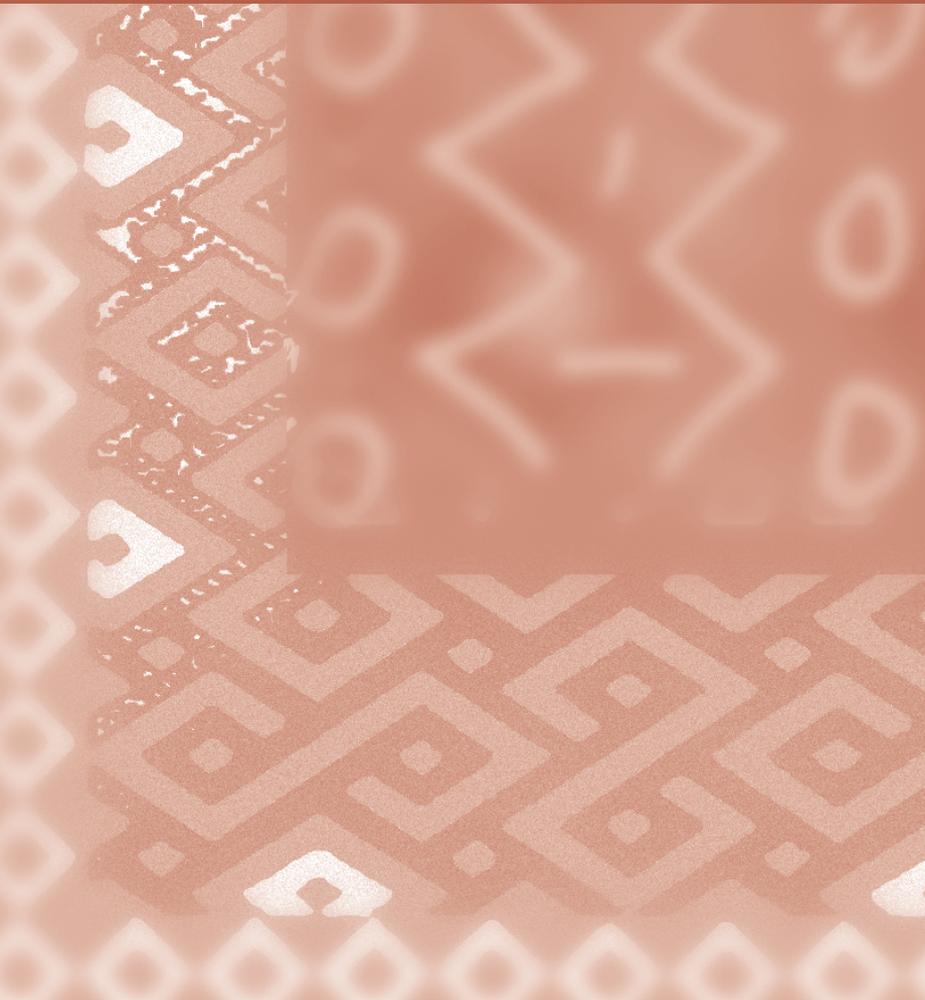


Chapter 2

A Profile of Higher Education in the Region

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Executive summary

Background

In the higher education sector, the 1997 Southern African Development Community (SADC) Protocol on Education and Training committed SADC countries to improving the standard of higher education and research by promoting co-operation and creating regional synergies (SADC, 1997). The decision by the Association of African Universities (AAU) in 2005 to work with regional bodies such as regional economic communities (RECs) and the establishment of the Southern African Regional Universities' Association (SARUA) by the higher education leadership of the SADC region are significant steps towards regional integration of higher education.

The role of higher education as an enabler of development has gained increasing prominence, particularly in the context of the knowledge society and the growing importance of learning, information and technology in economic performance. In order to reach the goals of the SADC Protocol and to release the potential of higher education in the region, decision-makers require current, relevant, accurate and comparable information on the state of higher education. This information enables them to better understand the nature and form of regional higher education systems, to identify strengths, weaknesses, opportunities and challenges, and to plan accordingly. Yet, at present, no comprehensive picture of higher education across the SADC region exists. For this reason, a meeting of SADC education ministers in Kasane, Botswana, in 2006 emphasised the need for a regional baseline study on higher education. After consultation with the SADC leadership, SARUA was tasked with conducting this study.

Research design and methodology

Embedded in an analytical framework focused on understanding higher education as an enabler of SADC regional development, the study presented in this report has been guided by the following specific research objectives:

- 1 Describe higher education in the SADC region with a focus on the collection and analysis of institutional data and an analysis of national higher education contexts.
- 2 Understand the current status and potential of regional integration in the higher education arena.
- 3 Collect baseline data that can be used as a starting point for the collection of regional higher education data in the longer term.
- 4 Reflect on the processes of gathering comparative regional higher education data where national contexts differ widely.

The study population included the ministries of education (MoEs) in each of the 14 SADC countries and the 64 public universities in the region that were the subjects of this study.



Two research instruments were developed for the study and these constituted the primary means of gathering data. One questionnaire targeted ministries of education and the other higher education institutions. Both questionnaires included sections on institutional data, funding data, quality assurance and regional collaboration. The ministry of education questionnaires focused the questioning at a national level, and the higher education institution questionnaires at an institutional level. Questionnaires were administered in English, French and Portuguese.

The final response rate can be summarised as follows:

Table 1 Summary of study response rates

	Research population	Questionnaire responses received	Documentation provided in lieu of questionnaire	No. of responses received	Outstanding data verification requests
Ministries of education	14	12	1	1	3
Higher education institutions	64	55	2	7	17
Total	78	67 (86%)	3 (4%)	8 (10%)	20 (26%)

Where questionnaire responses were not received, various additional data sources were consulted in an effort to prepare a complete data set, as is shown in the findings presented in this report and also in each of the country reports, which can be located at www.sarua.org. For example, five South African higher education institutions did not submit questionnaire responses, and for these institutions, data were sourced from the Higher Education Management Information System (HEMIS) and added to the data tables.

SADC higher education data

At present, comprehensive, comparable and up-to-date information on higher education in the SADC region is difficult to access. This is recognised in the Regional Indicative Strategic Development Plan (RISDP), with one of the RISDP targets being the harmonisation of statistics and an integrated database of key statistics by 2015. This study presents an attempt to collect such statistics for the higher education sector at a regional level. As such, the report has a dual focus. First, it presents an overview and analysis of higher education at the SADC level, focused on public higher education in general, and specifically SARUA member institutions. This is a key starting point for considering a developmental role for higher education in the region. Second, it presents a reflection on the process of gathering comparable higher education data at a regional level with a view to making strategic recommendations towards the 2015 target of establishing a regional database. Some examples of how other regional and international organisations have approached the challenge of collecting data at a regional level are presented.



Overview of higher education in the SADC region

The presentation of the current status of higher education in the SADC region, based on the data gathered in this study, is situated within the historical context of African higher education. The regional overview of higher education shows a wide diversity across countries. The data gathered show that only 0,4% of the total SADC population are enrolled in higher education. If South Africa is excluded, the percentage drops to 0,2%. In terms of the number of institutions, the private higher education sector outnumbers the public sector. This is the case for all countries, excluding Malawi and Zimbabwe, where public higher education institutions still outnumber private ones. Since this study focused on public higher education, no enrolment figures for private higher education were collected. The SADC higher education sector is currently predominantly based on contact provision, despite the potential commonly accorded to distance education to increase access and participation in higher education. The data collected during this study indicate that 72% of all students enrolled in public higher education are contact students, and only 28% are studying via distance education. Institutions from several countries, namely Angola, the Democratic Republic of Congo (DRC), Lesotho, Malawi and Mauritius, reported that no higher education is provided via distance education.

The higher education policy and regulatory environment across SADC countries shows some similarities and also some differences. In many countries there is an emphasis on increasing higher education access as well as addressing gender disparities. Some countries listed a range of statutory bodies that play a significant role in higher education, whereas in others, few or no such bodies currently exist.

The majority of higher education institutions in the SADC region report that most of their attention is focused on teaching and learning, with a relatively low focus on research and community service activities. The higher education institution data on annual research publications support this low focus on research. Thus, the need to invest in research development in the region is highlighted.

The report presents detailed data (at country level) and analysis thereof in the areas of enrolment patterns, qualifications awarded, staff capacity and development, quality assurance, regional co-operation and cross-border education, as well as some data on funding (although this was not a focus of the study).

The report concludes by bringing these findings together in a brief analysis of key factors – both enabling and constraining – regarding the potential of higher education in the region, both in terms of development of the higher education sector itself and the role that higher education can play in regional development.



Table 2 Summary of key factors influencing higher education potential in the SADC region

Factors influencing higher education potential in the SADC region	Enabling features	Constraining features
Regional policy framework	Various regional policy frameworks are in place to guide higher education development in the region. These include the SADC Protocol on Education and Training, RISDP and the SADC Quality Assurance (QA) Framework.	Protocol on education and training is somewhat dated and lacks practical implementation details.
National level policy frameworks	All SADC countries have national higher education policy frameworks in place.	Sophistication of national policy frameworks differs across countries.
Enrolment patterns	Enrolment is reported to have increased over the past five years, and most countries provide some higher education programmes in fields of study essential for regional development.	Increasing enrolment places constraints on institutional capacity and impacts on quality. Enrolments in science, engineering, technology and the health sciences are insufficient to meet regional needs. Very few students are enrolled at postgraduate level and significant gender disparities in enrolment remain.
Staff capacity	Ministries have recognised this challenge and are seeking ways to improve staff numbers and capacity. Most institutions in this study reported having staff development mechanisms in place. Regional collaboration and exchanges can help to build staff capacity.	Critical staff shortages have been identified in various areas, particularly in science, engineering and technology. Lack of resources prevents institutions from attracting well-qualified and experienced people into higher education employment. Brain-drain and HIV and AIDS further impact on staff numbers and capacity.
Research output	Low research output is recognised as a major challenge by both ministries of education and higher education institutions, and various interventions are planned in this area.	Research output is low across the SADC region and the low number of postgraduate students is likely to exacerbate this problem in the future if not addressed promptly.
Funding	Governments have recognised the need to increase higher education funding when funds are available. An increase in donor funding is occurring. Most of the institutions in this study reported having strategic plans in place to generate additional funding.	In all countries, insufficient funding for higher education is noted, and this limits the potential for expansion and impacts negatively on quality. Most higher education institutions in the SADC region remain heavily dependent on government subsidies.



