFI	10, 11, 13, 22, 29, 30, 31, 32, 33, 34,
Gross Domestic Fixed Investment, 26, 27	35, 36, 37, 38
GDP	<b>N\$m</b>
Gross Domestic Product, 14, 17, 19, 22,	Million Namibian Dollars, 27
23, 24, 25, 30, 36, 38	NAD
GGP, Gross Geographic Product 24, 26, 30,	Namibian Dollars, 4

## BACKGROUND

### PROJECT DESCRIPTION

<i>Topic</i>	<i>Information</i>
Name of business unit	Langer Heinrich Uranium
Shareholding	100% owned by PALADIN ENERGY LTD (Inc in Australia)
Name of mine	Langer Heinrich Uranium
Address of mine	Head Office is in Swakopmund
Location of mine	The Langer Heinrich deposit is situated at the eastern edge of the arid Namib Desert within the most northerly part of the Namib-Naukluft National Park, in the Erongo Region in Namibia.
Commodity	Uranium
Life of mine	25 years
Number of employees	After phase III completion, 450-480 permanent employees.

Discovered in 1973, the deposit was the subject of numerous project evaluation researches, including a comprehensive pre-feasibility study. Depressed uranium prices at the time curtailed any development activity and the deposit changed hands several times. Paladin Resources acquired the mineral title in 2002 and in 2005 finalised a favourable bankable feasibility study. The defined mineral reserves provided a mine life of 11 years and a process plant life of 15 years.

Langer Heinrich Uranium (Pty) Ltd (LHU), a wholly owned subsidiary of Paladin Energy Ltd, owns and operates under the approvals of a mining licence (ML 140), an environmental impact assessment (EIA) and an environmental management plan (EMP).

Background to the expansion and notes on current CSR is in the fact sheet provided by LHU.

#### LANGER HEINRICH OPERATION: UPDATED FACT SHEET - JUNE 9, 2009

- Production capacity increased by 40% as of July 1, 2009 to 3,700,000 lbs of yellowcake per annum.
- Capital cost of expansion (stage 2): \$NAD 440 Million
- Employment numbers approx 450 persons, 95% Namibians
- Employment of non-Africans: 5 of 450
- Paladin share option plan is unique to Namibia, where every long term LHU employee receives share options (average of 5,000 share options per person in 2008) and thus

participates in Company ownership.

- Donated \$NAD 10,000,000 to Roads Authority over past 3 years to upgrade and seal C28. This reduces maintenance requirement for Roads Authority on C28 allowing maintenance dollars to be spent on roads such as in the North where heavy expenditures are required.
- Donated \$NAD 190,000 to Educational Math Congress in May 09 for Namibian Teachers to be trained in latest Math teaching methods.
- Supplied an interest free loan of \$NAD 1,200,000 to the Swakopmund Medical Centre to purchase lab equipment.
- Built Computer centre in Mondesa for children enrolled in Mondesa Youth Opportunities
- Involved at the community level with many events; LHU believes that events where LHU employees can participate with the community add the most value per contribution.
- Paladin initiated operations in Malawi in April 09 (Kayelekera Mine)
- Several Namibians (to date 12 and growing) working as expats in Malawi, employees live in the Erongo region but are flown to Malawi on a 6 week in, 2 week out Roster.
- General Manager of Malawi's Kayelekera Mine is Namibian.
- Senior Management level at Langer Heinrich consists primarily of Namibians, two of which are enrolled in Executive Development Program at Stellenbosch University to prepare for potential General Manager position. The current positions for these individuals are Martin Tjipita (Engineering Manager) and Rodney Theron (Processing Manager).
- Paladin Energy is extremely positive regarding the mine life at Langer Heinrich and believes that a thirty year life is realistic.
- Whole heartedly, Langer Heinrich continues to work hard in the area of community involvement, as evidenced by the Construction activities of the Stage 2 \$NAD 440 Million expansion where local Contractors performed the majority of the work.
- A 3<sup>rd</sup> expansion is planned for early 2010 for an estimated Capital cost of \$NAD 800 Million.
- Currently involved with the preparation of a 2<sup>nd</sup> Environmental Impact Assessment (EIA) for LHU to determine any gaps in the initial EIA and to include any potential impacts from expansions.
- All significant Environmental issues are reviewed by World class experts including many Namibian expert scientists and consultants.

LHU proposes to expand its current operations at the mine in order to increase the uranium oxide production from 3.7 million pounds per annum to between 5 and 10 million pounds per annum. The promoters' motivation for the project is economic in nature as LHU has identified an

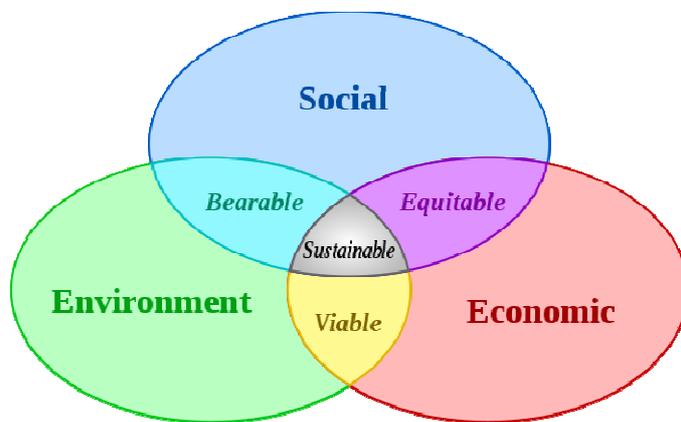
opportunity to increase its supply in line with a growing global demand for uranium used in power generation. The main components of the expansion project include: Upgrade to the processing plant, increased rate of mining, satellite mine workshop, satellite crushing plant, heap leach pad, tailings thickener, provision of additional pumps, and power (either generators or a power line) to the swakop river for abstracting the full allotment of groundwater and temporary contractors camp.

## CONCEPTUAL FRAMEWORK

### DIFFERENT SHADES OF SUSTAINABILITY

In a modern society, all economic development is not necessarily good. This notion is borne out of the concept of sustainable development which dictates a balance between economics, social and environmental responsibilities. The philosophical (for many people real) debate regarding the balance between economic, social and environmental responsibilities, often plays out in the concepts of weak, moderate and strong sustainability.

Weak sustainability is based on the assumption that the overall stock of natural and human capital remains constant all the time. It allows for infinite substitution between the capitals, thus implying that the decrease in natural capital can be made up by innovation, ingenuity, imagination, and adaptation. Moderate is similar to Weak Sustainability, except that critical aspects of life, such as the ozone layer and coral reefs are protected, while the rest of environmental resources are still seen to be no more than natural capital and are allowed for substitution with other forms of capital.



Strong sustainability – the ecological approach - states that when an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if cause-effect relationship is not fully established scientifically. In this context, it implies that use of any natural resources should be compensated for by means of reforestation, recycling, reduced inequality, community development and others. Strong sustainability demands that equivalent stock of natural capital is preserved for future generation.

As with most Environmental Impact Assessments in SA, our approach to sustainability is in the Moderate Sustainability category - thus as long as there are no social, environmental and economic “fatal flaws”, the positive economic impacts can be used to mitigate against harmful social and environmental impacts. (A fatal flaw would be an event where irreparable bio-physical or social destruction would result due to an economic activity).

The Economic Impacts of LHU below, which are mostly positive, should be read in conjunction

with the other specialists reports on its social and environmental impacts. Negative impacts, before and after mitigation, should be juxtaposed against the positive economic ones in this report as this would be in alignment with a moderate sustainability approach.

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## PURPOSE OF ECONOMIC IMPACT ASSESSEMENTS

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The IAIA<sup>1</sup> defines an impact assessment as "...simply defined, it is the process of identifying the future consequences of a current or proposed action." In an economic sense, this implies understanding the impacts on the macro-economic environment, thus stating which parts of an economy will grow, stay the same or decline and why.

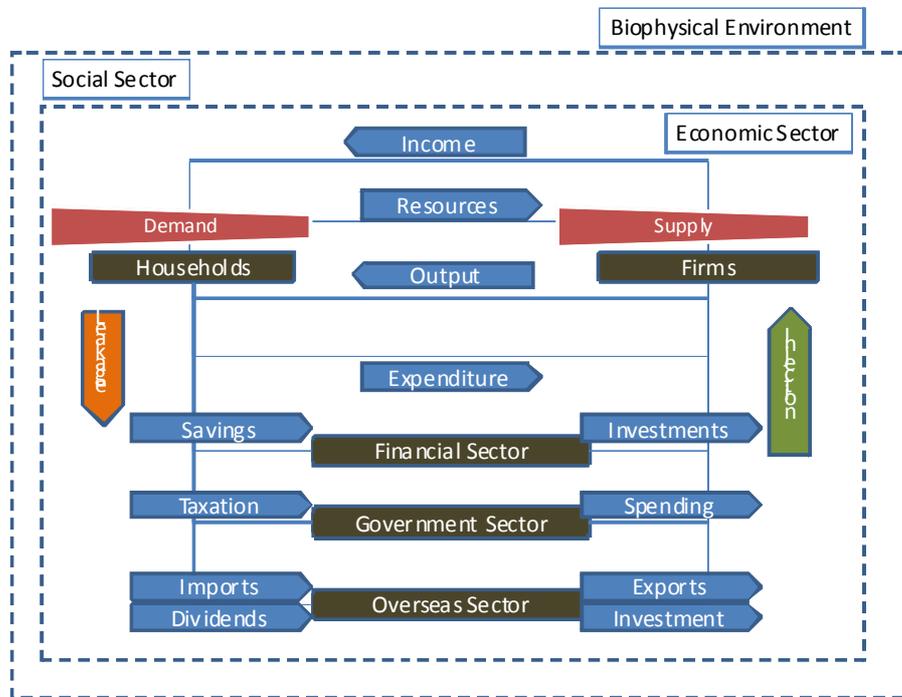
We state a few generic principles which underpin our findings:

- Economic growth is a function of societal stability and confidence in a country's future. We assumed these factors will be stable for the duration of the mining project.
- We assume that LHU has competent management that will be able to manage the inherent risks and opportunities in their business and that they will enable the business to deliver the benefits stated in this report.
- That sustainable economic growth comes from optimal population growth, productivity and technological advances, which is mostly led by investment, private consumption expenditure and exports (thus the private sector is the real engine for growth);
- The role of the Government Sector is to lay down the rules of the economy and act as a benevolent body to distribute wealth and opportunities to the poorer sections of the economy.
- That sound monetary and economic policies are essential for economic growth and is assumed to be the case in this Economic Impact Assessment.
- That economics is subject to the overall ecology, but that such trade-offs are beyond the scope of this report.

