capacity in the relevant departments
Improve Government's role in the functions of SETAs
Conduct an assessment of the feasibility and desirability of developing policy and legislative amendment that will allow Government Departments and Entities to make contributions to relevant SETAs in accordance with the Skills Development Levies Act. This assessment should specifically be focused on whether this change in policy would improve Government's role in the stewardship of SETAs and improve the credibility of Sector Skills Plans as they pertain to specific occupational categories and qualifications relevant to the public sector.

COMMITMENT EIGHT: We will establish effective and efficient planning capabilities in the relevant departments and entities for the successful implementation of the HRD Strategy for South Africa.

COMMITMENT EIGHT: STRATEGIC PRIORITIES AND STRATEGIC OBJECTIVES

Strategic Priority 8.1: To improve the credibility, validity, utility and integrity of the various data and management information systems that are vital for successful planning and implementation of the HRDS-SA		
Strategic Objective	**Process Indicator**	
To establish a single, participatory and coordinated capacity for conducting labour market supply and demand forecasting modeling and relevant labour market studies	Capability established, institutionalized and used by all key HRD stakeholders to inform planning and evidence-based decision-making	
To conduct regular surveys of employment outcomes of new graduates in priority skills areas using Panel methodology	Surveys designed and institutionalized with clear role allocation	
To ensure that an explicit design and policy framework is established for the Management Information Systems maintained by the DoL, DoE, SAQA and STATS SA	MIS design specifications and policy framework developed and formally adopted by Cabinet for all the main stakeholders within the HRD enterprise	
To ensure that effective integration of the above management information systems is achieved	Seamless integration of data fields across all datasets	
To audit and establish a policy framework on the level of planning capacity required in the Skills Development Act Institutions (DoL, SETAs, NSA);GET; FET and HET for the optimal implementation of their mandates	Audit and policy framework developed and adopted	
To implement the provisions of the guidelines contained in the policy framework on the level of planning capacity required in the Skills Development Act Institutions (DoL, SETAs, NSA);GET; FET and HET for the optimal implementation of their mandates	Substantive Policy framework guidelines implemented	

The link between education and income in South Africa

Table 3: *Years of education and income*

KEY NATIONAL STATISTICS		
	National average	*Gini coefficient of inequality*
Years of education of adults aged 15 to 64 (2007) (Calculated from Labour Force Survey March 2007 dataset[2].)	9.04 years	0.23
Years of education of the most educated person per household (2007) (Calculated from Labour Force Survey March 2007 dataset.)	10.41 years	0.16
Annual income per household (2006) (From Stats SA, *Income and Expenditure of Households 2005/2006*, pp. 9, 35.)	R74 589	0.73

Figure 5 below provides an illustration of the distribution of monthly income and the years of education of income earners in the country. (The size of each bubble is based on the number of people with a particular level of education, and with an income rounded off to the nearest R500.)

This illustration confirms the well-known trend that it is only once people have twelve years of education that their chances of entering into a higher income bracket rise noticeably. However, as the figure also indicates, having twelve years of education is by no means a guarantee of a substantially higher income; a significant number of individuals with twelve years of education remain at a low income level. The significance of twelve years of education is probably related to fact that the Senior Certificate ('Matric') has been the only certificate issued to learners currently by the schooling system; this makes its value in the labour market particularly high.

While Figure 5 focuses on individuals,

Figure 6 focuses on households. This approach results in a stronger concentration at the bottom of the graph, at the low income levels. This is because of a tendency in the data where highly educated individuals with a relatively high income belong to the same household. For the purposes of monitoring spread and outcomes of HRD, it is crucial to focus on what happens at the household level. From a policy point of view, the household is particularly important in the formulation and outcomes of policies that are intended to reduce income inequality.

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[2] In using the typical STATS SA breakdown of the population by highest level of education, certain assumptions need to be made around the equivalence of the Stats SA educational categories, and years of education. For this calculation, knowledge of the education system, but also statistics on the probability of being employed, were used to attach years of education values to educational categories where the link was not obvious. The appendix provides details on this.
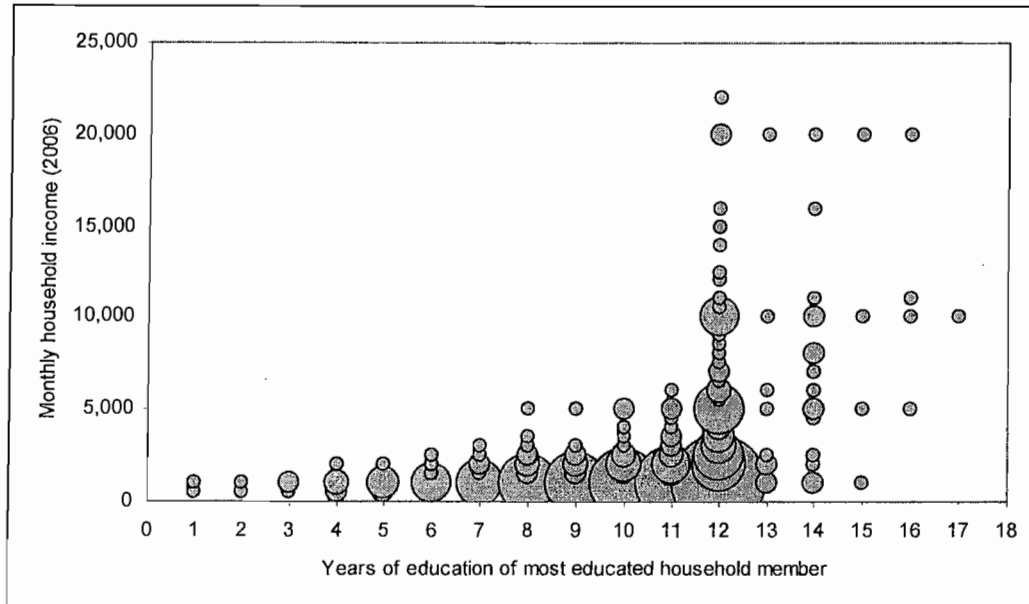
(Note: For the second figure, where GHS income values were missing, values were imputed using the household expenditure data.)