Factors influencing higher education potential in the SADC region	Enabling features	Constraining features
Quality assurance	<p>More than half of the SADC countries have quality assurance frameworks in place at a national level and most of those that do not are in the process of setting these up. Initiatives such as SADC Qualifications Framework and the AAU Quality Assurance Project can provide additional support. Most institutions reported having some form of internal quality assurance process in place.</p>	<p>The need to expand access and to improve quality creates tension that universities need to manage carefully. It is unclear how well national and institutional quality assurance frameworks and processes are being implemented. Further research is needed to understand this better.</p>
Regional co-operation and cross-border education	<p>Most ministries of education and higher education institutions reported a high value being placed on regional co-operation, and various examples of co-operation efforts were presented. Regional level policies such as the SADC Protocol and Qualifications Framework, as well as the establishment of SARUA, which is focused specifically on higher education in the region, are positive developments.</p>	<p>Regional co-ordination efforts appear to be ad hoc rather than co-ordinated at institutional and national levels, although some examples to the contrary were found. The funding challenges faced by all national higher education sectors limit focus on regional collaboration. In several countries, lack of or poor quality ICT infrastructure limits the communication required for successful regional collaboration.</p>



Introduction

African higher education institutions can no longer afford to be islands in their own societies, but rather must actively foster regional partnerships and integration with other institutions to facilitate communities of practice, centres of excellence and broader south-south and north-south collaboration (World Bank, South African Department of Science and Technology, and Ministry for Foreign Affairs of Finland, 2007:21).

A regional perspective on political, economic and social issues is becoming increasingly important around the world. In Africa, the African Union (AU), New Partnership for Africa's Development (NEPAD), Southern African Development Community, African Development Bank and others are encouraging greater regional co-operation and integration to solve common problems, create efficiencies, identify and exploit opportunities, and ensure that the people and nations of the SADC region participate in the global economy.

In the higher education (HE) sector, the 1997 SADC Protocol on Education and Training committed SADC countries to improving the standard of higher education and research by promoting co-operation and creating regional synergies (SADC, 1997). The decision by the Association of African Universities (AAU) in 2005 to work with regional bodies such as Regional Economic Communities (RECs) and the establishment of the Southern African Regional Universities' Association (SARUA) by the higher education leadership of the SADC region are significant steps towards regional integration.

In order to reach the goals of the SADC Protocol and to release the potential of higher education in the region, decision-makers require current, relevant, accurate and comparable information on the state of higher education. This information enables them to better understand the nature and form of regional higher education systems, to identify strengths, weaknesses, opportunities and challenges, and to plan accordingly. Yet, at present, no comprehensive picture of higher education across the SADC region exists. For this reason, a meeting of SADC education ministers in Kasane, Botswana, in 2006 emphasised the need for a regional baseline study on higher education. After consultation with the SADC leadership, SARUA was tasked with conducting this study.

Overview of the SADC region

SADC was established in 1992. It replaced the Southern African Development Co-ordination Conference (SADCC), which was established in 1980 in response to the challenges of independence and South Africa's policy of apartheid. SADC's main purposes are to improve economic growth and development, alleviate poverty, enhance the standard and quality of life of the people of the region and support development through deeper regional integration.

SADC currently has 15 member states: Angola, Botswana, Democratic Republic of the Congo (DRC), Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland,



Tanzania, Zambia and Zimbabwe (Africa News Network, 2007). The Seychelles recently rejoined SADC and was not a member when this study was initiated and is therefore not included in this report.

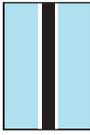
As is highlighted in Table 1 below, the member states are diverse with varying populations, poverty levels and education contexts. The population size (in 2006) ranged from 1,146-million people in Swaziland to 61,532-million people in the DRC. Income levels, as measured by gross domestic product (GDP) per capita statistics, also differ widely across countries. Human Development Index (HDI) rankings measure three dimensions of human development: living a long and healthy life (life expectancy), being educated (adult literacy, as well as enrolment at primary, secondary, and tertiary levels), and having a decent standard of living (purchasing power parity, income). As such, HDI rankings provide a useful indication of a country's socio-economic status.

SADC member states range in HDI ranking out of 177 countries worldwide. Mauritius is ranked the highest (65th), while Mozambique is the lowest (172nd). Six SADC member countries are classified in the Low Human Development range (Tanzania, Angola, Malawi, Zambia, DRC, Mozambique), seven in Medium Human Development (South Africa, Botswana, Namibia, Lesotho, Swaziland, Madagascar, Zimbabwe), and one in High Human Development (Mauritius) (UNDP, 2007).

Although there is some variation in key economic sectors, agriculture is a key economic sector for most SADC member states, and in most cases, the principal exports are primary products with minimal value added prior to exporting.



Table 3 Overview of SADC member countries¹

SADC countries	Population	Per capita GDP	Human Development Index (HDI) (2007/08)	Key economic sectors	Principal exports	HIV and AIDS prevalence (%)	Gross primary enrolment ratio (%)	Gross secondary enrolment ratio (%)	Gross tertiary enrolment ratio (%)
 Angola	16,403-million (2006)	US\$1 410 (2005)	0,446 (rank: 162)	Oil and gas, trade and commerce, services, agriculture, forestry, fishing	Crude oil, diamonds, refined oil products	2,1 (2007)	64 (1999)	18 (2002)	1 (2002)
 Botswana	1,720-million (2006)	US\$5 720 (2006)	0,654 (rank: 124)	Mining, manufacturing, agriculture, tourism	Diamonds, copper-nickel, beef, soda-ash	23,9 (2008)	96 (2002)	68 (2002)	4 (2002)
 DRC	61,532-million (2006 est.)	US\$300 (2007 est.)	0,411 (rank: 168)	Agriculture and forestry, services, mining, manufacturing	Diamonds, crude oil, cobalt, copper	1,3 (2007)	61 (2002)	22 (2002)	1 (1999)
 Lesotho	2,447-million (2006)	US\$668 (2006)	0,549 (rank: 138)	Clothing and textiles, agriculture, manufacturing, tourism	Clothing and textiles, food and live animals, wool, mohair	23,2 (2007)	114 (2006)	37 (2006)	4 (2006)
 Madagascar	17,867-million (2006)	US\$309 (2006)	0,533 (rank: 143)	Mining, agriculture, industry and tourism	Textile and clothing, coffee, vanilla, cloves, pepper, cocoa, litchis, prawns	0,1 (2007 est.)	139 (2006)	24 (2006)	3 (2006)
 Malawi	12,758-million (2006)	US\$175 (2006)	0,437 (rank: 164)	Agriculture	Tobacco, sugar, coffee, cotton, rice, pulses, clothing and textiles	11,9 (2007 est.)	119 (2006)	29 (2006)	1 (1991)

SADC countries	Population	Per capita GDP	Human Development Index (HDI) (2007/08)	Key economic sectors	Principal exports	HIV and AIDS prevalence (%)	Gross primary enrolment ratio (%)	Gross secondary enrolment ratio (%)	Gross tertiary enrolment ratio (%)
 Mauritius	1,253-million (2006)	US\$5 273 (2006)	0,804 (rank: 65)	Agriculture, tourism, manufacturing, financial services	Clothing and textiles, sugar, molasses, cut flowers	1,7 (2007 est.)	102 (2006)	81 (2002)	17 (2006)
 Mozambique	19,886-million (2006)	US\$364 (2006)	0,384 (rank: 172)	Mining, agriculture, industry, tourism	Aluminium, prawns, electricity, cashew nuts, sugar, citrus, cotton, timber	12,5 (2007 est.)	105 (2007)	16 (2006)	Not available
 Namibia	1,991-million (2006)	US\$3 242 (2006)	0,650 (rank: 125)	Mining and agriculture, industry and tourism	Granite slabs, tiles, natural health products	15,3 (2007 est.)	107 (2006)	57 (2006)	6 (2006)
 South Africa	47,391-million (2006)	US\$5 358 (2006)	0,674 (rank: 121)	Services and tourism, mining, manufacturing, agriculture, forestry and fishing, utilities	Metals, gold, diamonds, machinery and transport equipment	18,1 (2007)	107 (2002)	90 (2002)	15 (2006)
 Swaziland	1,146-million (2006)	US\$2 300 (2006)	0,547 (rank: 141)	Manufacturing, tourism	Soft drink concentrate, manufacturing, sugar, wood pulp, refrigerators	26,1 (2007 est.)	98 (2006)	43 (2002)	4 (2006)

1 Please see country reports at www.sarua.org for referencing details of data for each country. Sources used for country context statistics include: SADC Review (2007/08), SADC Country Profiles, UNDP HDI website, UNAIDS website, CIA World Factbook, UNESCO Institute for Statistics Country Profiles.



SADC countries	Population	Per capita GDP	Human Development Index (HDI) (2007/08)	Key economic sectors	Principal exports	HIV and AIDS prevalence (%)	Gross primary enrolment ratio (%)	Gross secondary enrolment ratio (%)	Gross tertiary enrolment ratio (%)
Tanzania 	38,524-million (2006)	US\$332 (2006)	0,467 (rank: 159)	Mining, agriculture, manufacturing, tourism	Coffee, cotton, manufacturing, cashew nuts, minerals	6,3 (2007 est.)	110 (2006)	6 (1999)	1 (2002)
Zambia 	11,700-million (2006)	US\$910 (2006)	0,434 (rank: 165)	Mining, agriculture, manufacturing, tourism	Cobalt, copper, cotton, cut flowers, electric appliances, hardwood, mineral products	15,2 (2007 est.)	117 (2006)	28 (2002)	2 (1999)
Zimbabwe 	12,233-million (2006)	US\$453 (2006)	0,513 (rank: 151)	Agriculture, mining, tourism	Tobacco, gold, ferro-alloys, cotton	15,3 (2007 est.)	101 (2006)	40 (2006)	4 (2002)



SADC regional development priorities

The SADC vision is one of a **common future**; a future in a regional community that will ensure economic well-being, improvement of the standards of living and quality of life, freedom and social justice, and peace and security for the peoples of Southern Africa. This shared vision is anchored in the common values and principles and the historical and cultural affinities that exist between the peoples of Southern Africa. (SADC website, emphasis added)

The SADC approach to regional integration has been described as 'deep integration' (United Nations Human Development Programme, Southern African Development Community and Southern African Political Economy Series Trust, 2000). "The choice of deep integration is premised on the argument that many of the critical barriers to intra-regional trade are capacity related" (United Nations Human Development Programme et al., 2000, p. 18). While the establishment of a SADC Free Trade Area (FTA) is a key element of regional integration, deep integration implies more than an economic argument for regional integration. Deep integration is an approach that includes the building of capacity (broadly defined) across the region in order to counter the possibility of some countries benefiting more than or at the expense of others due to the economies of SADC countries being of varying size and development (United Nations Human Development Programme et al., 2000).