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<sup>1</sup> International Impact Assessment Association

FLOW OF GOODS, SERVICES AND INCOME



The following section is merely for information for a non-economics reader and endeavours to show in a simplistic format the flow of goods, services and money in an economy. An economic impact assessment traces

spending through an economy and measures the cumulative effects of that spending. The impact region is determined by the nature of the project and can be the entire country, province, an individual municipality or a combination of municipalities. The diagram above shows in a simplistic manner how one can trace spending through the interconnectedness of goods, services, income, households, firms, government, banks and the international sectors. This diagram demonstrates how an increase in output from LHU has an impact on the overall economy of Namibia. The flow of the argument is the following:

1. An investment occurs in LHU, from either households (private investment), the banking sector (loans) or from the overseas sector (foreign investment).
2. The investment results in sustainable (over the life of mine) increases in output, which leads to increases in employment, sales (in this case exports) and increases in procurement from suppliers (more procurement from other firms.)
3. Through direct and indirect taxes, the Government Sector increases its income and capacity to spend.
4. Profits are saved (or paid out as dividends) into the banking sector, which creates further capital for lending. A dividend that leaves Namibia is considered a leakage.





The Region comprises of seven constituencies: Omaruru, Karibib, Arandis, Swakopmund, Walvis Bay Rural, Walvis Bay Urban and Daures. The town of Swakopmund serves as the seat of the region.

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## PROJECT DESIRABILITY

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The promoters of the project state that *the motivation for the project is economic in nature. LHU has identified an opportunity to increase its supply in line with a growing global demand for uranium that will be used in power generation. The project will benefit society and the surrounding communities both directly and indirectly. Direct economic benefits will be derived from wages, taxes and profits. Indirect economic benefits will be derived from the procurement of goods and services and the increased spending power of additional employees. The challenge facing LHU is to contribute these benefits while at the same time preventing and/or mitigating potential negative social and environmental impacts.*

In a broader ecological sense, the desirability of the project has two arguments, one that says nuclear power is good for the environment and hence uranium is very necessary due to emissions reductions compared to conventional power stations, and the other that says that nuclear power plants pose high risks for society. According to the UN Intergovernmental Panel on Climate Change (IPCC), a 50-80% reduction in all emissions is required to stabilise the carbon dioxide concentration in the atmosphere at present levels. When substituting coal-generated energy with nuclear energy, for every 22 tons of uranium used, one million tons less of carbon dioxide are emitted and hence considerable reductions in carbon emissions is a certainty.

We are unfortunately not in a position to take a stand on the desirability of this raw material as it requires considerable scientific and engineering knowledge, both of which we do not have for this type of evaluation. However, the debate on the desirability of uranium cannot go un-mentioned and hence the stating of this issue.

From a strict economic point of view, based on our analysis below, there can be no doubt that the net economic benefits of this development far outstrips any potential economic cost, and hence it can be argued that economically the project is desirable.

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## PROJECT VIABILITY

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### A ROSY URANIUM COMMODITY OUTLOOK

From most sources it appears that the Uranium-nuclear energy future may be a very attractive industry going forward. Since 1985, demand has exceeded production. Mines in 2005 supplied some 49,000 tonnes of uranium oxide concentrate, increasing progressively to 53,070 in 2007. However, demand for uranium was 83,000 tons in 2007. Mines thus met 64% of demand in 2007, with the balance coming from secondary sources such as dismantled warheads; government and civilian stockpiles of uranium and plutonium; recycled uranium and plutonium from spent fuel, as mixed oxide fuel; and re-enriched depleted uranium tails.

The Rossing mine in Namibia produced 6,7 m pounds of Uranium in 2004, with a value of less than US\$ 100 million per year. The mine has a Uranium concentration of 0.03% by weight. In comparison, this year, LHU is planning to produce 3,7 m pounds.

A total of 26 countries generate more than 25% of their electricity using nuclear power plants. As of early 2008, some 440 nuclear reactors were operating worldwide, with a combined capacity of some 363 GWe<sup>2</sup>. These reactors require 173m pounds of uranium oxide concentrate containing 66,500 tonnes of uranium annually. The cost of mining Uranium is a very small factor in the cost of running a nuclear power station.

Because of the cost structure of nuclear power generation, with high capital and low fuel costs, the demand for uranium fuel is much more predictable than with probably any other mineral commodity. Once reactors are built, it is very cost-effective to keep them running at high capacity and for utilities to make any adjustments to load trends by cutting back on fossil fuel use. Demand forecasts for uranium thus depend largely on installed and operable capacity, regardless of economic fluctuations. Demand will depend on new plants being built and the rate at which older plants are retired. Licensing of plant lifetime extensions and the economic attractiveness of continued operation of older reactors are critical factors in the medium-term uranium market.

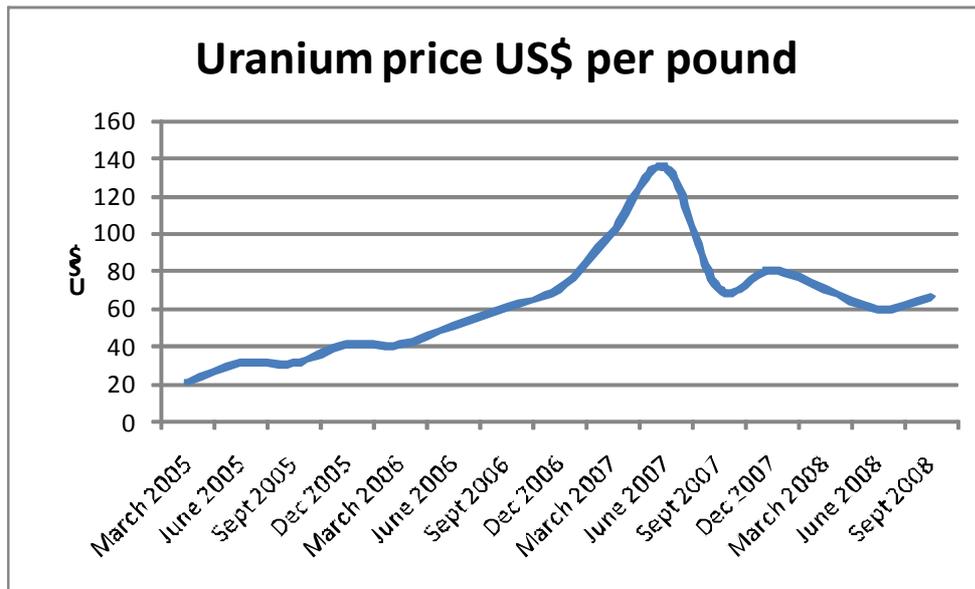
By 2025, world nuclear energy capacity is expected to grow to between 450 GWe and 530 GWe from the present generating capacity of about 370 GWe. This will raise annual uranium requirements to between 80,000 tonnes and 100,000 tonnes.

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<sup>2</sup> In the electric power industry, *megawatt electrical* (abbreviation: MWe) is a term that refers to [electric power](#).

## URANIUM PRICES REMAIN RELATIVELY HIGH

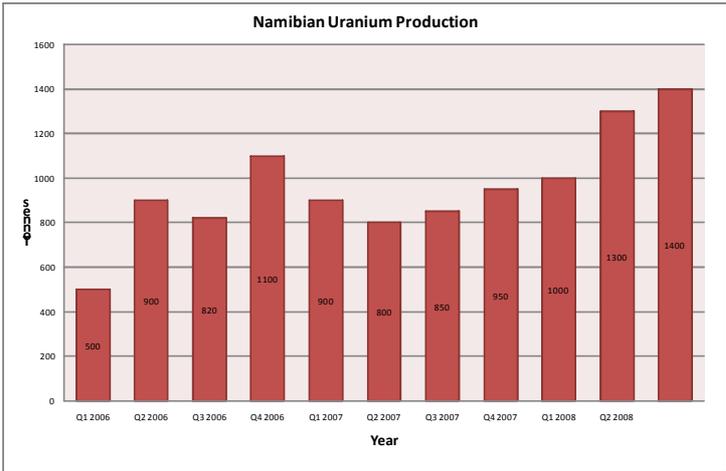
FIGURE 2: URANIUM PRICES



Uranium prices were high in the late 1970s thanks to many nuclear power plants being built, but as the public became disillusioned with nuclear power in the 1990's, prices plummeted to US\$ 22 / kg. In 1996 prices recovered to the point where most mines could produce profitably, though they then declined again and only started to recover strongly late in 2003. The price of Uranium then rose to a peak of over US\$ 300/kg in 2007 and came back to US\$ 165 / kg by early 2008. The rise in prices has led to a flurry of exploration and a 50% increase in reserves.

There has been a boom in uranium exploration, owing to high oil and uranium prices and possibilities of disruption in energy supplies to Europe and North America. Worldwide exploration expenditures in 2004 totalled over US\$ 130 million; increases of almost 40% compared to 2002, and were close to US\$ 200 million in 2005. This can be expected to lead to further additions to the uranium resource base. A significant number of new mining projects have also been announced that could substantially boost the world's uranium production capacity.

Given the above strong and stable demand for Uranium, and the relatively higher price environment, on balance, one has to assert that this industry has an attractive outlook.



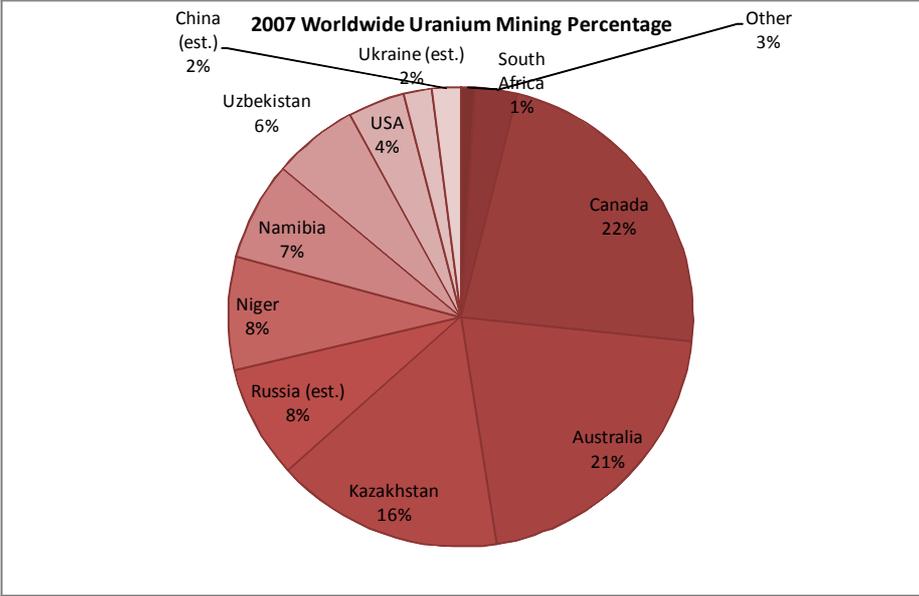
**NAMIBIA'S ROLE WITHIN THE GLOBAL URANIUM MARKET**

Although Namibia is an important producer of uranium it does not have any nuclear power stations. The Government of Namibia has indicated recently that nuclear power stations must be considered as an option to resolve the electricity crisis within the region.