Figure 5: *Distribution of income and years of education (individuals approach)*
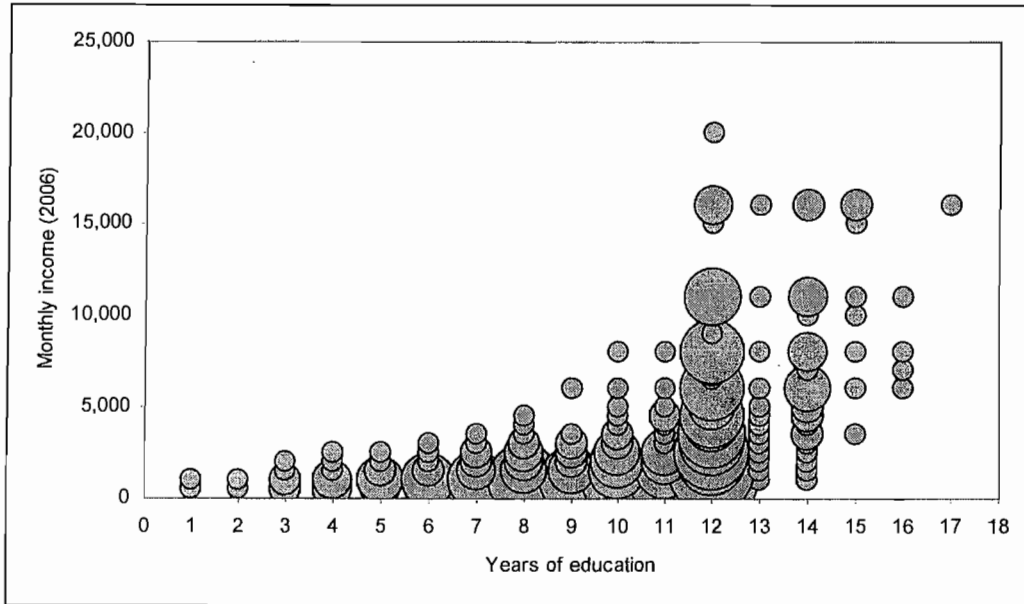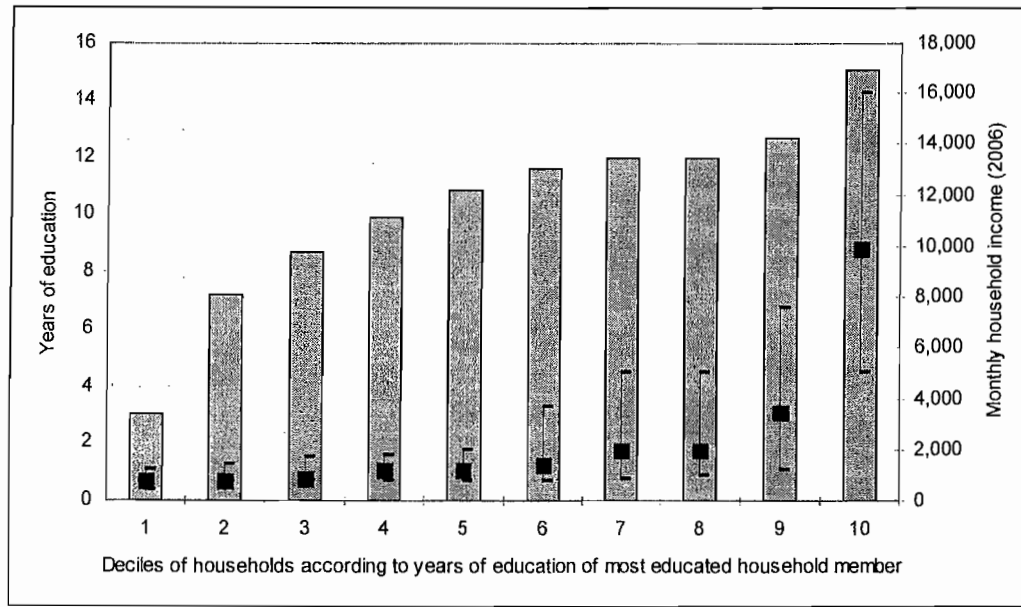

Source: Stats SA, General Household Survey, 2006.

Figure 6: *Distribution of income and years of education (households approach)*

Source: Stats SA, General Household Survey, 2006.

The next figure illustrates the income-education link focusing on the household level. The grey bars indicate years of education, and should be read against the left-hand vertical axis. The black squares indicate median household income, and the 'whiskers' indicate the position of the 25th and 75th income percentile. This should be read against the right-hand vertical axis.

Figure 7: *Education groups and their income (households approach)*

Source: Stats SA, General Household Survey, 2006.

Figure 7 again confirms the importance of having twelve years of education with regard to income outcomes. Twelve years begin in about the 6th decile; this indicates that in around 50 per cent of households (deciles 1 to 5), the person with the highest level of education has not reached twelve years of education. For the purposes of the HRDS-SA, it appears that part of the solution to the inequality problem lies in a restructuring of the school qualifications system, in particular the introduction of a Grade 9 certificate. This restructuring is currently underway through initiatives taken by the Department of Education.

The Gini coefficient of inequality for the years of education computed using the statistics in Figure 7**Error! Reference source not found.** is 0.16, which is much lower than the value for the income inequality of 0.73 across households. Even the Gini coefficient value for years of education of individuals, of 0.23, is considerably lower than the Gini coefficient for income. This is very positive from an HRD perspective as it suggests that improved equalities in the distribution of educational attainment (as compared to income) in the population could lead to a reduction in income inequality if the link between education and income is strong. This is indicative of a key challenge in the HRD process, namely to improve educational equity by raising the quality of education for the historically disadvantaged and poor, so that income returns to years of education for this target group improve.

The data represented in
Table 4 and Table 5 below suggests a definite link between education qualifications and employment as well as income status in the South Africa labour market.

56

Table 4: Strict unemployment, by educational attainment

Educational attainment	1995	1999	2000	2005
Incomplete secondary	74.0%	69.1%	70.5%	66.1%
Matric	22.4%	25.9%	24.3%	30.5%
Diploma	2.4%	3.2%	3.8%	2.2%
Degree	0.6%	1.1%	1.0%	0.7%
Unspecified	0.5%	0.8%	0.4%	0.4%
Total	100.0%	100.0%	100.0%	100.0%

Source: Cited in Altman, 2007

Table 5: Educational attainment of the working poor

	≤ R1,000 %	≤ R,2500 %
No education	13.3	9.7
Pre matriculation	71.5	68.0
Matriculation	13.0	18.7
Tertiary	2.2	3.5
Total	100.0	100.0

Source: Cited in Altman, 2007

Figure 8 below confirms further that the problem of unemployment is particularly manifest for the 20-24 year age group. It also suggests that the level of qualifications is a consistent predictor of employment status within each of the age groups indicated. The figure also suggests that over 50% of young people who have less than a Matric are unemployed. Notably, it appears that the possession of a matriculation certificate does not result in dramatically improved labour market outcomes, with just under 50% of 20-24 year olds with a matriculation being unemployed. While the unemployment figures for 20-24 year-olds who have a diploma and degree is still alarmingly high, they are considerably better than the rates for those whose higher qualification is a matriculation or less.