The objectives of SADC are stated in Article 5 of the Windhoek Treaty of 1992. These objectives provide a summary of regional development priorities. SADC members are concerned that poverty and HIV and AIDS are major threats to attaining these objectives and therefore they are prioritised in SADC programmes and activities (SADC, 2001).

SADC objectives

The objectives of SADC are to:

- achieve development and economic growth, alleviate poverty, enhance the standard and quality of life of the people of Southern Africa and support the socially disadvantaged through regional integration;
- evolve common political values, systems and institutions;
- promote and defend peace and security;
- promote self-sustaining development on the basis of collective self-reliance and the interdependence of member states;
- achieve complementarity between national and regional strategies and programmes;
- promote and maximise the productive employment and utilisation of resources of the region;
- achieve sustainable utilisation of natural resources and effective protection of the environment; and
- strengthen and consolidate the long-standing historical, social and cultural affinities and links among the people of the region.

Source: www.sadc.int/english/about/objectives/index.php

Priority interventions for the achievement of these objectives are defined and explained in detail in the Regional Indicative Strategic Development Plan (RISDP) (SADC, 2001). The RISDP document states that:



The economic situation in SADC improved in the 1990s, but it is still unsatisfactory, with several countries experiencing low and decreasing levels of per capita gross national product, low growth rates of gross domestic product, relatively high budget deficits and interest rates, relatively low savings and investment rates, and high external debt burdens, all of which have contributed to high levels of poverty. The challenge for the region is to create an environment that is conducive to the attainment of high and sustained rates of equitable economic growth and poverty reduction by overcoming the constraints of under-development and dependence on primary sectors of production, improving macroeconomic conditions and maintaining a conducive environment for increasing saving and investment ...

With respect to human and social trends, the level of human development improved in some SADC member states between the middle and the late 1990s. However, on account of a widespread decline in life expectancy at birth, decreases in real per capita incomes, and setbacks in school enrolment rates, the level of human development declined in the majority of member states over the same period. The region is thus haunted by relatively high levels of income poverty, high and in some cases rising levels of HIV and AIDS infection rates, rising levels of illiteracy in some countries, and shortages of critical human skills in key areas, among other challenges (SADC, 2001).

Given these regional development challenges, understanding how best to support the potential developmental role of higher education is important (Ramphele, 2004). Assie-Lumumba (2005) states that:

African countries need education systems that can provide a solid education, and educated people who can competently participate in the production of knowledge not for its own sake, but which is relevant in addressing these challenges and which can promote broad societal advancement (Assie-Lumumba, 2005:19).

RISDP priority intervention areas

Cross-sectoral intervention areas:

- poverty eradication;
- combating the HIV and AIDS pandemic;
- gender equality and development;
- science and technology;
- information and communication technologies;
- environment and sustainable development;
- private sector; and
- statistics.

Sectoral co-operation and integration intervention areas:

- trade/economic liberalisation and development;
- infrastructure support for regional integration and poverty eradication;
- sustainable food security; and
- human and social development.

Source: SADC (2001) www.sadc.int/english/documents/risdp/index.php



The African Union's Plan of Action for the Second Decade of Education is an important continental effort to develop education in Africa. The revised version of the Plan of Action for the Second Decade of Education for Africa (August 2006) specifically tackles the issue of revitalisation of higher education in Africa through the following goal:

Complete revitalisation of higher education in Africa, with the emergence of strong and vibrant institutions profoundly engaged in fundamental and development-oriented research, teaching, community outreach and enrichment services to the lower levels of education; and functioning in an environment of academic freedom and institutional autonomy within an overall framework of public accountability (African Union, 2006:8).

The AU Plan of Action defines four focus areas for higher education, one of which is increased involvement of universities in African development (African Union, 2006). In the SADC region more specifically, the preamble of the 1997 SADC Protocol on Education and Training explicitly recognises the role of education (and higher education) in the region's development (SADC, 1997). The protocol is based on the following premises:

- the need to develop human resources is essential to tackle the socio-economic challenges of the region;
- sustainable development requires high levels of literacy and numeracy, together with socio-economic and technological research;
- the range of quality education and training needed in the region is unlikely to be offered by one SADC country alone;
- human resource development programmes need to have both a national and regional dimension; and
- equipping the region to meet the demands of the 21st century will require significant efforts in education and training (Hahn, 2005; SADC, 1997).

In the area of higher education specifically, the protocol makes reference to, amongst others:

- mechanisms to support access to universities within the SADC region, such as measures to support staff and student mobility;
- mechanisms to allow for representation, particularly at postgraduate level, of different SADC countries;
- co-operation in the design of academic programmes and learning materials where appropriate and at various levels;
- bilateral and multilateral links in support of joint or split-site teaching, collaborative research and consultancy work;
- co-operation in the offering and examination of academic programmes and related quality assurance procedures;
- national support for the provision of qualified staff, physical infrastructure, library holdings, and scientific and other equipment;



- promotion of participation of socially disadvantaged groups in fields of study in which they have not historically participated; and
- establishment of centres of specialisation to build capacity in the region.

The SADC Protocol also emphasises the important role of universities in supporting research and development within the region (SADC, 1997). In summarising the key higher education elements of the protocol, Hahn (2005) states that:

The meta-goal of the protocol is to improve the standard of higher education and research by promoting co-operation and creating intra-regional synergies in different areas. All activities are targeted to progressively achieve a regional equivalence, harmonisation and standardisation of the sector within a period of 20 years (Article 3) (Hahn, 2005:13).

Higher education as an enabler of development

As knowledge has become one key 'driver' of productivity and economic growth, there is a greater emphasis on the role of learning, information and technology in economic performance (Kapur and Crowley, 2008). As a result, governments are increasingly seeking to foster economic and social development by, amongst other strategies, improving education levels and increasing knowledge production. Since higher education institutions are in the business of knowledge production, the sector has a major contribution to make to national, regional and international economic development (Maassen and Cloete, 2002; Machin and McNally, 2007; OECD, 2007a, 2007b). For example, the World Bank has developed a knowledge economy framework and argues for sustained investments in education (at all levels, but particularly tertiary education), innovation, information and communication technologies, and economic and institutional environments conducive to increases in the use and creation of knowledge needed to drive economic production and ultimately economic growth (Chen and Dahlman, 2005).

Thus, in the context of a global knowledge economy, the role of higher education is increasingly attracting attention and being accorded more and more responsibility to support economic development. This argument is summed up in a 2006 report on higher education and economic development in Africa.

Knowledge-based competition within a globalising economy is prompting a fresh consideration of the role of higher education in development and growth. Previously, it was often viewed as an expensive and inefficient public service that largely benefited the wealthy and privileged. Now it is understood to make a necessary contribution, in concert with other factors, to the success of national efforts to boost productivity, competitiveness and economic growth. Viewed from this perspective, higher education ceases to contend with primary and secondary education for policy attention. Instead, it becomes an essential complement to educational efforts at other levels, as well as to national initiatives to boost innovation and performance across economic sectors (Bloom, Canning and Chan, 2006:i).



The demands of the knowledge economy and growing recognition of the role of higher education in development efforts have, in recent years, drawn attention to higher education in the African context (Association of African Universities, 2004a; Ng'ambi, 2006). In 2001, Manuel Castells, an information society theorist, noted that:

If we take seriously the analyses pointing towards the formation of a new economy, in which the ability to generate and process information is key to productivity, it will not be possible to integrate Third World countries in a dynamic world economy without creating the necessary infrastructure in higher education (Castells, 2001:222).

If Third World countries are also to enter the Information Age and reject an increasingly marginal role in the world system, development policies must include the impulse and transformation of higher education systems as a key element of the new historical project (Castells, 2001:217).

Further, the changing position of international donors, notably the World Bank (which, since 2000, has begun arguing for the importance of investment in tertiary education) has further elevated the development potential accorded to higher education. Bloom et al. (2006) argue that higher education can produce both public and private benefits (see also Kapur & Crowley, 2008). In particular, Bloom et al. note that higher education has a key role to play in enhancing economic development through 'technological catch-up'. The various economic analyses carried out by these authors lead them to conclude that tertiary education does indeed play a recognisable and measurable role in promoting economic growth (Bloom et al., 2006).

While this policy change is likely to lead to important increases in spending on higher education, the change is not without its critics. For example, Brock Utne (2003) cautions against placing unrealistic expectations on higher education, which is increasingly given the job of alleviating poverty. This task requires far broader social, political and economic change. She further argues that poverty alleviation is assumed to occur through economic growth, but that redistribution efforts which rely less on the market and focus on economic plans that fit agreed national aims are equally critical (Brock Utne, 2003).

Nonetheless, both the SADC Protocol on Education and Training and the AU Plan of Action for the Second Decade of Education make specific reference to the role of higher education in supporting development (SADC, 1997; African Union, 2006).

It is common, when considering the role of higher education in Africa's development, to focus on the notion of higher education as a public good. This argument is manifested in various forms. For some, the public good is an economic concept. From this perspective, investments in higher education are shown to have benefits beyond individuals, such as in the improvement of overall technological capacity, which in turn supports economic growth (Bloom et al., 2006).



For others, debates on the public good focus on the role of higher education in meeting far broader social purposes. For example:

The university as an actor in development has to balance short-term societal needs to address specific problems on the one hand; on the other, it must balance the long-term agenda of teaching, research and learning to enable society to regenerate itself in socio-cultural terms and to take advantage of opportunities presented by the knowledge economy (Ramphele, 2004:17).

Positioning higher education to serve such public purposes creates a tension in the context of an increasing focus on efficiency and rates of return on investments (including the economic argument for treating higher education as public good), be they in basic education, as argued in the past, or on tertiary education, as is currently argued, as well as the trend towards viewing higher education as an industry (Brock Utne, 2003; Sawyerr, 2002). In the context of globalisation and the knowledge economy, higher education faces increasingly complex demands, of which the challenge to support development is another such example. In this context, Sawyerr (2002) reminds us that:

The 'public' whose interests are to be served by policy is not a unitary homogenous entity with one set of determinate interests and values on every key issue. Rather, it consists of constituencies with different, sometimes conflicting interests on any number of issues. Thus, assertions of the 'public good' must always be tested from the perspective of: what public? what good? as determined by whom? (Sawyerr, 2002:24).