In 2006 Namibia has produced 3,617 tonnes (9.69 million pounds) of uranium with only Rössing Uranium Mine active at that stage, with a production contribution equivalent to 7.8% of global production. Since then the Langer Heinrich mine has become operational. In 2007 Rössing Uranium mine planned to produce 4,049 tonnes (10.85 million pounds) of uranium, a 1.3% annual increase in production. LHU mine also started producing in 2007, but did not reach full production capacities of 1,200 tonnes of uranium, only reaching 1,000 tonnes (2.68 million pounds) of uranium. These amounts totalled Namibia's uranium production for 2007 at 5,049 tonnes (13.53 million pounds), a 65% increase from 2006.

Based on the current projections and results of exploration companies in Namibia, the annual production level may increase to more than 19,000 tonnes (50.91 million pounds) by 2012, resulting in 376% growth rate from 2007 to 2012.

The pie chart indicates that Namibia held 7% of the world's uranium reserves. This has increased to approximately 10% (2009).



## HIGH EMPLOYMENT AND RELATIVE POVERTY

The following section provides some baseline information on employment and poverty in Namibia and Erongo.

- The Namibian population was estimated at 1.8 million people in 2005, of which 107k (5.9%) lived in Erongo. This is in fact a very small population and hence a large economy is never really possible. Population, productivity and innovation growth are the major drivers of economic growth and with a small population (GDP = Population x GDP per capita), a massively big economy is not likely in Erongo. (We estimate the Erongo economy to be between N\$ 7- 10 billion (Namibia was N\$ 70 billion in 2008). To put this into context, the Namibian Economy is approximately the size of Limpopo Provincial Economy, which is the second smallest provincial economy out of nine provincial economies in South Africa.
- The annual growth rate in population for Erongo is set at 1.3% (Namibian National Planning Commission), which was half of the Namibian growth rate of 2.6%.
- The Association of Regional Councils on Namibia make the following valid points with respect to employment creation in the Erongo Region:
  - The unemployment rate in the Erongo Region is 36% (inclusive of the so-called economically non-active population – thus people not seeking jobs). There are significant differences between males and females. The proportion of employed females is 58 per cent compared to 72 per cent for males.

### Why is unemployment high in Namibia?

There is abundant evidence to prove empirically and theoretically that unemployment rate is high in Namibia. *The recent statistics show that unemployment rate had reached 37 percent.* Namibia's unemployment rate is the highest in the SACU member states with Swaziland trailing behind by 30 percent. Combining the underemployment statistics, our total unemployment could exceed 60%. According to a well published Afrobarometer survey, over half of the people surveyed in Namibia say that unemployment is the most important economic problem.

### [SA Regional Poverty Network](#)

The most recent Namibian Labour Survey at our disposal (2004) shows the results below. Note that these numbers will yield slightly different unemployment percentages as they are from different sources.

Region/ Area	Sex	Employed	Unemployed	Labour force	Inactive	Activity not reported	Total
<i>Erongo</i>	<i>B</i>	37 701	13 192	50 893	12 433	0	63 326
	<i>F</i>	14 078	6 451	20 529	7 727	0	28 256
	<i>M</i>	23 623	6 741	30 364	4 706	0	35 070
				0			0
<b><i>Namibia</i></b>	<b><i>B</i></b>	<b>385 329</b>	<b>108 119</b>	<b>493 448</b>	<b>393 880</b>	<b>1 020</b>	<b>888 348</b>
	<b><i>F</i></b>	<b>168 677</b>	<b>56 125</b>	<b>224 802</b>	<b>241 237</b>	<b>373</b>	<b>466 412</b>
	<b><i>M</i></b>	<b>216 652</b>	<b>51 994</b>	<b>268 646</b>	<b>152 643</b>	<b>647</b>	<b>421 936</b>

- In Erongo, the largest occupational group is elementary occupations that include labourers and other unskilled occupations and constitutes 28 per cent of all employed persons. There are no significant differences in terms of male and female numbers. The second largest occupational group is craft and related trade workers, making up 19 per cent of all employed persons in the region. Males make up 90 per cent of those in this occupational group. Professionals together with associate professionals make up 12 per cent of all employed persons with no significant gender differences in this group. Other occupations that are predominantly male-dominated are the armed forces, skilled agricultural and fishery workers and plant and machine operators and assemblers. The clerk's occupational category is female-dominated with about 15 per cent of all employed females falling in this category.
- One out of five employed persons over 15 years of age did not complete primary education, while slightly more than two out of five did complete primary education. Almost 30 per cent of all employed persons have completed secondary or tertiary education. Significant gender differences occur.

Turning to Namibia in total, in the graph below, it can be gleaned that a large section of employees work in the agricultural and Government sectors. The mining sector, based in these statistics, has only 1.6 % of the workforce employed, which is a very small percentage indeed. The “tourism” sector, which is not an economically classifiable sector as its income is dispersed over a number of economic sectors, is most readily traced to the hotels and restaurants sector, which employs approximately 3% of the employed. Of these total jobs, all of it will not be dependent on tourism, as many of the jobs are related to local business and private consumption expenditure.

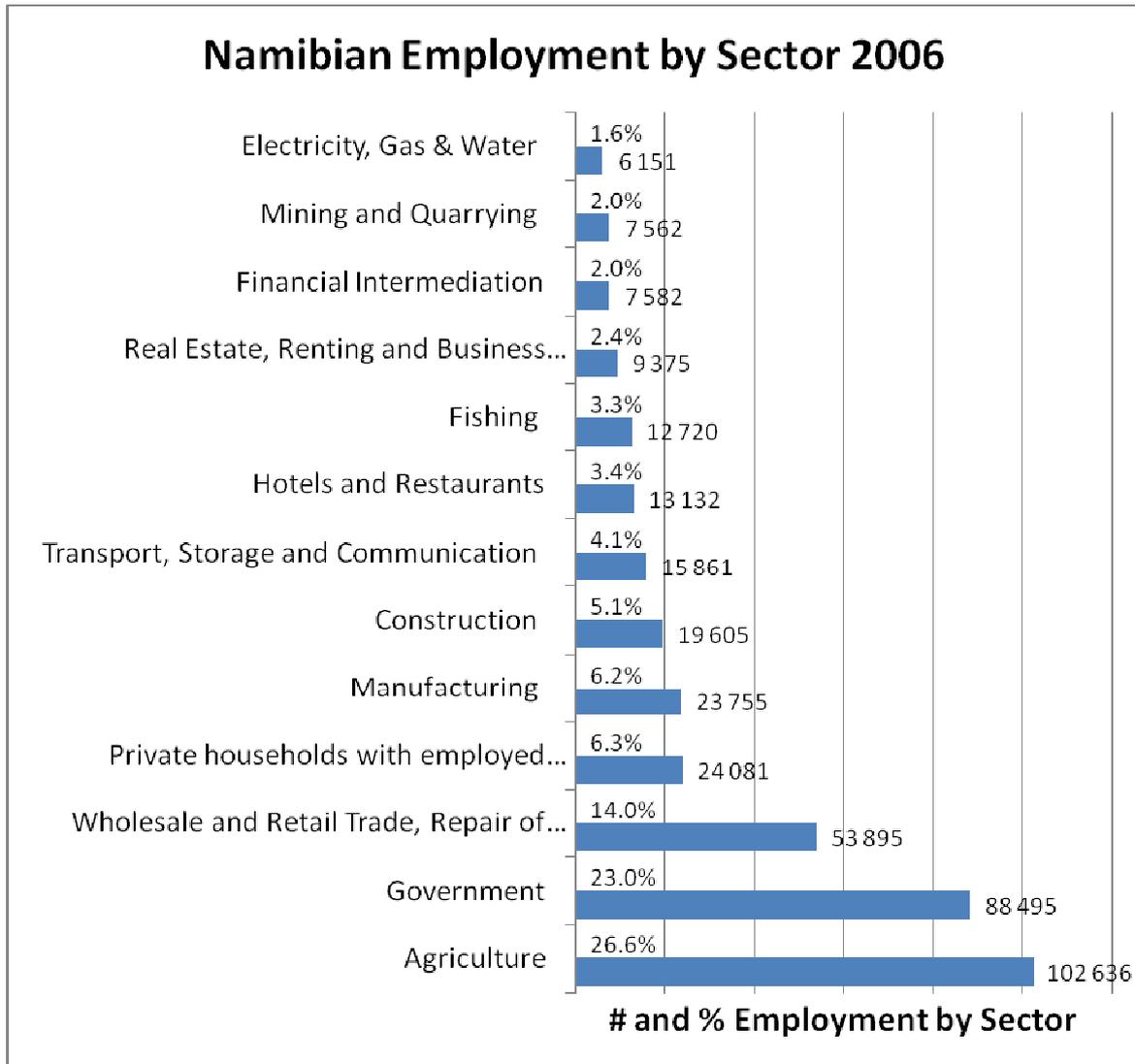
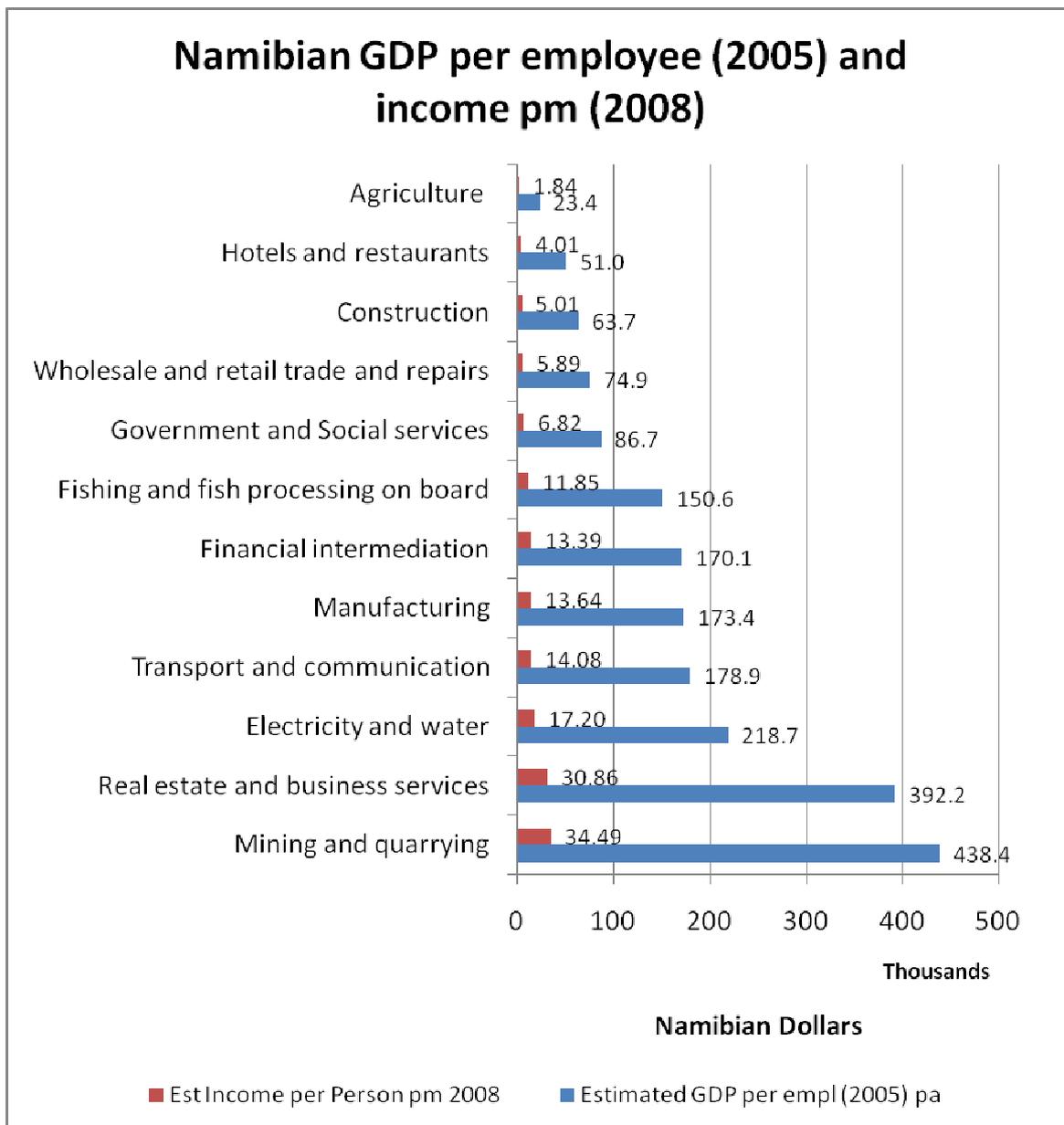