Figure 8: Unemployment by Age group and education qualifications

Age Group

☒ Less than Matric ▓ Matric ☐ Diploma ☐ Degree
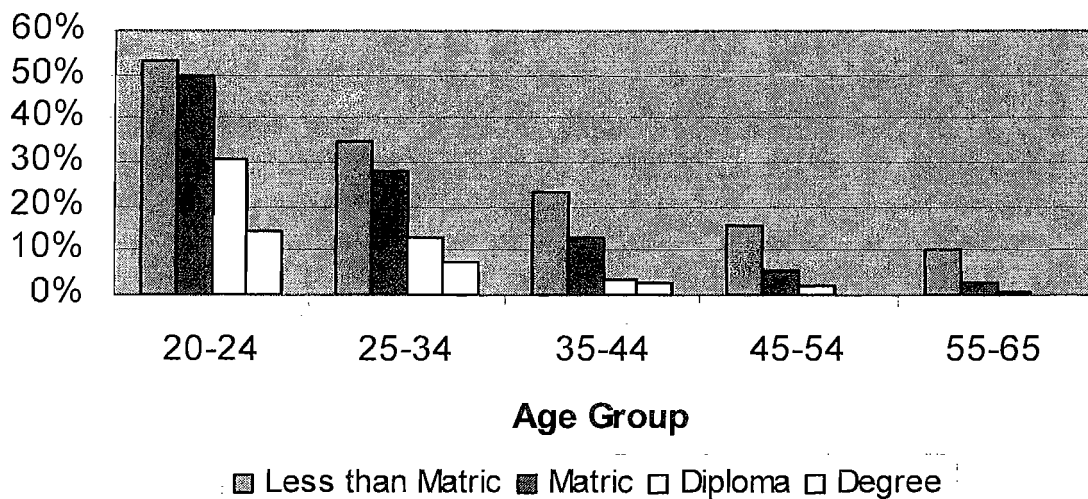
Source: Altman, 2007

The problem of unemployment remains the number one strategic priority for South Africa. The following salient issues, emerging from the above brief analysis of unemployment in South Africa, have particular import for this report:

- The rate of unemployment has maintained a high trend over a number of years. It is therefore an intractable challenge.
- The youth labour market is particularly affected by the problem of unemployment;
- Education does seem to have a positive impact on employment outcomes, but there appears to be significant scope to improve the extent of this impact; and
- Demographic factors such as race and age are significant variables to be accounted for in the effort to address the problem of unemployment.

Education quality and the distribution of education outcomes

Table 6: *The quality of education and average per capita income*

| KEY NATIONAL STATISTICS		
	National average	*Gini coefficient of inequality*
SACMEQ 2000 score (Grade 6 mathematics) *Source: Ratsatsi (2005: 5); Gini coefficient calculated from UNESCO, SACMEQ II dataset.*	486	0.12
PIRLS 2006 score (Grade 5 reading) *Source: Mullis, Martin, Kennedy and Foy (2007: 37); Gini coefficient calculated from PIRLS dataset (available at http://timss.bc.edu).*	302	0.25
TIMSS 2003 score (Grade 8 mathematics) *Source: Mullis, Martin, Gonzalez and Chrostowski (2004: 34); Gini coefficient calculated from TIMSS dataset (available at http://timss.bc.edu).*	264	0.34

Even though the scale for the national average scores in the above table have been more or less adjusted to make the average for all participating countries equal to around 500, it is important to caution that these scores are not comparable to each other, as they follow slightly different scales. It should further be emphasised that the three programme runs referred to here, which had very different mixes of participating countries. SACMEQ had only developing countries (all African), PIRLS had a clear majority of developed countries, and TIMSS had more or less an equal mix of developed and developing countries.

In PIRLS and TIMSS, South Africa scored lowest out of 37 and 43 countries respectively. In SACMEQ, South Africa scored 9th out of twelve countries. (The ranking referred to here is with respect to the subjects indicated above. Where a second subject was also tested, the second subject resulted in an almost identical ranking.)

The three following graphs illustrate South Africa's location with respect to the other countries, using the national average scores as well as purchasing power parity (PPP) income per capita. There is an

important and dynamic relationship between educational quality and income per capita. The quality of education (much more than years of education) is a strong predictor of the level of economic growth (see, for instance, Hanushek and Woessman, 2007). At the same time, improved income per capita allows for more resources to be devoted to education which, given the right circumstances, can lead to better educational quality. The last two graphs display fairly clear correlations between educational quality and income, and trend lines reflecting this have been inserted.

Figure 9: *PIRLS Grade 5 reading results relative to GDP per capita*
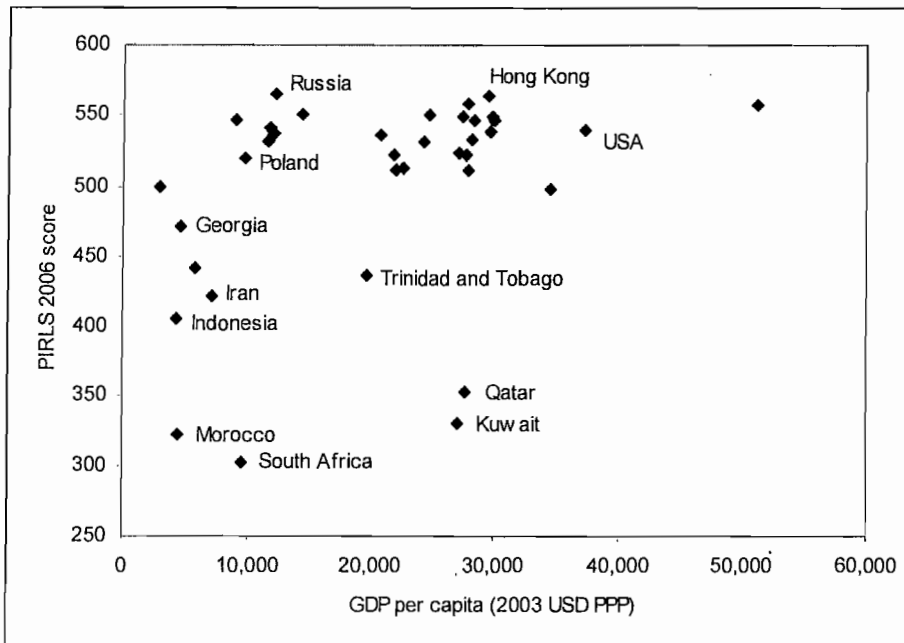
Source: Mullis, Martin, Kennedy and Foy, P. (2007: 37); Heston, Summers and Aten (2006)