Related to the issue of higher education as a public good, it has been argued that for higher education to play a meaningful role in development, it is necessary to work within an African-specific higher education paradigm² and not one led by international agendas (Assie-Lumumba, 2005; Brock Utne, 2003). To play a role in regionally and locally relevant development, African higher education needs to break out of dependency relationships that tend to exist between African universities and universities in the North, as well as between donors and recipients (in this instance, universities) (Brock Utne, 2003). As such, a specific focus on SADC development priorities is needed when considering the role of higher education in the region, particularly if the role of higher education is seen as broader than economic advancement alone.

² Assie-Lumumba (2005) regards an African higher education paradigm as being located in Africa's socio-historical context and including a fusion of past and current African knowledge systems to shape future knowledge. This paradigm can be shaped by generations of African intellectuals who have been educated in different traditions and would include a selective fusion of schools of thought possessed by these intellectuals.



Part 1: Research design and methodology

1.1 Research objectives

Embedded in the analytical framework presented above, which is focused on understanding higher education as an enabler of SADC regional development, the study presented in this report has been guided by the following research objectives:

- 1 Describe higher education in the SADC region with a focus on collection and analysis of institutional data and an analysis of national higher education contexts.
- 2 Understand the current status and potential of regional integration in the higher education arena.
- 3 Collect baseline data that can be used as a starting point for the collection of regional higher education data in the longer term.
- 4 Reflect on the processes of gathering comparative regional higher education data where national contexts differ widely.

1.2 Study population

The study population included ministries of education in each of the SADC countries and the 64 public higher education institutions. No private institutions were included in the study.

1.3 Methodology

Two research instruments were developed for the study and these constituted the primary means of gathering data. One questionnaire targeted ministries of education and the other higher education institutions.³ Both questionnaires included sections on institutional data, funding data, quality assurance and regional collaboration. The ministry of education questionnaires focused the questioning at a national level and the higher education institution questionnaires at an institutional level. Questionnaires were administered in English, French and Portuguese.

Gathering statistical data in the SADC region is challenging for various reasons (see below). Given the challenges of accessing and interpreting higher education data, multiple data-gathering methods were used in an effort to compile a comprehensive and comparable set of data on higher education in the region. This included:

- emailing (and in some instances faxing and couriering) questionnaires to ministries of education and higher education institutions;
- intensive email and telephone follow-up communication by English, French and Portuguese-

³ Copies of questionnaires can be downloaded from the SARUA website (www.sarua.org).



speaking team members in an effort to improve response rates; and

- visits to a sample of countries (Angola, Botswana, DRC, Namibia, Tanzania, and Zambia) to gather data.

In addition to data gathered through questionnaire responses, the websites of each ministry of education and higher education institution were reviewed in detail and a comprehensive literature search was conducted at regional, national and institutional levels.

1.4 Ensuring data quality and comparability

The process of developing questionnaires included a review of existing sources of higher education data and information in order to define a set of data categories that would take account of differences in data definitions and collection methods across the region. Nonetheless, the process of capturing and analysing data highlighted the challenge of collecting comparable data across the region.

In an effort to ensure data quality, the following mechanisms were used:

- A data verification spreadsheet was prepared to check that data provided in responses tallied accurately.
- Where data did not tally or additional explanation was needed, a verification request was sent through to the ministry of education or higher education institution in question.
- Data were subjected to a second checking process during preparation of the country reports.
- Final versions of country reports were sent back to ministries of education and higher education institutions for final verification.
- Data captured in the consolidated regional spreadsheets were cross-checked against the final versions of country reports to ensure consistency.

As far as possible, data inconsistencies found during this research were discussed with higher education institutions or ministries of education, and data were updated. However, in some cases it was not possible to eradicate all inconsistencies without manipulating data in an inappropriate manner. Thus, all data discrepancies are clearly noted in this report and in the country reports located at www.sarua.org.

1.5 Response rates

A further challenge experienced was that of receiving responses from ministries and institutions. The broad range of data being collected in the study, as specified in the research brief, resulted in a long and somewhat complex questionnaire for respondents to complete, which may have contributed to the challenge of receiving responses.



To improve response rates, an intensive process of following up by email and telephone was put in place, and selected countries were visited in an effort to encourage and support ministries of education and higher education institutions to complete their responses. The final response rate can be summarised as follows:

Table 4 Summary of study response rates

	Research population	Questionnaire responses received	Documentation provided in lieu of questionnaire	No. of responses received	Outstanding data verification requests
Ministries of education	14	12	1	1	3
Higher education institutions	64	55	2	7	17
Total	78	67 (86%)	3 (4%)	8 (10%)	20 (26%)

Where questionnaire responses were not received, various additional data sources were consulted in an effort to prepare a complete data set, as is shown in the findings presented in this report and also in each of the country reports. Five South African institutions did not submit questionnaire responses. For these institutions, data were sourced from the Higher Education Management Information System (HEMIS) and added to the data tables. Data that were sourced from secondary sources rather than questionnaire responses have been carefully noted.

1.6 Towards 2015: Gathering quality higher education data in the SADC region

The Introduction argued that higher education is being accorded an increasingly important role in the development of the SADC region. However, to fulfil this function successfully, efficient, relevant and high quality national higher education systems are needed. While there is a body of literature focusing on issues faced in Africa (and, to a lesser extent, SADC specifically), comprehensive, comparable, and up-to-date data on higher education in the region are difficult to access. In a recently completed review of the status of implementation of the SADC Protocol on Education and Training, it was stated that:

In the area of tertiary and university education, much of the data collection is done by the universities themselves, with some inadequate collaboration between institutions within the same country. Data at this level may not be readily available (Umlilo weMfundo, 2007:40).

Similarly, Hahn (2005) reported that:

The statistics on higher education and research in the SADC countries are very poor. No central database exists (Hahn, 2005:7).



The need for reliable data within the SADC region is acknowledged, and is one of the priority areas of the RISDP, which notes that:

The harmonised development policies and macroeconomic convergence are crucial to the regional integration process. SADC has placed the strengthening of structures to deal with regional integration, high on its agenda. For these structures to function efficiently and effectively, there is a need to improve the capacity of national and regional statistical systems to provide the required statistical data needed for regional integration. SADC will develop core indicators for the monitoring and evaluation of the RISDP and the regional policies and programmes derived therein, taking into account the Millennium Development Goals (SADC, 2001: Chapter 4).

One of the RISDP targets is to have harmonised statistics and an integrated database of key statistics in place by 2015. It is hoped that this report will contribute towards achieving that target.

Writing in the context of regional environmental data, but arguably with wider relevance, Mafuta (2005) reflects on the challenge of Southern Africa “suffering from a lack of regionally generated statistics, depending largely on international organisations for data and information”. Often these data are based on projections and therefore may be disputed (Mafuta, 2005). Thus, it is important to establish regional processes for gathering, managing and interpreting key sets of statistical data.

1.6.1 Regional data gathering and management

Section 1.4 summarised the steps followed to ensure data accuracy in this study. Despite following the process and sticking to the steps, data used in this study in some instances remain problematic. The research process highlighted that there are different conventions regarding data collection at national levels and that SADC member countries and public higher education institutions have achieved varying levels of sophistication in collecting and managing higher education data. In some instances, key higher education data are not being collected in a systematic way and it is therefore difficult for higher education institutions or ministries of education to compile and report.

The data management and analysis process highlights six challenges in collecting data:

- Getting a first response, finding the correct contact person and securing commitment to complete the questionnaire. For example, for one ministry of education, eleven phone calls were made, two emails and one fax sent, to reach the correct person and to set up a country visit to complete the questionnaire. The researcher phoned the day before the scheduled appointment to confirm the visit, but when she arrived, the ministry had moved offices. The researcher managed to find the new offices and conducted the interview, but was told that not all the data were available. Since important data were still missing, a further verification request was sent, but the ministry never responded. It also did not respond to a request to review the country report.



- Verifying and validating the accuracy of submitted data several times (in some instances participants did not respond with correct data). For example, at one institution, it was difficult to verify total student numbers, because the number of contact students (15 710) and distance students (384) adds up to **16 094**. The number of full-time students (12 602) and part-time students (2 724) adds up to **15 326**. The number of national students (14 942), SADC students (136) and international students (632) adds up to **15 710**.
- Defining comparable units of analysis/data categories across a diverse context, despite setting clear and specific definitions for data categories. For example, major fields of study are in some cases shared between for example science, engineering and technology (SET) and business groupings as these are determined by Classification of Education Subject Matter (CESM) categories. Therefore the data we have are not per headcount, but are fractions of the headcounts. Occasional students were not included in the groupings of level of study as they do not receive any qualification as such.
- Finding an appropriate reference year. Participants were asked to provide data for the most recent academic year available. Most data were from the 2006/07 year, but some institutions provided data from 2005 and some from 2008.
- Establishing whether data were actual or estimated data. In some cases the data provided were estimated, as actual data were not available.
- Accurately interpreting responses of insufficient depth that were provided in response to open-ended questions that allowed for more subjective responses.

Finding appropriate ways to address these challenges at both national and regional levels will be essential in the construction and ongoing maintenance of a regional database.

The challenge of gathering quality, comparable, up-to-date data is not unique to the SADC region or to the higher education sector. The Organisation for Economic Co-operation and Development (OECD) Statistics Directorate has developed a Quality Framework for the organisation's statistical activities and produces a Statistics Newsletter (www.oecd.org/std/statisticsnewsletter) that presents and reflects on developments in the preparation of regional statistics. Eurostat, the statistics organisation of the European Union, presents detailed methodological resources, engages in research on the compilation of official statistics at national and international levels, and makes specific reference to the importance of statistics in international co-operation (www.epp.eurostat.ec.europa.eu). In the foreword of the OECD Quality Framework, the OECD chief statistician noted that:

The improvement of quality is a continuous process, and one of the main objectives of the Statistics Strategy launched by the OECD in 2001 is the enhancement of the quality of OECD statistics. All OECD statisticians devote a large part of their time to improving quality, but, as the experience of other national and international organisations clearly has demonstrated, the adoption of a formalised approach to quality for statistics



can bring important benefits. First, it provides a systematic mechanism for ongoing identification and resolution of quality problems, maximising the interaction between experts in different fields (statisticians, IT experts, final users, etc.); second, it gives greatly increased transparency to the processes used by the OECD to assure quality; and third, it reinforces the political role of the OECD in the context of an information society, increasing the credibility of the organisation as one of the 'first class' data providers (OECD) (Giovannini, 2003:2).