Figure 3: Source: Institute for Public Policy Research Namibia

A further important factor about employment is not only the amount of jobs that are created, but also the GDP per employee, which indicates the level of total income derived in the economy per employee. In addition it also shows the relative capital intensity (investment required to create one job) and the degree of skilled labour required to perform in an industry. From the graph below, it can be seen that agriculture and hotels and restaurants (the latter part of tourism sector), have relatively low earnings per person (estimated at N\$ 1840 pm to the mining sector where the income is N\$ 34 490 pm).

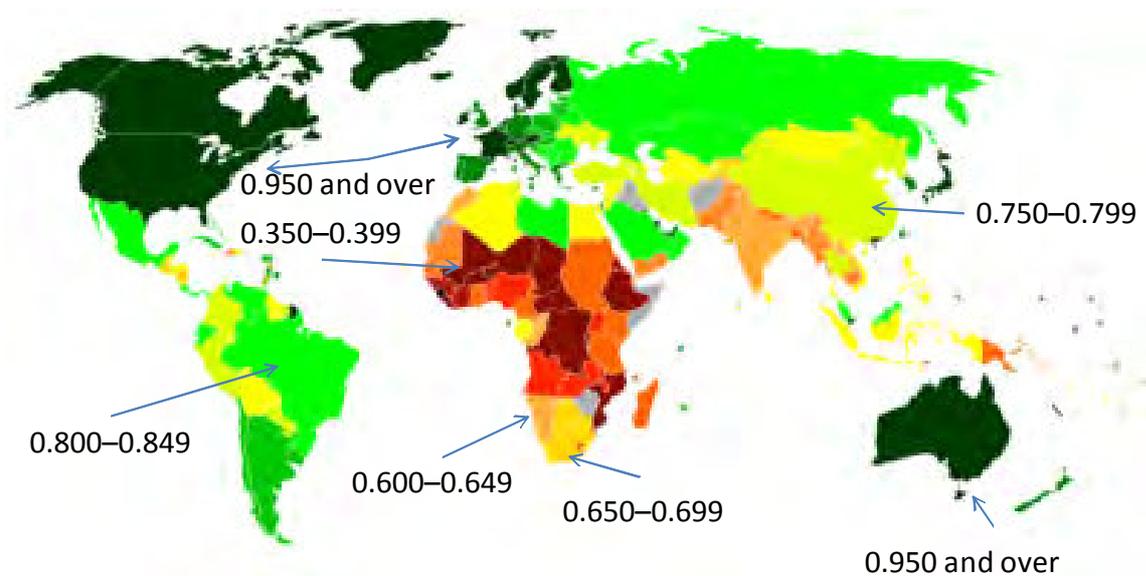
FIGURE 4: SOURCE: INSTITUTE FOR PUBLIC POLICY RESEARCH NAMIBIA



- In Erongo, due to the arid climate, 80% of the population live in the urban areas (as these have basic services and water), compared to 33% of all Namibians living in urban areas. This means by implication that economic development opportunities in large areas of Erongo are limited, **hence the existing and potential contributions from the Mining and Tourism Sectors are crucial for economic development in the area.** These two sectors in effect use and compete for the land available in the area (although it needs to point out that at 63k km<sup>2</sup>, there is no lack of land availability).
- Erongo has a relatively high literacy rate (92%) compared to the Namibian average of 81%, which means its workforce are slightly better educated than the average Namibian.
- The migration patterns into Erongo is also interesting, with 55% of the population having migrated into the region on a life-time basis and 8% on a short term basis (thus indicating that the region provides jobs). These are much higher than the Namibian averages (3,8% and 4% respectively). This corroborate to a large extent the strong harbour, tourism and mining growth nature in the region, as these are likely to be the major economic growth drivers in the region.

## NAMIBIAN AND ERONGO PROVERTY PROFILE

The well-known Human Development Index<sup>3</sup> map of the world below shows the relative development nature of different countries and regions across the world. From this map, Namibia can be categorised as a developing country (alongside with South African and India for example). The dark green colours show very developed countries (USA, Europe and Australia), whilst the dark brown ones are very under-developed. Relative to dark green, the lighter greens and yellows are less developed. Erongo itself, has a HDI of 0.71, indicating a relatively better development status than the average for Namibia. The index of 0.35-0.399 below shows countries (mainly in Africa) that are severely under-developed.)



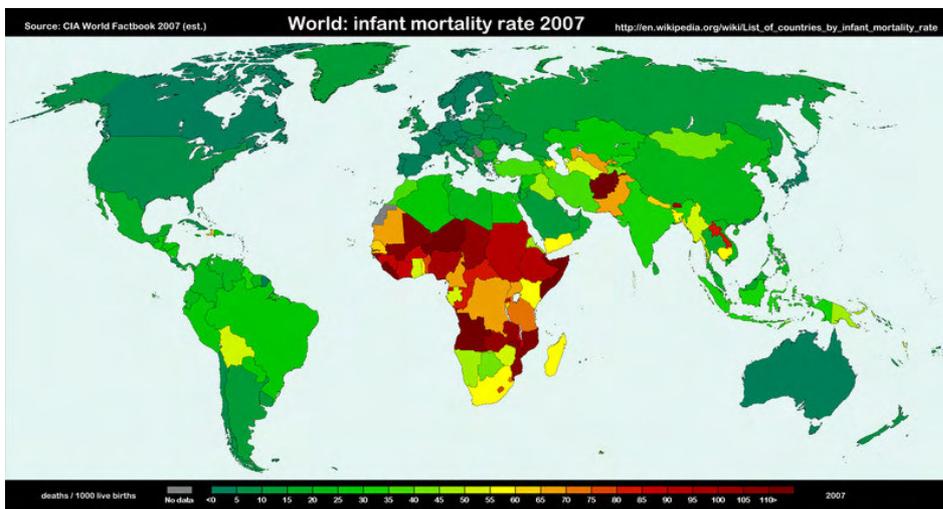
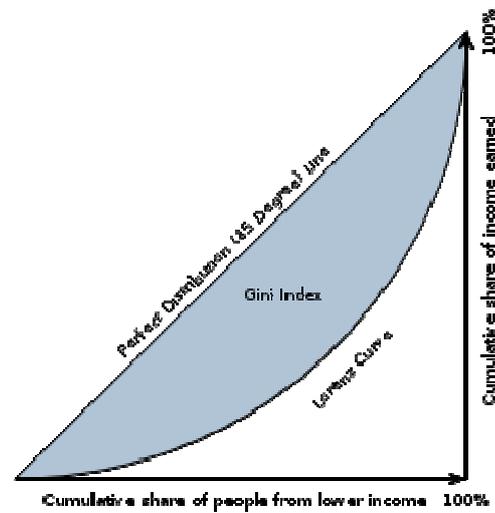
The HDI perhaps summarises the development status of Namibia very well, that of a developing economy on average and much like South Africa, **a country with two economies**. On the one hand, a very sophisticated first world economy lives alongside very poor neighbours, hence the existence of high income inequalities. The following observations on the poverty profile of Namibia suffice:

- Erongo and Namibia has gini-coefficients of 0.60 and 0.67 respectively, which indicate a relatively high income inequality. Perfect Income Equality is zero and Perfect Income

<sup>3</sup> The HDI combines normalised measures of [life expectancy](#), [literacy](#), [educational attainment](#), and [GDP](#) for countries worldwide. It is claimed as a standard means of measuring [human development](#)—a concept that, according to the [United Nations Development Program](#) (UNDP), refers to the process of widening the options of persons, giving them greater opportunities for education, health care, income, employment, etc. The basic use of HDI is to measure a country's development.

Inequality is one.

- The dependency ratio for Erongo (Population / formally employed) is relatively low at 2.9, compared to the 4.8 for the whole of Namibia. Very deprived areas in rural Africa are often as high as nine dependents.
- The official unemployment rate is a further indicator of poverty, and the Erongo's unemployed of 25% (this is the strict definition as opposed to our estimate above of 34%) compare less favourably to the Namibian average rate of 21%, both of which are much worse than the average unemployment rate of 7% for developed economies.
- Infant deaths per 1000 live births for Erongo is 42 and for Namibia it is 52, which is better than the SA average of 56, but on the whole a far cry away from the 0-5 for highly developed countries.



- Furthermore, life expectancy at birth is 56 years for Erongo and a low 49 for Namibia as a whole. This again compares unfavourably with developed nations of over 70 years of life expectancy.
- The prevalence of HIV/Aids in pregnant women aged 15–49 years, was 27% and 19.8% for Erongo and Namibia respectively. The Erongo percentage is high indeed and on the face of it, does not explain why people in Erongo have a higher life expectancy than the average Namibian.
- The extremely poor and generally poor (thus people living on, below or just above the breadline), are 26.8% and 37.8% respectively for Erongo and Namibia. This indicates a

relatively high proportion of poor people in Namibia.