Figure 10: *TIMSS Grade 8 mathematics results relative to GDP per capita*
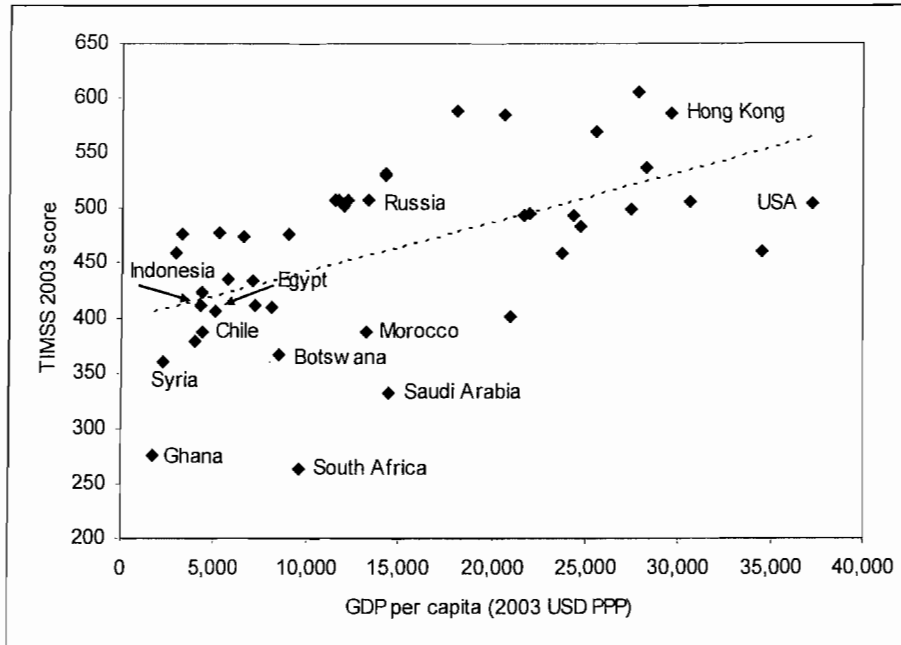
Source: Mullis, Martin, Gonzalez and Chrostowski (2004: 34); Heston, Summers and Aten (2006)

Figure 11: *SACMEQ Grade 6 mathematics results relative to GDP per capita*
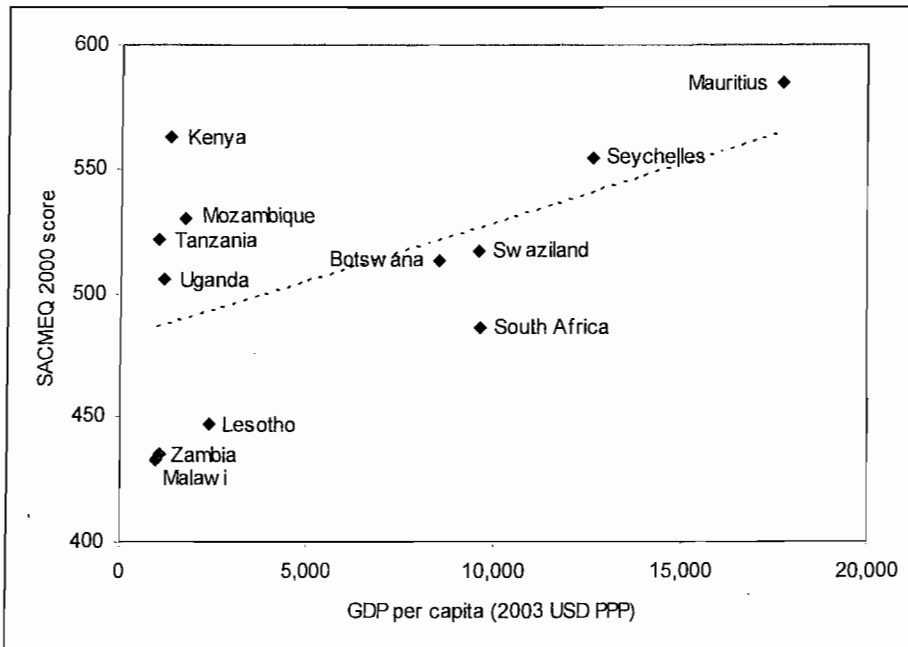
Source: Ratsatsi (2005: 5); Heston, Summers and Aten (2006)

The above figures provide a useful comparative indication of the extent of South Africa's education quality challenge. It is noteworthy that a number of countries with lower incomes per capita do better than South Africa, for instance Indonesia and Egypt (in TIMSS) and Kenya (in SACMEQ). South

Africa is not alone in experiencing a challenge in its quality of education. Botswana and Morocco, though they perform better than South Africa, perform at levels which are below what might be expected, given their income per capita.

Labour Market Participation

Table 7: Labour market participation

KEY NATIONAL STATISTICS	
	National average
Unemployment rate[3] (This and the next two statistics are calculated from Labour Force Survey March 2007 dataset.)	25 per cent
Percentage of employed persons in informal sector	21 per cent
Percentage of employed persons in elementary occupations	22 per cent

South Africa's unemployment rate, whether one considers the official rate or the expanded rate, is high. Of those who are employed, around 80 per cent are in the formal sector, and around 80 per cent are in occupations above the elementary level, meaning that to perform their jobs, these people depend on job-specific skills training, of some variety that would have been acquired at some point in their lives.

Error! Reference source not found. Figure 12 below reflects to a large degree the apartheid legacy of unequal educational opportunities and unequal employment opportunities. This is reflected not only in the unemployment figures, but also in the larger dependence of Africans on informal labour, and the very low percentage of whites and Indians, in elementary non-skilled occupations. (Note that '% informal workers' and '% elementary occupations' is relative to all employed persons.)

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[3] The unemployment rate given here is the official one, which considers only those who actively sought work in the previous four weeks as being unemployed. The expanded employment rate, which regards anyone who would like to work, whether they have actively sought work in the previous four weeks or not, as unemployed, is 38 per cent. In the breakdowns of the unemployment rate presented in this section, only the official rate is reported on.
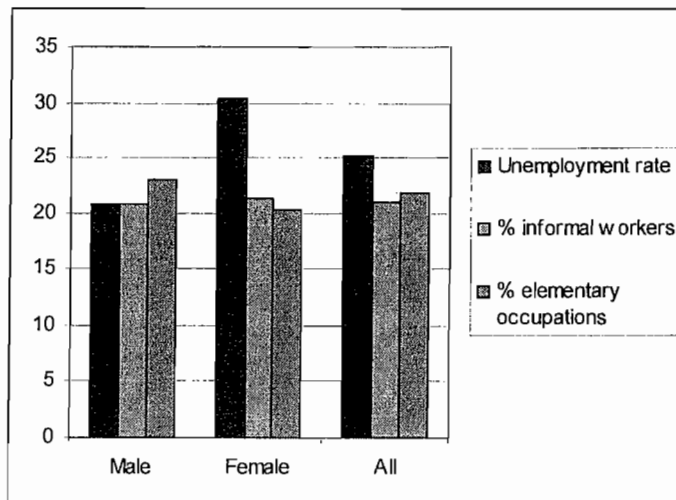
Figure 12: *Employment statistics by race*
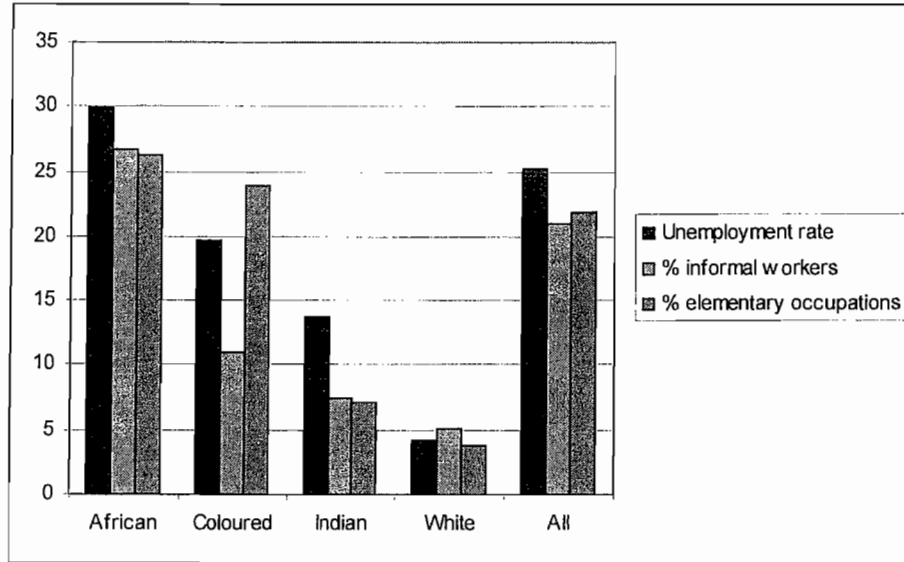
Source: Source: Stats SA, Labour Force Survey, March 2007