Similarly, the United Nations Educational, Scientific, and Cultural Organisation (UNESCO) Institute for Statistics describes its quality assurance processes as follows:

Data quality is of the highest priority for the UNESCO Institute for Statistics. There is a constant two-way dialogue between the institute's team and national experts to cross-check and analyse all data that are provided by the national bodies (UNESCO Institute for Statistics, 2005).

The OECD Quality Framework further highlights the inter-dependence of national and international (regional) processes in the compilation of good quality data across countries:

For an international organisation, the quality of statistics disseminated depends on two aspects, the quality of national statistics received, and the quality of internal processes for collection, processing, analysis and dissemination of data and metadata. In several fields, national statistics are developed closely in accordance with international standards. On the other hand, statistical processes at international level are often derived from best practices developed at national level. Thus, there is a clear inter-dependence between the two aspects (OECD, 2003).

In order to assess and monitor statistical capacity at a national level, the World Bank has developed the Country Statistical Information Database, which facilitates assessment of statistical capacity in developing countries (World Bank, 2008). At present this database contains information on more than 140 low- and middle-income countries with a population of over one million. A country Statistical Capacity Indicator is computed for each country, using a diagnostic framework that assesses three dimensions: statistical practice, data collection and indicator availability.

Composite scores for each dimension, together with overall scores, are calculated and range between 0 and 100, where 100 means that a country meets international criteria and "suggests good statistical standing" (World Bank, 2008). The figures show that, with some exceptions, SADC member countries' statistical capacity is very similar to that of other low- and middle-income countries. However, no countries in SADC meet international standards on the composite indicator. The only score of 100 was obtained by South Africa for its statistical practice dimension. As noted in the RISDP, this suggests that SADC member countries need to work on developing and improving their statistical systems.



Part 2: Higher education in the SADC region

This section presents an analysis of the data gathered during this study. The analysis also draws on literature reviewed and the interpretive framework of higher education's potential for regional development outlined above. Data have been drawn from the regional data set compiled on the basis of the questionnaire responses, and were supplemented as much as possible with secondary data where questionnaire responses were not received. Note that the data presented below are, in most instances, self-reported data.

2.1 The historical roots of African higher education

Contemporary African universities are the result of a complex mix of past experiences and influences, from their European colonial origins and their continued dependence on the ideas and practices in higher education in Europe and North America in the post-independence era, to the ravaging effects of economic recession, structural adjustment programmes, war, social upheaval, the debt crisis and the HIV/AIDS pandemic in recent times (Association of African Universities, 2004:10).

It is important to locate a discussion on the status of higher education in SADC within the historical context of African higher education. Higher education in Africa has a complex history rooted in colonialism, independence movements, post-independence development efforts and, in many instances, conflicts, followed by reconstruction efforts. Before 1960 few African countries had universities (Sawyer, 2002). As independence was attained, many African countries considered establishing universities as a key part of post-colonial development and "there was a great deal of enthusiasm for higher education" (Sall, 2004:178). These newly created universities were tasked with supporting new nations to build their capacity to develop and manage resources, address poverty, and take over the administrative apparatus of the countries (Sawyer, 2002). In most cases, the new universities were modelled on and closely related to those of the colonising countries (Castells, 2001; Assie-Lumumba, 2005; Cardoso, 2005):

African higher education institutions, especially universities, have been institutional sites for the reproduction of European cultural domination of African societies and institutions, both in the colonial and neo-colonial contexts. Through the dynamics of European colonial education and African leaders' own well-meaning, but misguided demand for the integral transfer of European education into their respective societies, African education was caught in a dependency trap. Thus, even the institutions created after independence have been modelled on the systems of the colonial powers and their extensions in the West (Assie-Lumumba, 2005:11).



Given the importance accorded to universities in the post-independence era, the entire cost of establishing and running universities tended to be met by the state. In most cases students did not pay fees, and when they did, it was a very small amount. This reflected the explicitly public purpose for which universities had been established. The mandate of African universities to support national development and build the needed human capital was clear. However, some began to question the colonial roots of universities and the extent to which an African identity was needed. This led to moves in many countries to redefine the purpose of higher education to take account of African specificities. Nonetheless, the role of higher education in the national development project remained clear and state support was strong.

As the economic realities of complex and unequal trade relations and the declining value of primary products in international trade began to impact on African economies from the 1970s, African countries tended to rely increasingly on aid from developed countries to meet their resource requirements. So began the complex cycle of debt and related economic and social crises that has had such a great impact on African countries. In the 1980s and 1990s various structural adjustment programmes (SAPs) were introduced with the stated aim of resolving these economic and social crises. However, SAPs also called for downsizing of the state and reductions in spending, including education spending (Sawyerr, 2002). Therefore, higher education was, until recently, not a main focus of education spending for many governments and international donors, with greater attention being accorded to primary and secondary education (Brock Utne, 2003; Hahn, 2005; Bloom, Canning et al., 2006). Thus, African higher education found itself in a situation of vastly diminished resources together with increasing enrolments as demand for higher education increased precisely at a time when the knowledge economy began to emerge and global demands on higher education intensified.

As described above, more recently, arguments and analyses showing the value of higher education for development have begun to emerge (Ramphela, 2004; Bloom, Canning et al., 2006). Nonetheless, the current status of higher education within the SADC (and broader African) context is best understood against this historical background.

2.2 Regional overview

An analysis of the higher education data collected is presented in detail later in this report. However, to set the context it is useful to begin with a broad overview of the higher education sector across the SADC region. As was previously discussed, it is important to note that there is great diversity within the region and within the higher education sector specifically. This diversity is illustrated in Table 5 below, detailing the number of institutions and student enrolments.



Table 5 Regional higher education institutions and overall enrolments

Country	Number of public universities	Publicly funded polytechnics/ specialised colleges	Number of private universities or colleges	Total enrolment in public universities (most recent year available per institution participating in the study)
Angola	1			47 373
Botswana	1	21	5	15 710
DRC	4			31 478
Lesotho	1	7	0	8 508
Madagascar	6	2	21	41 691
Malawi	2	7	4	7 869
Mauritius	2	7	30	9 720
Mozambique	4	3	12	46 865
Namibia	1	2	2	8 378
South Africa	23		80	746 538
Swaziland	1	1	4	5 785
Tanzania	8	13	12	33 420
Zambia	3	43	6	14 395
Zimbabwe	9	8	4	52 453
SADC total	66	114	170	1 070 183

Sources: Ministry of education questionnaire responses, ministry of education websites, SA Department of Education (2008), SADC (2006)

Table 5 shows that, in terms of number of institutions, the private higher education sector outnumbers the public sector. This is the case for all countries, excluding Malawi and Zimbabwe, where public higher education institutions still outnumber private ones. Since this study focuses on public institutions, no enrolment figures for private institutions were collected. However, ministries were asked to estimate the percentage of students accommodated in each type of institution. Unfortunately this question was misunderstood in many instances and therefore the data cannot be quoted. However, it does appear that enrolment in the private higher education sector is lower than that of the public sector. Similarly, Varghese (2004) noted that:

Public universities had a near monopoly in providing higher education in countries of Africa until recently. The market-friendly reforms initiated under the structural adjustment programmes, the deregulation policies, and the financial crisis of the state created an encouraging environment for the emergence of the private higher education sector in Africa. The legislative measures initiated to establish private institutions of higher education also helped the entry of cross-border education, which is offered mainly through private providers. At present, the private sector is a fast expanding



segment of higher education in Africa, although it continues to account for a small share of enrolment in higher education (Varghese, 2004:4).

This is not a trend specific to SADC or the African continent; private provision of higher education has been on the increase globally. It is predicted that private, for-profit provision of higher education (estimated to be a US\$350-billion industry globally) will in the next few decades come to represent a greater proportion of education in the developing world than it currently does in industrialised countries. While private, for-profit provision is likely to use classroom teaching on locally owned campuses to a large degree, cross-border education and distance learning are also likely to gain greater prominence (Daniel, Kanwar and Uvalic-Trumbic, 2006). The importance of better understanding this environment is critical for policy-making at institutional, national and SADC levels and could be researched by SARUA in future.

The SADC higher education sector is currently predominantly based on contact provision, despite the potential commonly accorded to distance education to increase access and participation in higher education. Prof. Barney Pityana, chairperson of the African Council for Distance Education (ACDE) and the principal and vice chancellor of the University of South Africa (Unisa), states that:

Distance education and open learning has a very critical role in advancing the development of Africa as it plays a central part in enhancing participation and access in higher education within the current context, where demand far exceeds resources and opportunities available in the conventional contact institutions (Pityana, ACDE, 2008).

The data collected during this study indicate that 72% of all students enrolled in public higher education institutions are contact students and only 28% are studying via distance education. Institutions from several countries, namely Angola, the DRC, Lesotho, Malawi and Mauritius, reported that no higher education is provided via distance education. Headcounts of students by mode of delivery across the surveyed institutions are shown in Table 6 below. There is a slight discrepancy of 2 207 students in the total enrolment figures presented in Tables 5 and 6 due to discrepancies in data reporting by higher education institutions when asked to differentiate between contact and distance students, and between male and female students. In many cases, the reasons for these small discrepancies were related to the way in which data are collected at departmental, faculty, campus or institutional levels.

Table 6 SADC higher education enrolment by mode of delivery

Country	Number of contact students	Number of distance students
Angola	47 373	0
Botswana	15 326	384
DRC	57 326	0
Lesotho	8 508	0
Madagascar	39 673	65



Country	Number of contact students	Number of distance students
Malawi	7 869	0
Mauritius	9 720	0
Mozambique	46 105	506
Namibia	6 259	2 119
South Africa	475 596	270 942
Swaziland	3 648	2 137
Tanzania	28 244	5 176
Zambia	12 089	2 306
Zimbabwe	32 777	19 676
Total	790 851 (72%)	303 311 (28%)

Source: Higher education institution questionnaire responses

One key reason why distance education is commonly recommended as a potential solution to the challenge of increasing enrolment is its potential cost efficiency, as greater numbers of students are enrolled (Council on Higher Education, 2004). While distance education and the use of ICT to support delivery certainly has the potential to increase enrolments cost-effectively, one should not be tempted to argue for distance or technology-enabled education as a means of reducing the cost of higher education provision. As explained earlier, higher education has been chronically underfunded, with many negative implications, and therefore, making an argument for reducing costs obscures the more pressing issue of the need to increase funding.