### LIVELIHOODS

Wages and salaries constitute the main source of household income for 67% per cent of the total population in the Erongo Region, while farming (mainly livestock) is the main source of income for only 4 per cent of households (This is no surprise given the arid land). Significant differences occur between urban and rural areas. In urban areas wages and salaries constitute the major source of income for 73 per cent and in rural areas for 41 per cent of households. Farming is reported as the main source of income for only 16 per cent of rural households. Interesting to note that pension is the main source of income for more than 26 per cent of households in the Daures constituency, while farming is the main source of income for 24 per cent of these households. In all the other constituencies, salaries and wages are far more important and farming far less important as main sources of income for households.

Area	Households	Per cent				
		Farming	Business	Wages and Salaries	Pension	Cash Remittances
Erongo	27 496	3.9	7.9	66.6	9.6	8.0
Urban	22 036	0.8	8.0	73.0	7.6	6.4
Rural	5 460	16.4	7.5	40.6	17.6	14.3
Arandis	1 906	0.9	7.1	64.7	14.5	8.9
Daures	2 364	23.6	7.8	23.2	26.4	15.5
Karibib	2 966	8.8	7.3	48.6	15.4	14.0
Omaruru	1 837	5.7	9.5	62.4	10.5	8.0
Swakopmund	7 526	0.7	8.6	72.6	7.9	6.5
Walvis Bay Rural	4 426	0.7	7.6	77.5	2.4	7.5
Walvis Bay Urban	6 471	0.8	7.3	77.8	6.0	4.2

### CONCLUSION ON EMPLOYMENT AND POVERTY

We can conclude the following baseline for the purposes of the Economic Impact Assessment:

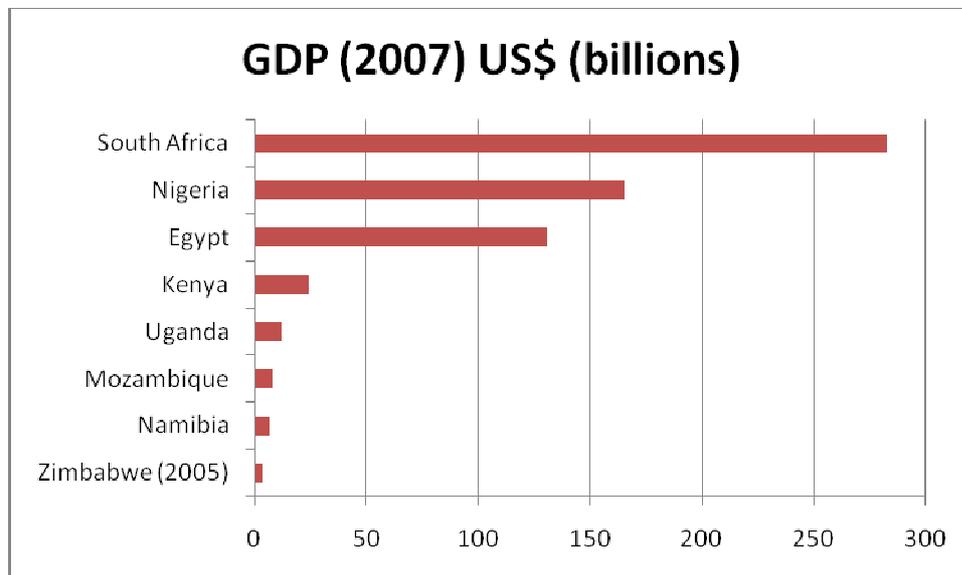
- As a developing economy, Namibia, like so many other countries in Africa, has a high unemployment and poverty rate and that its general HDI is relatively low. However, its poverty rate is not desperate as in many truly poor African countries.
- Employment is mainly in low skilled and basic economic sectors (agriculture, government and business services).
- Very little employment is in the manufacturing sector, a sector renowned for its innovation or cheap labour requirements; which is the mainstay for high growth and developed economies.
- Job creation, skills development and economic growth is thus important to this economy (over and above the economic business recession) as one could postulate that structural

unemployment (thus the mismatch between skills supplied and demand), is of the order of the day.

## RELATIVELY SMALL ECONOMY

The size of a country's GDP matters because the bigger it is, the better its ability to absorb shocks and the less volatile its GDP is. The official Namibian GDP<sup>4</sup> at end of 2007 (in current prices) was set at N\$61.4 billion and in 2008, it was just over N\$ 70.0 billion, which is relatively small. From the graph below this can be seen.

FIGURE 5: GDP (2007) US\$ (BILLIONS)



## ECONOMIC GROWTH VARIABLE

A typical consequence of a small economy is often its variability in growth rates and this is borne out in the table below. The Real GDP growth rate is as high as 12.3% to as low as 2.5% over a five year period. The GDP per capita has also grown positively which means the average Namibian has increased his or her wealth. This baseline will be used later to demonstrate the impact that LHU will have in economic growth.

TABLE 1: NAMIBIAN GDP GROWTH

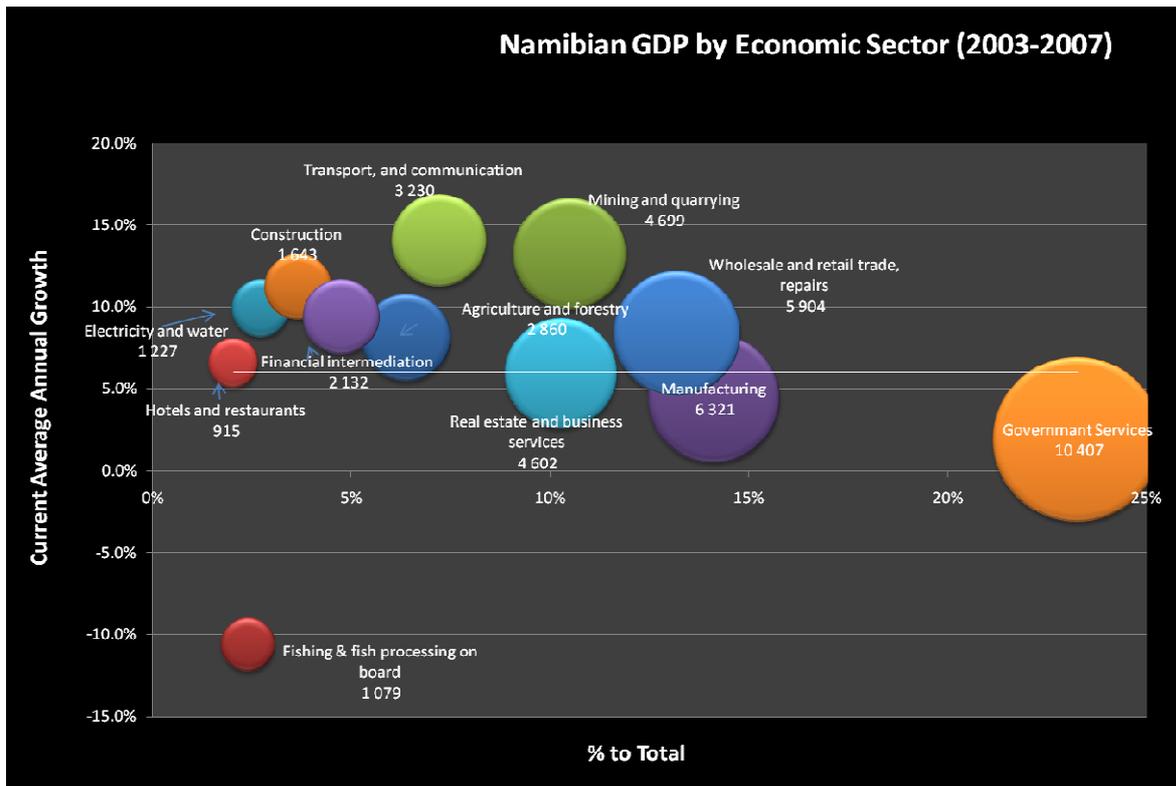
Constant 2004 prices	2003	2004	2005	2006	2007
GDP (N\$ mil.)	38014	42679	43758	46886	48789
% Change	4.2	12.3	2.5	7.1	4.1
GDP per capita (N\$)	20103	22194	22360	23537	24058

<sup>4</sup> Dec 2008 Quarterly Bulletin Bank of Namibia

% Change	2.5	10.4	0.7	5.3	2.2
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PRIVATE SECTOR GROWING IN THE ECONOMY

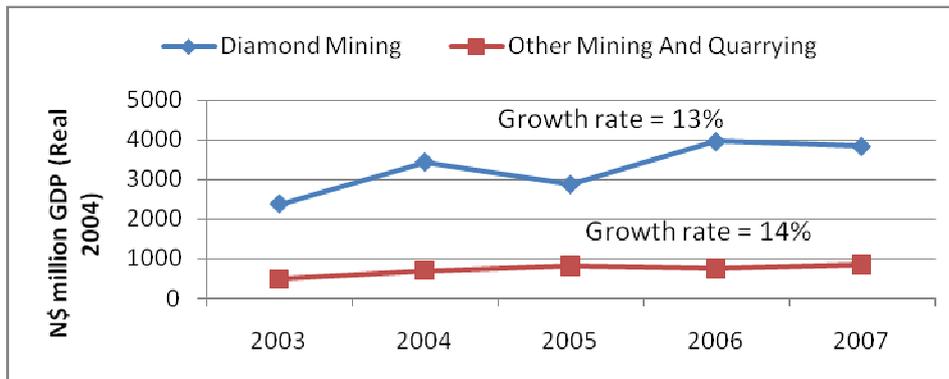
Figure 6: GDP BY ECONOMIC ACTIVITY



From the above graph, the following is evident:

- Government Services provision is the largest part of the economy, at almost 25% of total economic sector output. This is not an uncommon economic phenomenon as a similar profile for many regions in South Africa exist. However, it is pleasing to observe that the private sector in Namibia is thriving as all the major entrepreneurial and high risk sectors show strong growth. Relative to the private sector, Government is not growing any larger and this is a sign of the basis for a sustainable economy.
- The sectors that have been growing strongly were the mining and quarrying and transport and telecommunications sectors (particularly the telecommunications sector). Diamond mining still dominates the mining sector and other commodities are slowly increasing in size (especially Uranium Production.)

FIGURE 7: DIAMOND AND OTHER MINING OUTPUT



- The mining sector is relatively big at 12% of total GDP, which is bigger than the South African mining industry's contribution to its GDP. As will be discussed later, the mining industry is responsible for a significant amount of the Namibian exports and foreign earnings, which means that declines in the commodity cycles have a major impact on the country's economy.
- The decline of the fishing industry (another non-renewable resource such as mining), shows how the decline in resources can have a big impact on an economy. This industry's decline in current terms was over 10% year on year.
- The Namibian economy can be described as a primary and government sector driven economy, as almost 45% of the country's GDP come from these sectors. Economies with these profiles are often not very competitive, as real economic growth depends on innovation in the manufacturing sector, of which Namibia have little of.