Figure 13 indicates that a significantly higher burden of unemployment is borne by women in the labour market, while Figure 14 reflects the very serious extent of youth unemployment.

Figure 13: *Employment statistics by gender*

Source: Stats SA, Labour Force Survey, March 2007

62

Figure 14: *Employment statistics by age group*
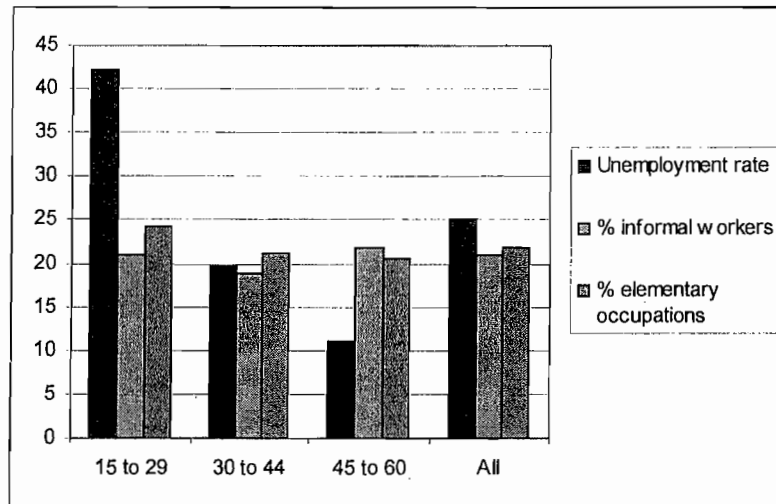
Source: Stats SA, Labour Force Survey, March 2007

Demographic profile of occupational categories

Race and gender representivity in the nine occupational categories used in the Labour Force Survey is examined in some depth in the figures that follow. If the polygon follows closely the first ring, as is the case with the category 'Service workers and shop and market sales workers', this means the occupation is highly representative, meaning that the proportion of women in the occupation is close to the proportion of women amongst all employed persons, the proportion of Africans is close to the proportion of Africans amongst all employed persons, and so on.

The over-representation of whites and to some degree Indians in high skills and high salaried jobs is evident. For example, the first 'radar graph' indicates that the proportion of whites in the category 'Legislators, senior officials and managers' is about 3.5 times as high as the proportion of whites amongst all employed persons.

63

Figure 15: *Race and gender representivity across occupations*
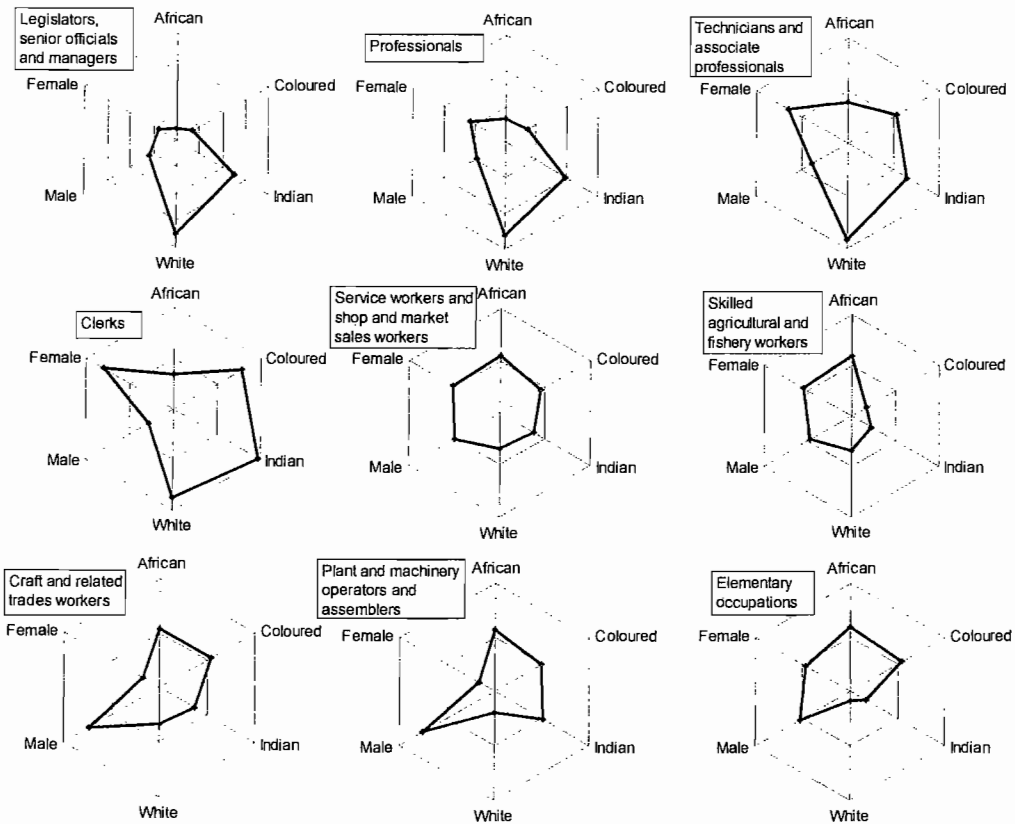
Source: Stats SA, Labour Force Survey, March 2007

When the above results with regard to race are analysed further to gauge the trends implied by differences between age groups in the workforce, a somewhat reassuring picture emerges for the medium-term. The following graph, which breaks the above diagram for professionals up by age category shows that whites are not as prevalent among young professionals as compared to the group of professionals as a whole. This implies that one can expect that over time there will be a move towards an overall profile that is more representative of the country's population. The country is thus on the right trajectory in respect of this important policy objective for HRD.