Ministries of education were asked to state the percentage of the national budget allocated to higher education annually between 2003 and 2007. The data provided are presented in Table 7 below. When asked to reflect on challenges facing the higher education sector in their countries, all ministries made note of at least one, but often several, challenges related to inadequate funding and investment in higher education. Yet eight of the ministries reported that financial support from business and industry was not part of their funding strategies.

Table 7 Percentage of the national education budget allocated to higher education annually

Country	2003 (%)	2004 (%)	2005 (%)	2006 (%)	2007 (%)
Angola	No data				
Botswana	No data				
DRC	No data				
Lesotho	10,0	10,0	11,0	12,0	15,0



Country	2003 (%)	2004 (%)	2005 (%)	2006 (%)	2007 (%)
Madagascar	9,9	11,4	9,4	12,0	10,7
Malawi	11,6	10,7	17,0	19,7	20,0
Mauritius	14,7	14,1	14,1	14,4	14,0
Mozambique	No data	No data	No data	3,1	3,4
Namibia	No data	No data	No data	No data	No data
South Africa	12,6	13,0 (estimate)	13,0 (estimate)	No data	No data
Swaziland	20,1	22,3	22,7	18,6	21,9
Tanzania	No data	No data	No data	No data	No data
Zambia	15,0	15,7	25,0	17,3	10,6
Zimbabwe	26,1	25,2	26,5	27,5	31,0

Source: CHE (2004) and ministries of education questionnaire responses. Several ministries did not provide data for this question

The higher education policy and regulatory environment across SADC countries show some similarities and also some differences. In many countries there is an emphasis on increasing access as well as addressing gender disparities. Some countries listed a range of statutory bodies that play a significant role in higher education, while in others, few or no such bodies exist.

Table 8 Overview of important statutory bodies in the higher education sector

Country	Important statutory bodies in the higher education sector ⁴
Angola	No data
Botswana	<ul style="list-style-type: none"> • Tertiary Education Council (TEC) • Botswana Training Authority (BOTA)
DRC	<ul style="list-style-type: none"> • Ministry of Higher Education
Lesotho	<ul style="list-style-type: none"> • Ministry of Education and Training (only national body)
Madagascar	<ul style="list-style-type: none"> • Ministry of National Education and Scientific research (MENRS) • Directorate General of Post Basic Education and Research (DGEPR)
Madagascar	<ul style="list-style-type: none"> • Directorate General of Higher Education and Research (DGESR) • Directorate of Higher Education (DESUP) • Conférence des Présidents ou des Recteurs d'Institutions d'Enseignement Supérieur Publiques et Privées (Conference of Presidents or Rectors of Institutions of Public and Private Higher Education) (COPPRIES)
Malawi	None, but a task force is being set up to establish a Council for Higher Education

⁴ Please see country reports at www.sarua.org for details and roles of the important statutory bodies in the higher education sector.



Country	Important statutory bodies in the higher education sector ⁴
Mauritius	<ul style="list-style-type: none"> • Tertiary Education Commission (TEC) • Industrial and Vocational Training Board (IVTB) • Mauritius College of the Air (MCA) • Mauritius Examinations Syndicate (MES) • Mauritius Qualifications Authority (MQA)
Mozambique	<ul style="list-style-type: none"> • None, only Ministry of Education and Culture
Namibia	<ul style="list-style-type: none"> • National Council for Higher Education • Advisory Council on Teacher Education and Training (ACTET)
South Africa	<ul style="list-style-type: none"> • Council on Higher Education (CHE) • Higher Education Quality Committee (HEQC) • South African Qualifications Authority (SAQA)
Swaziland	<ul style="list-style-type: none"> • Education Board • Scholarship Selection Board • University Council • University Senate • University Research Board
Tanzania	<ul style="list-style-type: none"> • Tanzanian Education Authority (TEA) • Tanzanian Commission for Universities (TCU) • Higher Education Students Loan Board (HESLB) • National Council for Technical Education (NACTE)
Zambia	<ul style="list-style-type: none"> • The Technical Education and Vocation Training Authority (TEVETA) • The Examination Council of Zambia • University Council
Zimbabwe	<ul style="list-style-type: none"> • Zimbabwe Council for Higher Education (ZIMCHE) • National Manpower Advisory Council (NAMACO) • Zimbabwe Manpower Development Fund (ZIMDEF) • College Lecturers Association of Zimbabwe (COLAZ) • National Economic Consultative Forum • Zimbabwe Occupational Standards Services (ZOSS)

Source: Ministries of education questionnaire responses and country reports

Eight of the 14 ministries reported that they monitor institutional governance and management, but only four set performance targets in this area. Monitoring of institutional governance and management takes many forms, as described in the country reports. Some specific examples include:

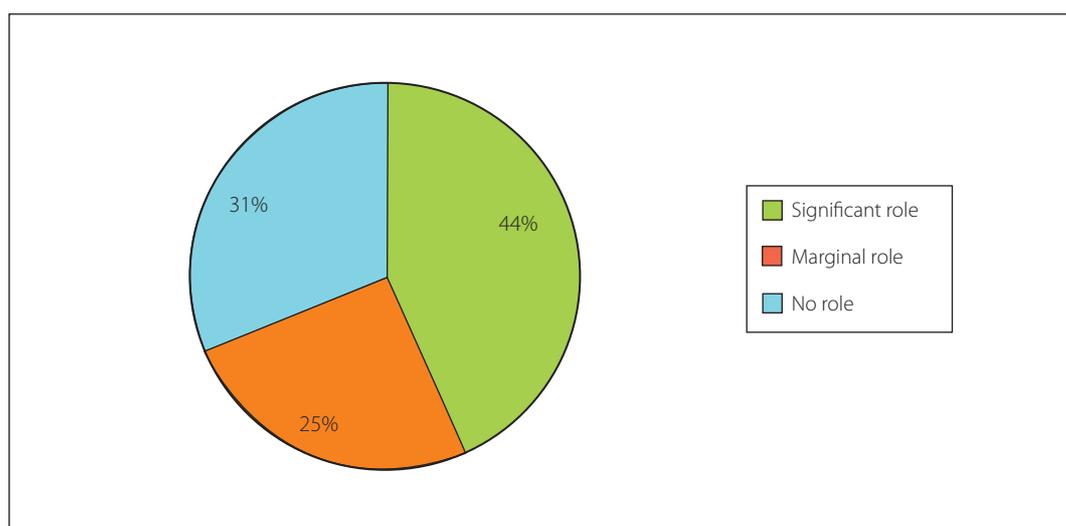
- The ministry is represented in the governing councils of all institutions (Lesotho).
- The Ministry of Education and Human Resources prepared the national policy framework and monitors it by financing it (Mauritius).



- Higher education institutions submit annual reports to the ministry and the Higher Education Board (consultation organ for the minister of education about matters concerning higher education) and the National Board of Higher Education (consultation organ for the Council of Ministers, presided over by the minister of education and culture) holds discussions (Mozambique).
- The mandate of the office of the Chief Inspector for Tertiary Education includes monitoring governance and management of higher education in the country at institutional and national level (Swaziland).
- The ministry receives institutional progress reports regularly. The ministry is represented in senate and council meetings of these institutions (Tanzania).

Half (seven) of the ministries reported that students are active stakeholders in national governance and management, five involve graduates, eleven involve employers and eight involve members of the community. Institutions were also asked to estimate the extent of their role in national policy processes.

Figure 1 Perception of higher education institutions regarding their role in national policy processes (n=64)



2.3 Institutional focus areas

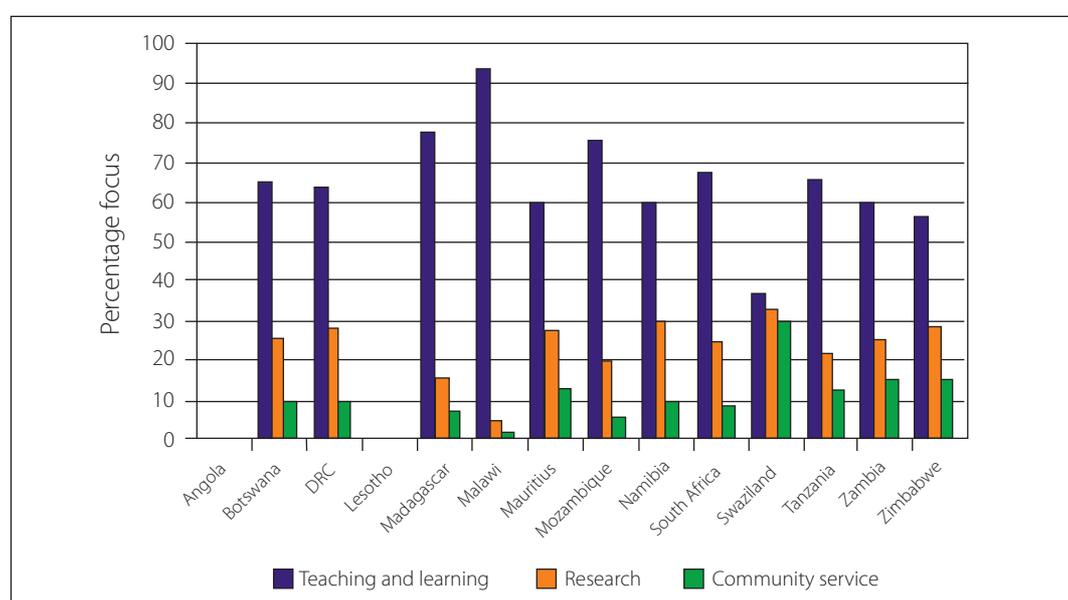
To play a regional role, higher education institutions must do more than simply education and research – they must engage with others in their region, provide opportunities for lifelong learning, and contribute to the development of knowledge-intensive jobs, which enable graduates to find local employment. This has implications for all aspects of their activities: teaching, research and public service (OECD, 2007a:1).

The three major roles or functions of higher education are widely accepted to be teaching and learning, research and community service. Depending on the specific institutional vision and mission, each institution will define its own unique proportional focus in each of these areas, and in some cases, institutions may opt to focus more on one area.