### TOURISM SIGNIFICANT IN ERONGO

One of the key concerns from many stakeholders during the EIA public participation processes, was the issue around the cumulative impact mining may have on tourism. This concern is prominent in most mining development, as mining often crowds out other land uses, such as agriculture and parks/landscapes for tourism. It's very difficult it not impossible to put an aesthetic use value to land, some may argue that it's priceless, others may say it's a necessary compromise for economic development or poverty alleviation. No primary research was undertaken to quantify or qualify the impacts, but a number of statistics based on reliable statistical sources reveal some interesting information.

In the first place, how large is the tourism industry in Namibia? Purely from the economic sectoral data, such an answer is not easy to give, as a tourist spend his or her money in different sectors, of which the hotels, restaurants, retail, transport and financial services sectors are the most significant. All these sectors have obvious backward and forward linkages, so the multiplier is equally at play in this sector as in any other.

Namibia is famed for its Tourism in the Erongo area given the singularly beauty of the Namibian arid landscapes and the Naukluft Park plays a critical part in preserving this. Given that a number of exploration licenses are being issued in the Naukluft Park, there is therefore a concern

around the cumulative impacts on mining on the tourism industry. The cumulative impacts could therefore have a visual and aesthetic impairment which in turn would impact the number of tourists visiting Erongo, and consequently threaten the jobs in the industry. Our concern here is the potential cumulative threat to the tourism industry.

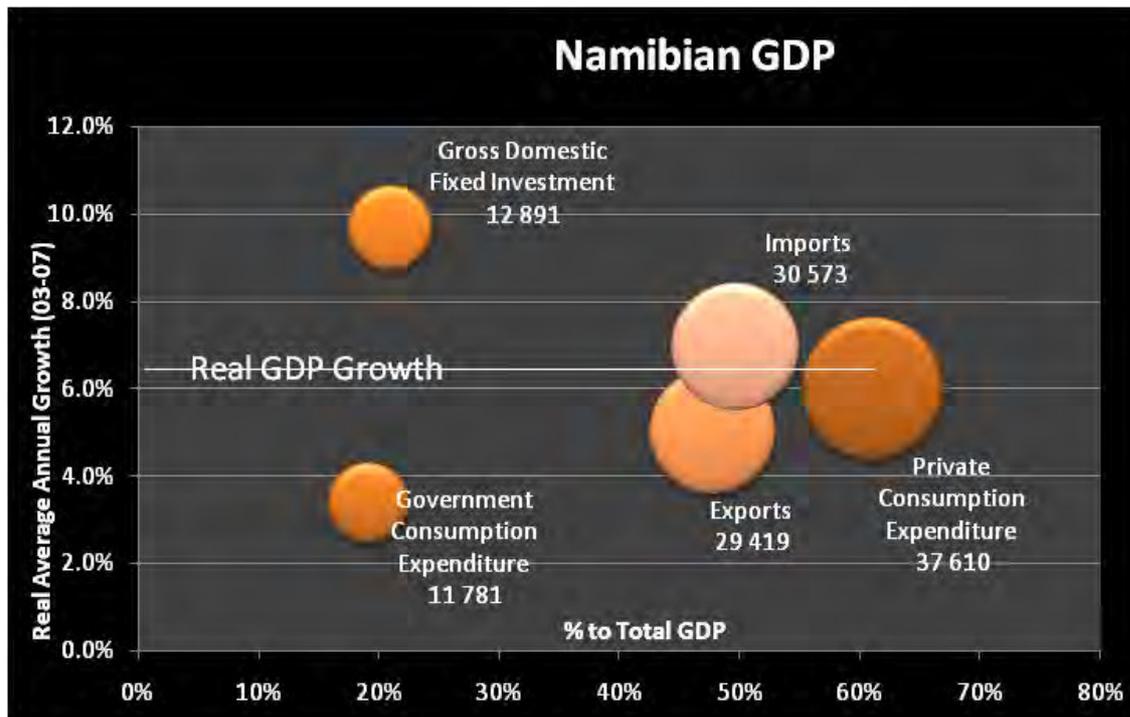
Returning to the size of the Tourist sector, as a start, the hotel and restaurant sector has a GDP of N\$ 1 billion and this gives some kind of indication what magnitude the tourist industry may take, which is 2% of total GDP. (The total output of this industry is not just derived from tourists.) Another measure is to multiply the average bed-nights sold in Namibia for 2007/8 with an estimated tourist spend and from this it is concluded that the average turnover from these bed-nights were R3 billion in that year. As turnover is not GDP, this amount needs to be reduced by a third, which gives a R2 billion GDP (4% of GDP). With forward and backward linkages, the tourism industry can be anything between 6-8% of GDP.

Erongo has by far the most registered tourist establishments in Namibia, 510 (39%) out of 1310, and correspondingly 7 073 (27%) out of 26 007 beds, with the result that one can estimate that 30% of the tourist industry is in Erongo. Thus a GDP of R300 million could directly come from the tourist industry, which translates to an estimated 6 000 (15%) employees out of the 37 710 employed in Erongo. This shows the relative importance for job creation in Erongo, as it has three times more people (proportionately) employed than the Namibian national average. The mining industry in total employs under 8 000 people nationally, hence the cumulative impacts of the mining industry could be detrimental to tourism, if not carefully monitored.

However, a counter claim from the mining industry is that it often increases business travelling dramatically in a region and often accommodation operators, albeit with a different target market in mind, does very well from this new kind of tourist.

## AN OPEN ECONOMY

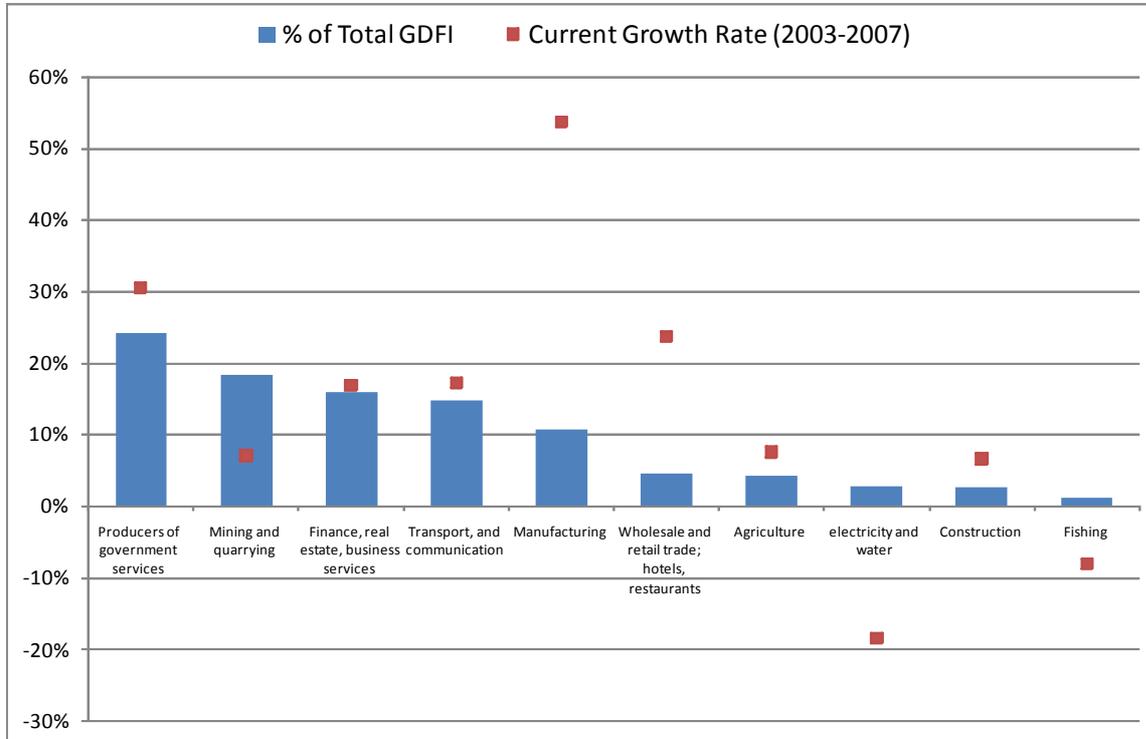
FIGURE 8: EXPENDITURE ON GDP



When looking at the above graph, the following is evident w.r.t. the Namibian Economy:

1. It's a relatively open economy, meaning that a very high percentage of its economic base comprise of imports and exports. This confirms that much of its production is being exported (Fish, Diamonds and Uranium), and most of its manufactured products are imported. A simple comparison with South Africa shows that its imports and exports comprise in the low 30%'s of GGP, as opposed to the Namibian economy where it is well over 50%. Most significantly is that Namibia's imports exceed its exports and hence its foreign reserves will always be under pressure. As with any economy, exports are critical for economic growth and this is probably more so the case in Namibia.
2. A satisfying aspect of the Namibian economy has been its growth in gross domestic fixed investment, which in real terms approached 20% per annum. From the graph below, investments were high from the Government and mining sectors, with the Manufacturing and the Services industries showing particularly high growth.
3. In the figure below, it can be seen that the Government itself was a major driver on GDFI, followed by the private services sector. The manufacturing sector's investment has seen the highest growth, even though it is of a small base.

FIGURE 9: GDFI BY SECTOR



As can be seen from the table below, most of the investment in Namibia was financed from net savings in the economy, with capital transfers from abroad being relatively low.

Table 2: Financing of capital formation

N\$m	2003	2004	2005	2006	2007
Saving, net	5387	8121	8823	14003	11473
Capital transfers receivable from abroad	520	527	535	602	616
Capital transfers payable to foreign countries	-3	-3	-3	-3	-3
<b>Total</b>	<b>5904</b>	<b>8645</b>	<b>9355</b>	<b>14602</b>	<b>12085</b>

In the graph below, copied from the Namibian Central Bank, total foreign investment has increased dramatically in the last two years, after it lagged tremendously in 2005 and 2006. When correlating foreign direct investment to industry growth, then it is clear that much of the investment went in telecommunications, mining, real estate and transport.