**Figure 16:** *Race and gender representivity amongst professionals*
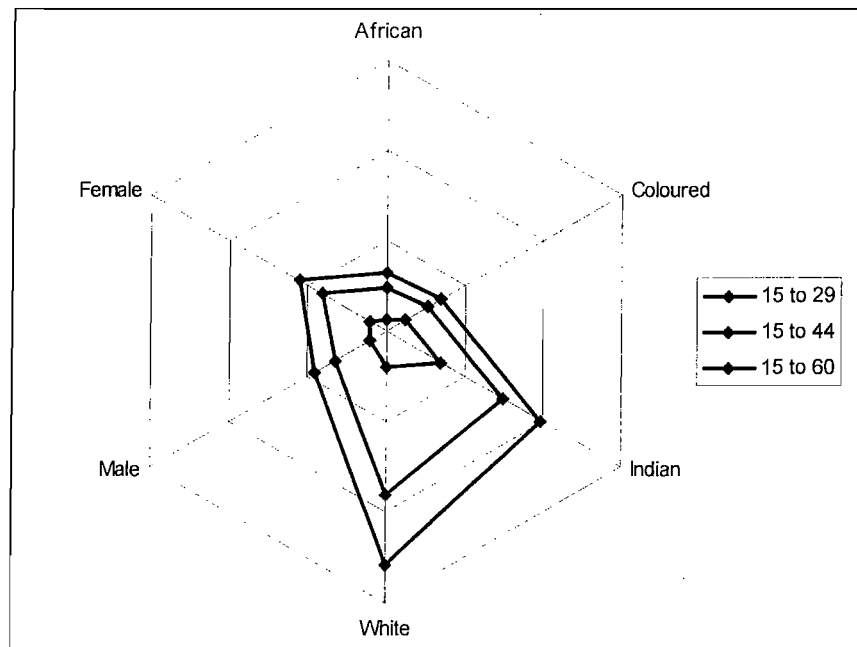
Source: Stats SA, Labour Force Survey, March 2007

Training Trends

The following graph illustrates the trend with respect to the number of people in the labour force who say they hold diplomas, certificates or degrees in the three areas of study specified in the graph. The trend is an upward one for all three areas, and very similar upward trends emerge if we express the numbers in the graph as a percentage of the adult population. The upward trend in the raw numbers is thus more or less in keeping with the growth in the size of the adult population.

A word of caution is however warranted when interpreting and using these numbers as they are derived from weighted individuals where the actual number of individuals in the survey is rather low. For example, the figure of around 350,000 people qualified in manufacturing, engineering and technology is based on only around 600 respondents. Similarly, the 25,000 with a physical planning and construction qualification is based on just 50 or so respondents in the survey.

**Figure 17:** *Trend in holding of certain technical qualifications*
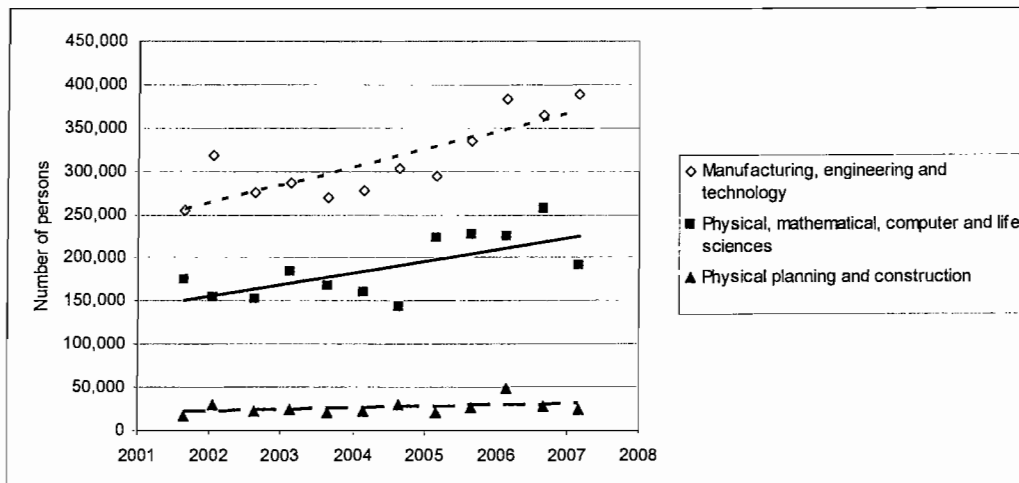
Source: Stats SA, Labour Force Survey, to September 2001 to March 2007

Error! Reference source not found. Figure 17 indicates that there has been an increase of around 20,000 per annum in recent years in the stock of people holding a qualification in the manufacturing, engineering and technology area. In recent years, approximately 10,000 graduates in this area have been emerging each year from the Higher Education sector, and around 20,000 from the Further Education and Training (FET) college sector (engineering has for many years accounted for just under half of FET college graduates). It seems likely that the increases we see in Figure 17 are the result of the substantial increases in the number of graduates emerging from FET colleges experienced since the late 1990s.

Figure 18 is based on the Labour Force Survey question that asks respondents (in a general way) whether they have received training in specific areas. In addition, respondents are asked what the duration of the most recent training undertaken was. The responses to this duration question appear to suggest that responses cover both the formal training reflected in Figure 17**Error! Reference source not found.** and other informal training.

Figure 18: *Trend in any training in certain technical areas*
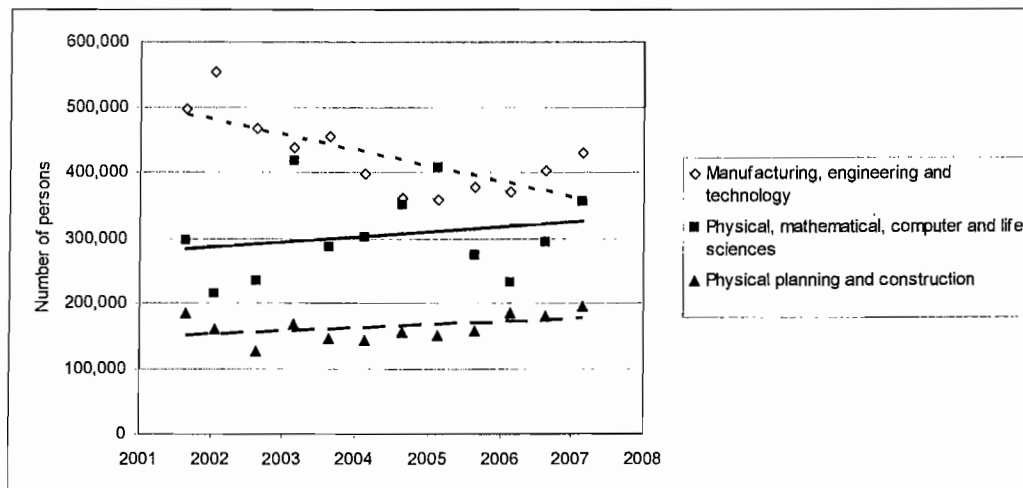

Source: Stats SA, Labour Force Survey, September 2001 to March 2007.