Higher education institutions were asked to indicate the approximate percentage of their institution's time and resources that are focused on (1) teaching and learning; (2) research; and (3) community service activities. Figure 2 presents a summary of the responses to this question for each of these three areas for each SADC country, as estimated by the 54 public institutions (out of the 64 institutions targeted) that provided a questionnaire response. (Note that there are differences within countries that are not reflected in the average figures presented.) While the response to this question is an estimate on the part of the institution, rather than an objective measure of institutional focus, it does provide an initial indication of where priorities lie at national and regional levels.

Figure 2 Higher education institution functions



Source: Higher education institution questionnaire data⁵

In contrast to the OECD call to concentrate on more than education provision, the majority of higher education institutions in the SADC region report that they focus on teaching and learning. When an average is calculated across all countries, one finds a 65% focus on teaching and learning, a 22% focus on research and an 11% focus on community service. Community service, or outreach as this function is sometimes called, is generally not seen as a core role of a university. Taken together with the challenge of expecting higher education to solve too great a range of development issues within current resource constraints, a regional average of 10% for community service seems realistic.

However, the relatively low focus on research (22%) across the region may be of some concern. Surveyed institutions in all but one country focus less than 30% of their attention on research. Indeed, when considering data provided regarding research output, it may be possible to argue that the focus on research may be even lower than the reported estimate of 23%. In their report

⁵ No data were provided for Lesotho. Data provided for Angola appear inaccurate and have been removed pending verification.



entitled *The State of Public Science in SADC*, Mouton et al. (2008) report low research output based on their bibliometric analysis of the ISI Web of Science. These authors also found that 79% of publications published by SADC institutions between 1990 and 2007 were produced by South African institutions.

Table 9 Total number of annual research publications reported by SADC public institutions (most recent year for which data were available)⁶

	Internatio- nally ac- credited journals	Locally accredited journals	Books	Other	Total
Science, engineering and technology	2 215	1 134	80	1 931	5 359
Business, management and law	314	721	902	423	2 359
Humanities and social sciences	609	1 193	346	826	2 973
Health sciences	937	491	23	489	1 940
Other	533	166	83	196	979
Total	4 608	3 704	1 433	3 865	13 609

Source: Higher education institution questionnaire data

Table 10 Total number of annual research publications reported by SADC public institutions, excluding South Africa (most recent year for which data were available)

	Internatio- nally ac- credited journals	Locally accredited journals	Books	Other	Total
Science, engineering and technology	363	402	19	512	1 296
Business, management and law	47	54	801	108	1 010
Humanities and social sciences	134	127	87	238	586
Health sciences	162	11	18	218	409
Other	339	91	70	106	606
Total	1 045	685	995	1 182	3 907

Source: Higher education institution questionnaire data

Tables 9 and 10 present the total number of research publications per major field of study as reported by the 54 institutions that provided questionnaire responses. When assessed in relation to the increasingly important role of research as a key driver in the current global knowledge economy

⁶ Data provided by institutions were mostly from 2006 or 2007. In a few cases data from 2005 and 2008 were also submitted. Thus, "most recent year for which data was available" refers to data from years 2005 to 2008, with the majority of data being for 2006/07. The same applies to all data tables presented in the report.



(highlighted earlier in this report) and against the historical background of African higher education, the challenges faced by African institutions in building research capacity are clear (see also, Kapur and Crowley, 2008). While access to information is important, so is creation of information and knowledge that is contextually relevant (Castells, 2001; Brock Utne, 2003; Assie-Lumumba, 2005). Two African authors who argue strongly for the building of African research capacity note that:

Africa needs a strong pan-continental community of researchers to discover resourceful, timely ways to deal with poverty's many causes. This requires the development of strong research universities – institutions with a strong emphasis on graduate research, as opposed to undergraduate teaching, and where graduates are taught by lecturers who themselves are expanding the frontiers of knowledge (Muchie, 2008).

What can be said is that every society needs to ensure the existence of viable indigenous knowledge systems, i.e. local institutions, structures, and cadres which, in combination, are able to access knowledge from all sources – external and home-grown, traditional and modern – synthesise it, adapt it, and generally make it usable by local communities and agencies under local conditions. The inadequacy of such systems in Africa is both a cause and an effect of the continent's knowledge-poverty and deepening material deprivation (Sawyerr, 2004:216).

However, the data presented above as well as literature reviewed confirm that building research capacity in African higher education institutions will require significant investment. It has further been noted that the weakness of graduate study programmes in most African countries is among the most serious of the institutional limitations on research capacity development (Sawyerr, 2004).

Illustrative examples of research capacity constraints from selected SADC countries

Madagascar: Research shows that, in 2006, only 64% of the faculty in universities had PhDs or their equivalent and that very few of the faculty were engaged in research or publishing. Limited research capacity among faculty undermines their ability to train and stimulate students.

Tanzania: There are inadequate numbers of qualified staff to teach and conduct research.

Research capacity includes human capacity and environmental factors. Human capacity includes training programmes (particularly at postgraduate level), involvement in research activities and opportunities to work with more experienced researchers. The environmental component encompasses the macro-environment of research-related policy and resource allocation, a political atmosphere that supports tolerance and divergent views, and the availability and quality of research infrastructure. Several research participants made comments supporting this analysis, for example:



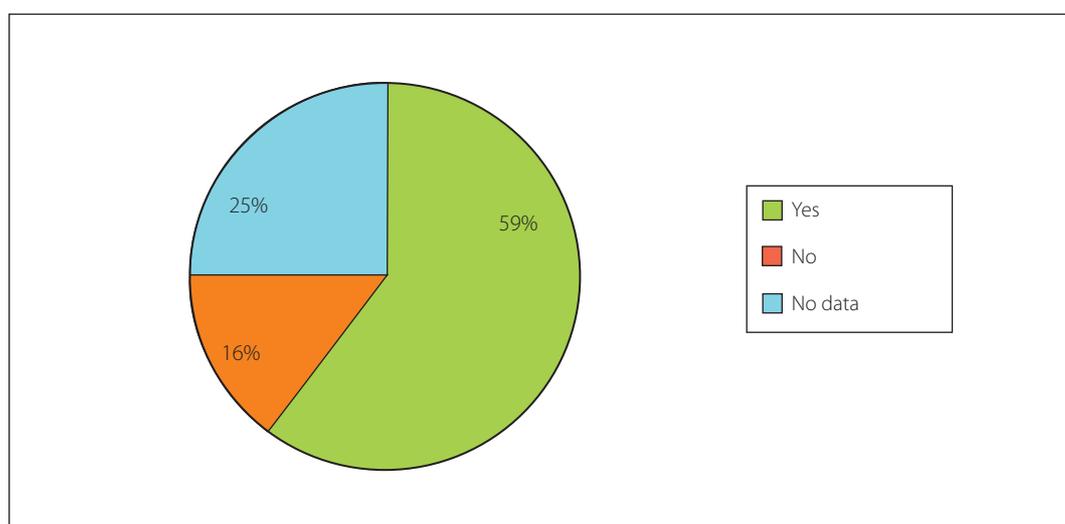
- Inadequate resources impact negatively on the quality of teaching and learning processes (Zimbabwe).
- Recurrent budget allocations are not aligned to the requirements for higher education institutions (Swaziland).
- Government needs to develop funding streams for PhD and master's students and for research. A funding stream is also necessary to stimulate and develop third stream (enterprise) income generation. There are also remuneration and recruitment problems (Botswana).
- The university receives insufficient money from the government to fund all research and other academic activities. In response to this challenge, University X seeks to generate some revenue internally and has a plan to develop additional income sources (Country report, Tanzania).

Even though calls are made for increasing investments in research by governments, donors and the private sector, the role of higher education institutions themselves should not be forgotten:

A major obligation rests on the higher education and research institutions themselves to do more to attract support and funding for research. They have to demonstrate to their range of constituents – from governments to parents, from local communities to business firms – the relevance and importance, long-term and more immediately, of higher education and local knowledge generation (Sawyer, 2004:229).

In this vein the majority of higher education institutions participating in this study reported that they have a research policy or strategy in place. Few examples of research policies were included as supporting documentation, so the quality of these policies or strategies has not been assessed as part of this study. Many of those that responded 'no' to this question went on to explain that processes were under way to develop research policies or strategies.

Figure 3 Percentage of institutions with research policies or strategies (n=64)





Similarly the majority of institutions (59%) report having plans in place for collaboration with business and/or industry, 16% report that they have no plans for business and/or industry collaboration and 25% of institutions did not provide a response to this question.

2.4 Enrolment patterns

Table 3 presented the gross enrolment ratios for each of the 14 SADC countries included in this study. Tertiary level enrolment ratios in the region are generally low. While figures range between 1% in several countries to 17% in Mauritius, the majority of SADC countries have a tertiary enrolment ratio of between 2 and 4% (see also Umlilo weMfundo, 2007). These figures are supported by the headcount enrolment figures presented in this section. The data are as accurate as could be gathered following the methodology outlined above. In some cases, numbers do not tally exactly due to inconsistencies in reporting by institutions. As far as possible these inconsistencies have been resolved and removed, but in some instances this was not possible.

The RISDP Priority Areas summarised in the Introduction cover a broad range of study areas or major fields of study and show the diversity of human capital needed in the region. A consideration of current enrolment trends provides an initial indication of the extent to which the higher education sector, with respect to universities in particular, will support the region in developing the human capital needed for development. Tables 11 to 16 below provide a detailed picture of enrolment in each of the four main fields of study included in this research (see definitions for subject areas included in each).

In addition to qualifying people in different areas of specialisation, the promotion of gender equality is a key priority of the RISDP and the Millennium Development Goals (MDGs) (UNDP, 2008). However, the enrolment data show that the SADC region still has a long way to go with respect to ensuring gender representivity in students in the region (see below).

Table 11 SADC higher education enrolment by gender (most recent year for which data were available)⁷

Country	Total students (headcount)	Female students	Male students
Angola	47 373	No data	No data
Botswana	15 710	8 056	5 389
DRC	57 664	9 311	23 300
Lesotho	8 508	No data	No data
Madagascar	41 691	No data	No data
Malawi	7 869	2 669	4 419
Mauritius	9 720	4 989	4 585

⁷ Some totals do not add up as a few institutions did not provide gender breakdowns.