FIGURE 10: NAMIBIAN FDI (SOURCE: BANK OF NAMIBIA QUARTERLY BULLETIN)

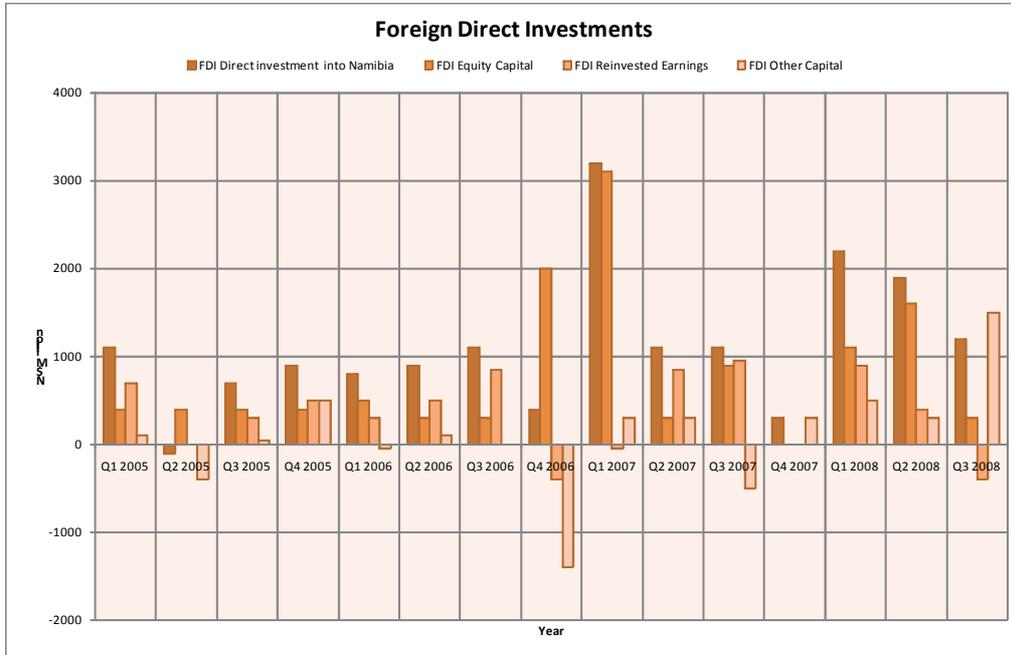
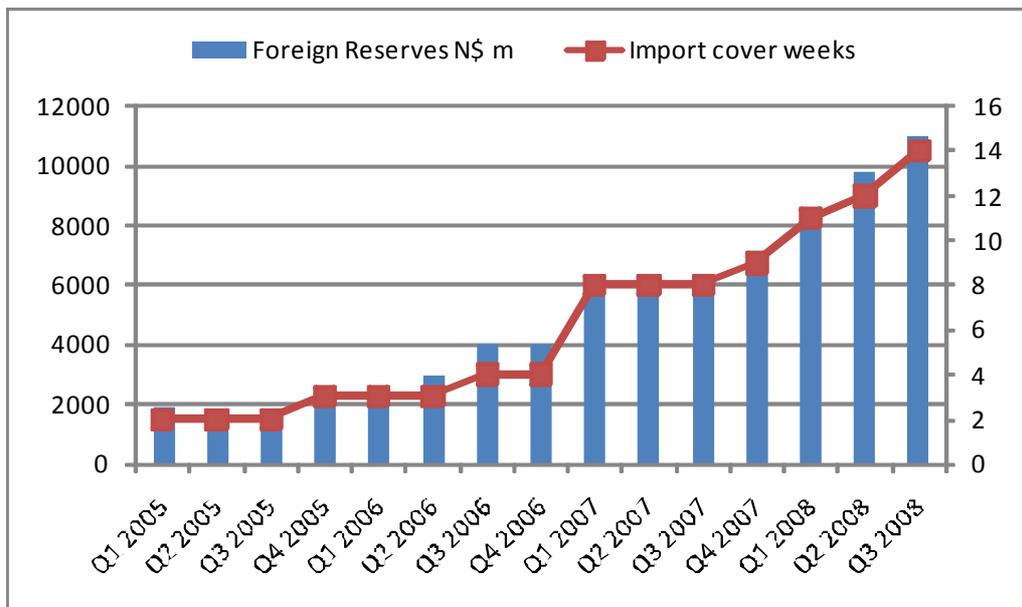


FIGURE 11: FOREIGN RESERVES (SOURCE: BANK OF NAMIBIA QUARTERLY BULLETIN)



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 ROLE OF MINERALS IN EXPORTS
 

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From the table below, it is evident that Namibia is overly dependent on diamond exports for its foreign exchange earnings. Diamonds made up 35% of total mineral exports in Q3 2008, which means that developments like LHU will assist in diversifying the risk.

**Table 15: Unprocessed mineral export values (N\$ million)**

	2007				2008		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3
<b>Total exports</b>	4,834	5,575	5,065	5,093	5,256	6,162	6,292
<b>Diamond</b>	1,186	2,196	1,386	1,652	1,791	2,242	2,216
Diamonds as % of total exports	24.5	39.3	27.3	32.4	34.1	36.3	35.2
<b>Non-diamonds</b>	1,199	845	1,302	1,470	1,012	1,248	1,366
Silver	15	13	16	6	7	9	7
Lead	0	31	49	38	0	55	63
Zinc (concentrate)	197	190	140	113	140	108	103
Others*	987	611	1,097	1,313	865	1,076	1,193
<b>Non-diamonds as % of total exports</b>	<b>24.8</b>	<b>15.1</b>	<b>25.7</b>	<b>28.8</b>	<b>19.2</b>	<b>20.2</b>	<b>21.7</b>

Source: Ministry of Mines and Energy

\* It includes uranium, industrial minerals, dimension stone and Walvis Bay soil refiners.

## IMPACTS AND MITIGATION

<i>Key Issue and rating</i>	<i>Baseline</i>	<i>Impacts (Direct and Indirect)</i>	<i>Mitigation/Enhancement</i>
<p><b>GGP IMPACT</b></p> <p><i>Very positive impact</i></p>	<p>The total GGP for Namibia as at Q3 2008 was N\$ 70.1 billion.</p> <p>Although regional GGP statistics are not available, based on household and other statistics our <i>gestimate</i> is that Erongo's economy is approximately N\$ 12 billion pa.</p>	<p>The increase in economic value added by LHU (thus Outputs minus all supplier input costs), amounts to N\$ 2 billion per annum at steady state mining, and the phase III investment is estimated at N\$ 630m. Over the life of mine<sup>5</sup>, this leads to a direct increase of 1.9% and 10.9% in the Namibian and Erongo economy. Generally, as a rule of thumb, this increase can be multiplied by 2 to give a total impact of 3.8% and 21.8%.</p>	<p>Typical enhancement strategies to consider are as follows:</p> <p>Import substitution (endeavour to manufacture in local economy) – thus reduce imports.</p> <p>Beneficiation – where possible, this needs to be investigated.</p>
<p><b>INVESTMENT</b></p> <p><i>Very positive impact</i></p>	<p>On average, total Gross Fixed Investment (investment and depreciation) in the mining industry was N\$ 2 billion for the last five years. Total mining fixed stock amounted N\$ 16 bn in 2007.</p> <p>Exploration expenses averaged N\$ 400 million dollars over the same period.</p> <p>Total investment in the economy in the last year was N\$ 12 billion. Foreign</p>	<p>LHU's investment in fixed assets and its new investment of just over N\$ 600 m for all the phases, amounts to N\$ 1.85 billion. However, just concentrating on new investment, LHU will be investing 13% of 2008 foreign direct investment. Its total investment as a % of total mining fixed capital stock (thus all infrastructure and</p>	<p>No intervention required.</p>

<sup>5</sup> To be conservative we only used a life of mine of twelve years, even though all indications are 25 years is expected. Thus the initial investment + increase of GDP for twelve years / GDP \* 25 years = GDP impact.

<i>Key Issue and rating</i>	<i>Baseline</i>	<i>Impacts (Direct and Indirect)</i>	<i>Mitigation/Enhancement</i>
	Direct Investment varies from year to year, but in 2007 and 2008 it was in the range of N\$ 4-5 bn.	capital equipment), amounts to 11%. Its new investment plus depreciation as a % of total gross fixed investment in the mining industry is set at 37%, making it one of the more significant mining investments in Namibia currently.	
<b>EXPORTS</b> <i>Very positive</i>	Total unprocessed minerals made up N\$ 20.4 b (69%) of the total exports of N\$ 29.4 b for 2007 in Namibia. Diamonds make up 35% of the exports of unprocessed minerals. Uranium exports are under 18% of unprocessed minerals as it forms part of the “other” export cluster.  The importance of exports is paramount as the Namibian economy is very open and given that all imports need to be paid for in foreign currency, any increase in exports is significant.	At optimal level production, LHU could contribute N\$ 3.8 billion in exports and this is an 18% increase in mineral exports.	No intervention required as the positives are sufficient.
<b>ECONOMIC GROWTH</b>	The Namibian economic growth rate is on average a real growth of 6% (prior to the economic recession).	The direct increase in the economy above, being 1.9% and 10,9% to the Namibian and Erongo economy is significant.	Any reduction in importation or leakage from the Erongo region will significantly increase the economic growth.

<i>Key Issue and rating</i>	<i>Baseline</i>	<i>Impacts (Direct and Indirect)</i>	<i>Mitigation/Enhancement</i>
<p><b>PROCUREMENT</b> <i>Very positive impact</i></p>	<p>We have not analysed procurement in detail but based on our site visit, it was evident that many sectors (engineering, technical services, retail and financial services) are benefiting tremendously in Swakopmund and Walvis Bay due to the LHU impacts.</p>	<p>As we indicated above, the indirect and induced impacts could be a further N\$ 2 billion in the total Namibian economy, of which most of this benefit accrues to Erongo. A GGP of this magnitude would translate in total sales of at least N\$ 3bn outside the mining industry as a result of LHU's presence. These sales are made up of service suppliers to LHU and sales to its employees w.r.t. their wages.</p>	<p>Seek to proactively engage in CSI projects with a view to give preferential procurement to local entrepreneurs and businesses. Consider developing entrepreneurs where necessary.</p>
<p><b>IMPACT ON URANIUM INDUSTRY</b> <i>Very positive impact</i></p>	<p>The Uranium industry in Namibia at end 2008 produced 5000 tons of non-enriched uranium, up 43% from the previous year of 3500 tonnes. Based on global demand and supply for the mineral, all indications are that demand for uranium will continue to increase, unless a wild card occurs, such as another Chernobyl and the global leaders lose their confidence in the power source.</p>	<p>At the end of phase III, or by 2011, LHU is planning to produce an additional 4.9 million pounds tons of uranium. This represents a 31% increase over current production levels.</p>	<p>No mitigation or enhancement required.</p>
<p><b>HOUSEHOLD INCOME IMPACT</b></p>	<p>At the end of phase III, LHU will be spending R364 million on direct salaries (on payroll, to labour brokers and contractors). Total private consumption</p>	<p>Nationally the direct increase in private consumption expenditure is 1% and locally in Erongo, LHU's work force will make up 10% of the local economic</p>	<p>Amelioration of social impacts upon mine closure needs to be planned for at this stage. Typical measures that are often taken are</p>