The numbers are higher than those for Figure 17, which seems to confirm the inclusion of formal training here. The somewhat erratic trends are difficult to interpret, partly because they are not statistical significant and partly due to possible ambiguities in the interpretation of the survey questions. These figures on their own do not therefore offer a basis for drawing any policy conclusions.

67

Spending on Human Resources Development in South Africa

As can be seen from Figure 19, South Africa falls well above the world norm with respect to public education spending relative the GDP per capita (in PPP terms).

Figure 19: *Spending on education relative to GDP per capita*
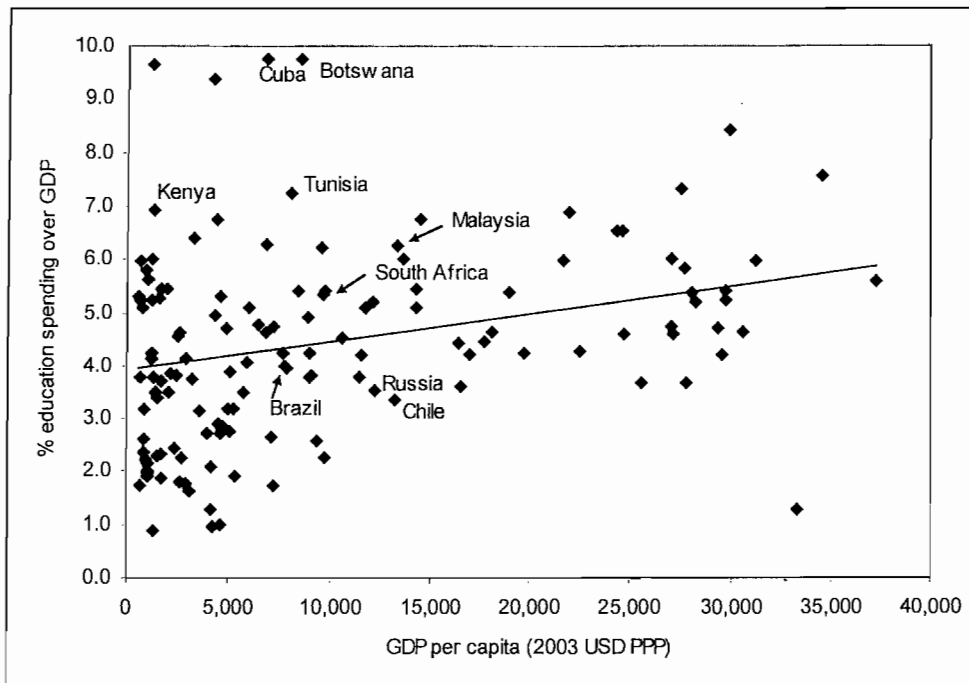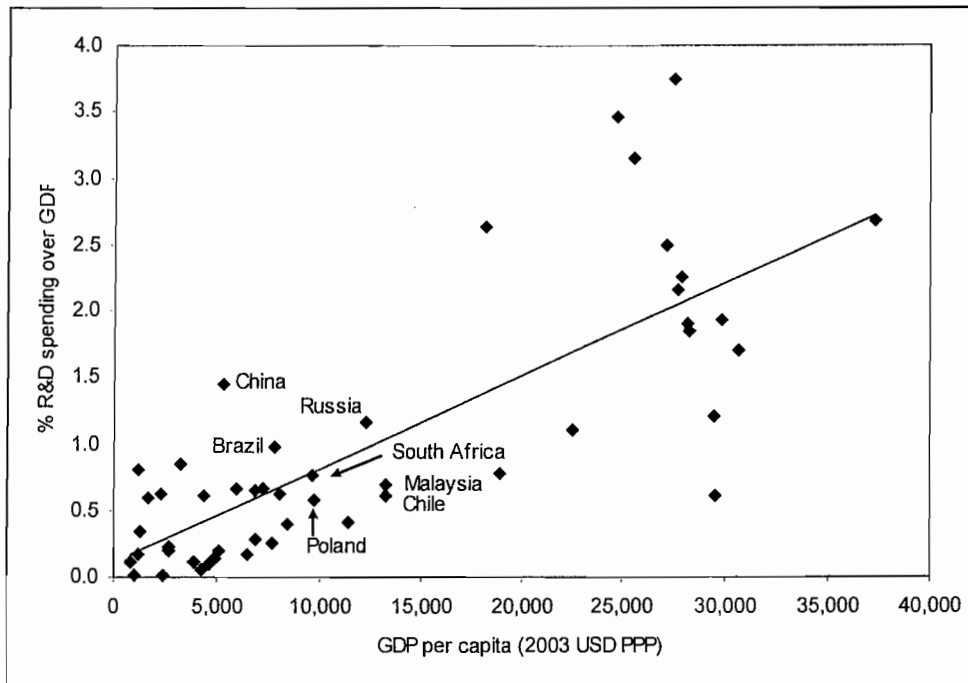
(Note: For both statistics the most recent value was used. All countries with a population over one million that also had the required data are included.)

Error! Reference source not found. Figure 20 illustrates spending on research and development (R&D) relative to GDP per capita (in PPP terms). The general trend is for the two statistics to increase jointly as countries develop. South Africa is situated on the world trend line. This suggests that, while our level of R&D spending is approximately equal to the world average, there is scope for an increase investment to improve economic competitiveness. This graph and the previous one, which reflect relatively favourable levels of investment, contrast sharply with the graphs on educational quality in Section **Error! Reference source not found.** above. This contrast suggests that quality or the outcomes of education is lagging behind the level of investment in the country. This phenomenon represents a challenge that is clearly one of the most important priorities for HRD in South Africa.

Figure 20: *Spending on R&D relative to GDP per capita*

*Source: UNDP (2007: 273); Heston, Summers and Aten (2006).*

(Notes: For both statistics the most recent value was used. Also, countries included are those with the available statistics and with which South Africa is often compared.)

Trends in South Africa's Human Development Index (HDI)

In an international comparison of human resources, it is difficult not to take into consideration the UNDP's human development index (HDI). This index, developed in 1990, is used extensively in debates on the level of human development of a country. Here we shall examine briefly South Africa's HDI, and why it has dropped so sharply in the last decade.

Figure 21**Error! Reference source not found.** illustrates the long-range trend in the HDI values for a six middle income countries, including South Africa. All six countries experienced a substantial improvement between 1970 and 1990, but from 1990, South Africa and Botswana experienced precipitous falls in their HDI values.

Figure 21: *1970 to 2005 trend in the HDI for selected middle income countries*
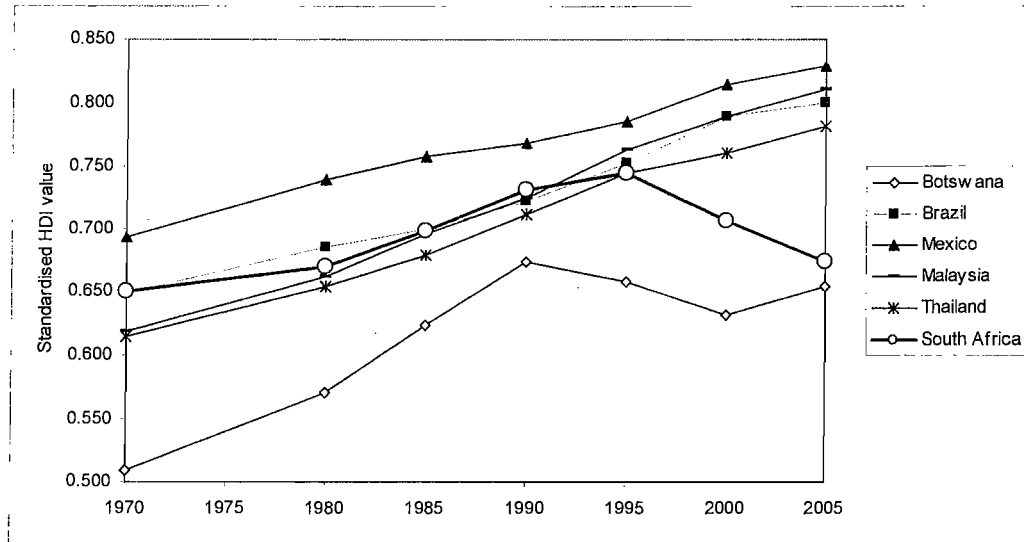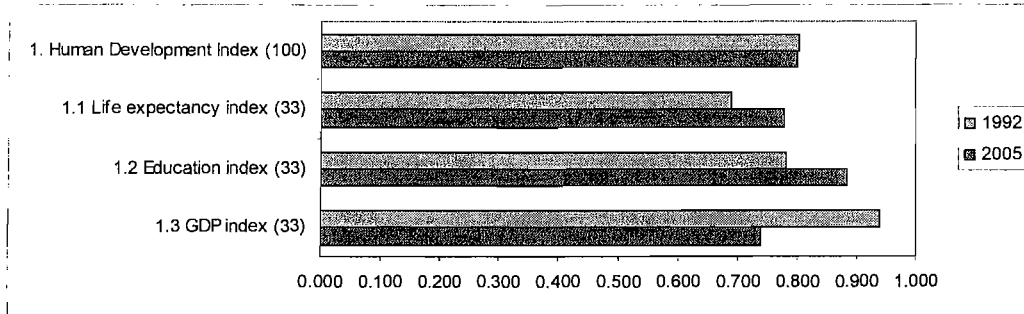

Source: UNDP (2007, p. 234)

The following two graphs provide the values for the HDI itself and the HDI's three sub-indices (with values in brackets indicating the weight assigned to each sub-index out of 100) for South Africa and Brazil. What is clear is that the fall in South Africa's HDI value is mostly attributable to the fall in the life expectancy index, which in turn is highly sensitive to the impact of HIV/AIDs. South Africa's life expectancy value changed more than any other value from either of the two countries.

Figure 22: *South Africa's HDI values in 1992 and 2005*
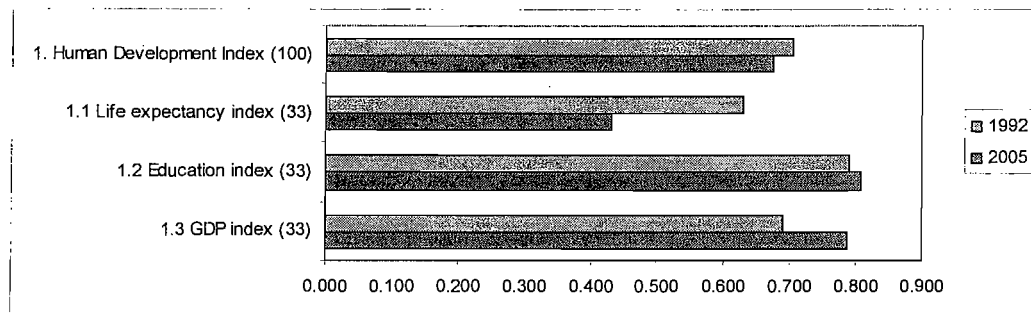
Source: UNDP (1995); UNDP (2007

**Figure 23:** *Brazil's HDI values in 1992 and 2005*

Source: UNDP (1995); UNDP (2007).

(Note: The 1992 HDI values indicated here are not comparable to the HDI values illustrated in Figure 23. The Figure 24 values are all from the 2007 Human Development Report, and are calculated according to a consistent method. In order to obtain the disaggregation of the above two graphs, it was necessary to consult two separate reports. The UNDP advises us against comparing figures from different reports, which could use different methodologies. However, for the purposes of this illustration, the comparison across reports seemed permissible.)

Figure 24**Error! Reference source not found.** illustrates all the constituent parts of the HDI for South Africa, and for developing countries as a whole. South Africa has a significantly higher secondary school gross enrolment ratio (GER), compared to the average for other developing countries.

Figure 24: *Detailed decomposition of South Africa's 2005 HDI*
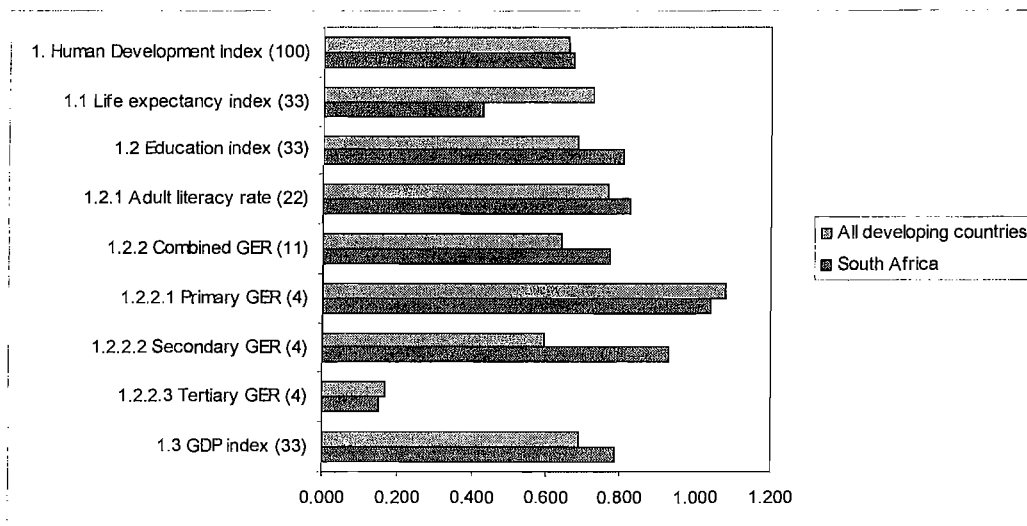
Source: UNDP (2007); UNESCO (2007).

(Note: The level-specific GER values were obtained from the UNESCO report.)

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73

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