<i>Key Issue and rating</i>	<i>Baseline</i>	<i>Impacts (Direct and Indirect)</i>	<i>Mitigation/Enhancement</i>
<i>Very positive impact</i>	expenditure in Namibia was N\$ 37 billion and in Erongo it is guesstimated at N\$ 3.7 billion.	private spending. Including multiplier effects, this can be as much as 20%.	the stimulation of other economic sectors (or minerals) to reduce mine closure impacts.
<b>EMPLOYMENT IMPACT</b> <i>Regionally very high impacts</i>	The only firm numbers we have on full employment was done by the Inst. of Policy Research in Namibia and based on this survey, Erongo had 37 701 fully employed people and Namibia 385 329 in 2006. The total workforce for Namibia at the time was 883 000, so 57% of the workforce is unemployed and inactive. Some statistics put the official unemployment rate at 37% and this seems quite plausible. As pointed out in the baseline, this statistic is probably equally applicable nationally and at the local level.	At the end of phase III, a total of 1012 direct jobs would have been created, which is 2.7% of the current jobs in Erongo and 0.26% of jobs in Namibia. The multiplier for jobs in the mining industry is often very large, but without a full econometric model, working on a 3 x multiplier is conservatively prudent. In this case, the total impact on jobs are an increase of 8.1% and 0.8% respectively for Erongo and Namibia.	There are many enhancement strategies to job creation, which are inter alia a consideration of: <ul style="list-style-type: none"> <li>• Portable skills development for eventual downscaling;</li> <li>• Skills and career development to improve skills of workforce.</li> </ul>
<b>TOURISM INDUSTRY</b> <i>Small Negative Impacts</i>	Tourism and tourism employment in Erongo is relatively much bigger than the Namibia national average (proportionately three times the size). The mining industry in total has 8 000 employees nationally and the tourism industry has over 13 000 employees, of which we estimate nearly 6 000 work in Erongo.	The visual impact assessment undertaken as part of the EIA concludes that with the correct mitigation, the impacts are moderate to low. Thus individually (that is the action of LHU alone), we cannot foresee a major detraction in tourism as a result of the expansion. The issues are whether the cumulative impact of all the mining development in the Erongo region would have a negative impact and at what point a breakeven is reached	The ideal is a co-existing mining and tourism industry and the impact on tourism needs to be managed through an LED (Local Economic Development)-Forum, consisting of Government, the Mining Industry and Tourism Industry. If a joint development strategy does not exist to allow both industries to grow, then such a strategy needs to be

<i>Key Issue and rating</i>	<i>Baseline</i>	<i>Impacts (Direct and Indirect)</i>	<i>Mitigation/Enhancement</i>
		<p>where the jobs created in mining is negated by the jobs lost in tourism. To displace the entire tourism sector's jobs in Erongo would take at least 12 mines with 500 workers per mine to do so. The probability of twelve new mines displacing the total tourist industry in Erongo is very small indeed, as the region is vast (63 000 km<sup>2</sup>). (Twelve mines would take up maximum 288km<sup>2</sup>, or 0.4% of total area).</p> <p>In addition to this, mines undoubtedly stimulate the hospitality industry in local economies, so some of the displacement would be mitigated by natural forces.</p> <p>However, the fear and perception of a decline in tourism is real and needs to be addressed.</p>	<p>developed and implemented.</p>
<p><b>POVERTY ALLEVIATION</b> <i>High Positive Impact</i></p>	<p>Poverty alleviation is closely linked to job creation, except that welfare and social spending are further strategies to address the issue. The poverty profile of Erongo region has been set out in the report above, and suffice to say, Namibia has a relatively high poverty profile.</p>	<p>We have already indicated that an increase of 8% in Erongo employment will be effected by LHU in its final form.</p> <p>Total direct and indirect taxes to be paid by LHU is estimated at R450m and over a 15 year period life of mine this amounts to R6.7 billion in contributions to Government. Such increases will</p>	<p>Seek to develop general ABET and skills development of the unemployed in the area to reduce poverty – as a CSR initiative.</p>

<i>Key Issue and rating</i>	<i>Baseline</i>	<i>Impacts (Direct and Indirect)</i>	<i>Mitigation/Enhancement</i>
		assist considerably in alleviating poverty.	
<p><b>BALANCE OF PAYMENTS</b> <i>High Positive Impact</i></p>	<p>On average over the last five years, the total balance of payments account (thus the net of all capital and current transactions with the external sector), stood at N\$ 1,3 billion. LHU's total capital inflows could be as much as N\$ 3,2 bn (net amount of exports, imports and dividend payments).</p> <p>Total government foreign reserves stood at N\$ 10 billion of over 10 weeks of imports cover.</p>	<p>As can be seen the overall net inflows of N\$ 3.2 billion from LHU exports is a large proportion of the current balance of payment of N\$ 1.3 billion. This will increase the import cover considerably and boost Namibia's foreign reserves.</p>	<p>No enhancement required as it is assumed that the forex regulations will ensure the forex is repatriated to the economy.</p>
<p><b>FISCAL IMPACTS</b> <i>High Positive Impact</i></p>	<p>Government disposable income at end 2008 was N\$ 14,2 billion (thus total income for capital and consumption expenditure, which is used for infrastructure and social development and paying Government Salaries.</p>	<p>At optimal production, LHU could potentially contribute N\$ 570 million in royalties, direct, indirect and PAYE taxes. This is a significantly high impact (4% of government disposable income) and if one adds the multiplier, this can be as high as 8%.</p>	<p>No measures as LHU must comply with tax regulations.</p>

## IMPACT RATING<sup>6</sup>

<i>Key Issue and rating</i>	<i>Severity</i>	<i>Duration</i>	<i>Spatial Scale</i>	<i>Probability</i>	<i>Notes</i>
GDP Impact	H+	M	H	H	The increase in GDP is significant, given that it is a small economy; however the increase is national and as long as the project is viable, is a certainty. The duration is rated Medium because the mine has a finite life span.
Investment	H+	M	H	H	The same reasoning as the above applies here. Investment is a sub-component of GDP and LHU in particular will increase investment in Namibia. Its not just the quantity, but also the qualitative nature – thus overall confidence in the economy increases.
Exports	H+	M	H	H	Same as GGP impact.
Economic Growth	H+	M	H	H	Same as above.
Procurement	H+	M	H	H	Same as above.

### <sup>6</sup> CRITERIA FOR IMPACT EVALUATION

<b>Criteria for ranking of the SEVERITY of environmental impacts</b>	<b>H</b>	Substantial deterioration (death, illness or injury). Recommended level will often be violated. Vigorous community action.
	<b>M</b>	Moderate/ measurable deterioration (discomfort). Recommended level will occasionally be violated. Widespread complaints.
	<b>L</b>	Minor deterioration (nuisance or minor deterioration). Change not measurable/ will remain in the current range. Recommended level will never be violated. Sporadic complaints.
	<b>L+</b>	Minor improvement. Change not measurable/ will remain in the current range. Recommended level will never be violated. Sporadic complaints.
	<b>M+</b>	Moderate improvement. Will be within or better than the recommended level. Nor observed reaction.
	<b>H+</b>	Substantial improvement. Will be within or better than the recommended level. Favourable publicity.
<b>Criteria for ranking the DURATION of impacts</b>	<b>L</b>	Quickly reversible. Less than the project life. Short term
	<b>M</b>	Reversible over time. Life of the project. Medium term.
	<b>H</b>	Permanent. Beyond closure. Long term.
<b>Criteria for ranking the SPATIAL SCALE of impacts</b>	<b>L</b>	Localized – Within the site boundary.
	<b>M</b>	Fairly widespread – Beyond the site boundary. Local
	<b>H</b>	Widespread – Far beyond site boundary. Regional/ national.
<b>PROBABILITY (of exposure to impacts)</b>	<b>H</b>	Definite/ Continuous
	<b>M</b>	Possible/ frequent
	<b>L</b>	Unlikely/ seldom

<i>Key Issue and rating</i>	<i>Severity</i>	<i>Duration</i>	<i>Spatial Scale</i>	<i>Probability</i>	<i>Notes</i>
Impact on Uranium industry	H+	M	L	H	Same as above, except that the mining industry is concentrated locally.
Household Income Impact	H+	M	L	H	Same as above - workers will live locally and it is expected that expenditure will take place there. Repatriation of income to other parts on Namibia and other countries is expected, but this is not significant.
Employment Impact	M+	M	L	H	Employment increase is moderate compared to income increases and the benefits will be more localised.
Tourism Industry	L-	M	L	M	This is probably the most difficult factor to rate. LHU impact only, will not be negative, so the rating to the left applies to cumulative impacts. In our view it would impact the industry in Erongo as we know it slightly negatively (although business tourists will increase). The negative impact will be for the live of mine assuming proper mine closure procedures are followed, will be localised, and the probability of these impacts happening are possible, not necessary definite.
Poverty Alleviation	H+	M	L	H	Poverty alleviation over the life of mine is high simply because mining has a dramatic multiplier effect of low skilled worker employment. Thus, mining increases the services and tertiary sectors and the cost of employment are relatively low in these sectors, alleviating poverty through job creation/
Balance of Payments	H+	M	L	H	Undoubtedly a very high positive impact. It must be emphasised again that Namibia has a small, open economy that is very reliant of foreign currency.
Fiscal Impacts	H+	M	L	H	LHU will contribute significantly to government income.

## CONCLUSION AND SUMMARY

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The Namibia economy is not very large at N\$70 billion pa, but despite its relatively small size, has performed very well in the last five years (excluding the period of the recent economic downturn). It had good growth, there was undoubted confidence in the economy and the private sector contributed well towards total investment. The Namibian foreign reserves were at an all time high and if anything, Government's dominance in the economy started diminishing.

Like most countries in Africa, it has weaknesses, of which unemployment, probably driven by structural unemployment and high pockets of poverty, remain a key challenge. It is also an arid region and hence a variety of agricultural products would never be possible. It is also a very open economy with exports and imports being a very high percentage of GDP, thus a decline in exports could cause major damage to the well-being of its citizens. Its economic profile is such that it relies heavily on the mining sector for its foreign exchange, even though this sector only contributes 12% of total GDP.

In this light, any investment, provided it is ethical, is of great importance to this economy. Investment from foreign direct investors (as is LHU) are even more precious because the small savings base of the country are not affected in the formation of capital. The two greatest advantages of LHU is its stimulation of the economy through exogenous variables, that is, investment and exports. These two variables generally lead to sustainability economic growth.

Its biggest impacts are in a nutshell:

- Its contribution to the economy, especially to Erongo, which would see the region's economy grow by 10% directly and with multiplier impacts, probably 20%;
- Its major potential contribution to generating foreign exchange;
- Its significant contribution to government income through taxes, thus indirectly assisting in social development and poverty alleviation;
- Its contribution to direct and indirect job creation;
- The only moderately negative impact would be the possible reduction in tourists if the cumulative mining impacts deter tourists from visiting Erongo. However, as we show, with the appropriate joint management between mining and tourism, these impacts ought to be well managed simply because Erongo is such a large area.
- Downscaling after life of mine (25 years from today), requires considerable attention as this will have a devastating impact on the local economy if the base does not increase considerably.

Economically speaking, LHU contributes very positively to the Namibia and Erongo economies and will increase this contribution considerably after Phase 3.