Country	Total students (headcount)	Female students	Male students
Mozambique	46 865	14 333	35 300
Namibia	8 378	4 936	3 442
South Africa	746 538	401 710	344 678
Swaziland	5 785	2 794	2 991
Tanzania	33 420	11 407	22 013
Zambia	14 395	4 944	9 451
Zimbabwe	52 453	19 454	31 240
Total (all countries)	1 096 369	484 603 (49,9%)	486 808 (50,1%)
Total (SA excluded)	349 831	82 893 (36,8%)	142 130 (63,2%)

Source: Higher education institution questionnaire responses and HEMIS data where South African institutions did not submit responses

When the region as a whole is considered, the gender ratio is almost even, but when South Africa is excluded, gender representation is 36,8% female and 63,2% male students. These disparities are even greater in certain major fields of study, as shown below.

Table 12 Enrolment patterns for science, engineering and technology (most recent year for which data were available)

Country	Gender breakdown		Level of qualification				
	Female students	Male students	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Angola	No data	No data	6 566	30	142	2	0
Botswana	2 229	549	2 580	0	167	35	198
DRC	127	3 335	4 769	25	17	13	524
Lesotho	No data	No data	No data	No data	No data	No data	No data
Madagascar	1 869	3 436	3 133	1 899	442	45	0
Malawi	656	1 739	2 364	11	31	0	397
Mauritius	1 394	2 169	2 864	0	549	23	0
Mozambique	2 661	9 041	11 616	0	86	0	0
Namibia	431	677	1 070	0	34	3	1
South Africa	67 206	100 891	143 704	5 092	9 394	3 557	8 576
Swaziland	545	924	1 440	0	29	0	0
Tanzania	2 256	7 343	8 564	69	1 460	66	10
Zambia	926	3 341	4 232	4	23	8	0
Zimbabwe	2 718	7 956	9 644	9	466	47	602



Country	Gender breakdown		Level of qualification				
	Female students	Male students	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Total (all countries)	83 018 (37,0%)	141 401 (63,1%)	202 546 (85,6%)	7 139 (3,1%)	12 840 (5,4%)	3 799 (1,6%)	10 308 (4,4%)
Total (SA excluded)	15 812 (28,1%)	40 510 (71,9%)	58 842 (88,7%)	2 047 (3,1%)	3 446 (5,2%)	242 (0,4%)	1 732 (2,6%)

Sources: Higher education institution questionnaire responses and HEMIS data for five South African institutions that did not submit a response
 Note: Percentages have been rounded off and may not total 100 exactly

Table 13 Enrolment patterns for business, management and law (most recent year for which data were available)

Country	Gender breakdown		Level of qualification				
	Female students	Male students	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Angola	No data	No data	10 037	160	270	0	0
Botswana	1 112	860	1 972	0	248	0	0
DRC	2 661	6 062	13 660	0	16	9	2 857 ⁸
Lesotho	No data	No data	No data	No data	No data	No data	No data
Madagascar	9 556	9 897	12 781	6 066	499	46	40
Malawi	252	703	870	0	85	0	0
Mauritius	2 290	1 833	3 393	0	682	33	15
Mozambique	1 237	2 727	3 939	0	25	0	0
Namibia	1 237	1 145	1 864	37	88	0	393
South Africa	130 369	110 869	213 683	9 685	10 094	1 049	13 430
Swaziland	1 265	1 303	2 568	0	0	13	0
Tanzania	2 035	6 017	5 215	40	2 055	4	737
Zambia	610	1 382	1 834	23	131	34	0
Zimbabwe	6 017	11 258	14 189	1 083	3 247	0	12
Total (all countries)	158 641 (50,7%)	154 057 (49,2%)	284 469 (84%)	17 094 (5,1%)	17 440 (5,2%)	1 165 (0,4%)	17 484 (5,2%)
Total (SA excluded)	28 272 (39,6%)	43 187 (60,4%)	72 322 (79,3%)	409 (8,1%)	7 346 (8,1%)	116 (0,1%)	4 054 (4,5%)

Sources: Higher education institution questionnaire responses and HEMIS data for five South African institutions that did not submit a response
 Note: Percentages have been rounded off and may not total 100 exactly

⁸ This figure includes all postgraduate enrolments at one of the DRC institutions. The data provided in the questionnaire response did not allow for categorisation by level of postgraduate study and so has been included here as 'other'.



Table 14 Enrolment patterns for the humanities and social sciences (most recent year for which data were available)

Country	Gender breakdown		Level of qualification				
	Female students	Male students	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Angola	No data	No data	28 557	0	196	0	0
Botswana	4 053	3 363	6 825	466	538	32	127
DRC	3 539	7 862	10 830	1 697	38	49	0
Lesotho	No data	No data	No data	No data	No data	No data	No data
Madagascar	4 651	5 128	7 329	2 168	231	20	0
Malawi	1 238	1 552	2 627	21	133	9	53
Mauritius	1 125	336	1 238	0	124	46	0
Mozambique	9 777	22 735	29 479	0	139	3	0
Namibia	1 198	730	1 527	39	60	11	291
South Africa	173 247	113 539	226 014	18 958	15 247	4 387	16 925
Swaziland	749	613	1 209	134	18	0	0
Tanzania	4 575	6 008	8 501	82	964	15	0
Zambia	3 133	4 159	7 110	9	165	8	0
Zimbabwe	9 586	10 073	13 702	150	1 585	115	53
Total (all countries)	216 872 (55,2%)	176 098 (44,8%)	344 948 (84,1%)	23 724 (5,8%)	19 454 (4,7%)	4 663 (1,1%)	17 513 (4,3%)
Total (SA excluded)	43 624 (41,1%)	62 559 (58,9%)	118 934 (92,4%)	4 766 (3,7%)	4 207 (3,3%)	276 (0,2%)	588 (0,5%)

Sources: Higher education institution questionnaire responses and HEMIS data for five South African institutions that did not submit a response

Note: Percentages have been rounded off and may not total 100 exactly

Table 15 Enrolment patterns for the health sciences (most recent year for which data were available)

Country	Gender breakdown		Level of qualification				
	Female students	Male students	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Angola	No data	No data	1 394	0	24	0	0
Botswana	198	148	346	0	11	0	0
DRC	2 983	6 042	10 880	0	65	14	102
Lesotho	No data	No data	No data	No data	No data	No data	No data
Madagascar	1 202	1 469	2 077	800	20	0	0



Country	Gender breakdown		Level of qualification				
	Female students	Male students	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Malawi	523	425	873	0	75	0	0
Mauritius	180	247	427	0	0	0	0
Mozambique	562	639	1 201	0	0	0	0
Namibia	600	175	63	21	25	8	658
South Africa	30 399	19 101	36 389	2 966	6 793	858	3 205
Swaziland	235	151	386	0	0	0	0
Tanzania	2 036	1 955	3 823	12	281	3	0
Zambia	275	569	755	2	83	4	0
Zimbabwe	1 133	1 953	2 587	56	173	22	0
Total (all countries)	40 326 (55,1%)	32 873 (44,9%)	61 201 (79,0%)	3 857 (5,0%)	7 550 (9,7%)	909 (1,2%)	3 965 (5,1%)
Total (SA excluded)	9 927 (41,9%)	13 773 (58,1%)	24 812 (91,0%)	891 (3,3%)	757 (3,8%)	51 (0,2%)	760 (2,8%)

Sources: Higher education institution questionnaire responses and HEMIS data for five South African institutions that did not submit a response

Note: Percentages have been rounded off and may not total 100 exactly

Table 16 Enrolment patterns for 'other' major fields of study (most recent year for which data were available)

Country	Gender breakdown		Level of qualification				
	Female students	Male students	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Angola	0	0	0	0	0	0	0
Botswana	464	469	2 265	0	0	0	0
DRC	0	0	0	595	0	0	264
Lesotho	0	0	0	0	0	0	0
Madagascar	492	526	136	275	114	0	0
Malawi	0	0	0	0	0	0	0
Mauritius	0	0	0	0	0	0	0
Mozambique	96	158	254	0	0	0	0
Namibia	1 470	715	881	93	0	0	109
South Africa	489	278	535	0	139	51	145
Swaziland	0	0	0	0	0	0	0
Tanzania	505	690	0	0	139	0	0

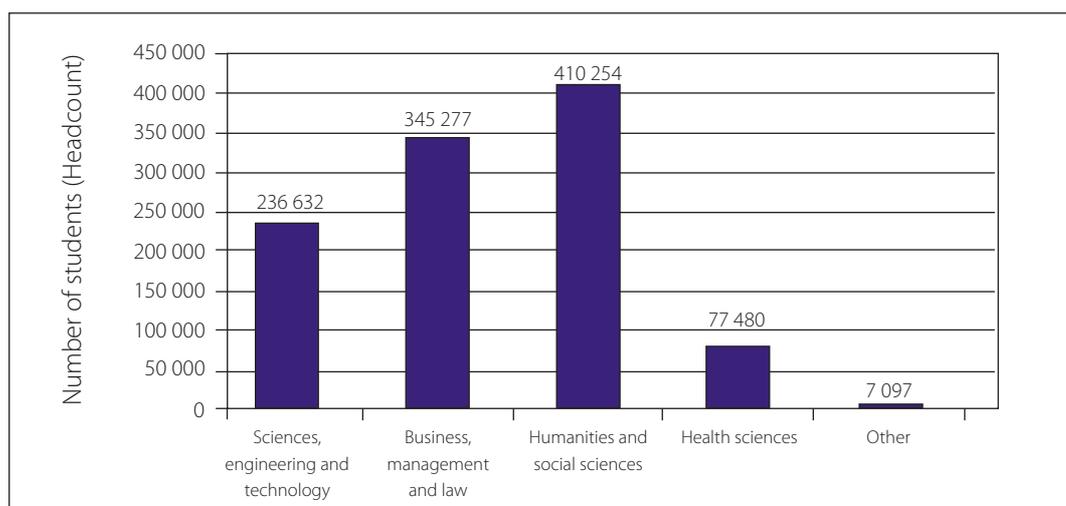


Country	Gender breakdown		Level of qualification				
	Female students	Male students	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Zambia	0	0	0	0	0	0	0
Zimbabwe	0	0	0	0	0	0	0
Total (all countries)	3 516 (55,4%)	2 836 (44,7%)	4 071 (68,0%)	963 (16,1%)	392 (6,5%)	51 (0,9%)	518 (8,6%)
Total (SA Excluded)	3 027 (54,2%)	2 558 (45,8%)	3 536 (69,0%)	963 (18,8%)	253 (4,9%)	0 (0%)	373 (7,3%)

Sources: Higher education institution questionnaire responses and HEMIS data for five South African institutions that did not submit a response
 Note: Percentages have been rounded off and may not total 100 exactly

The graph shows the number of students by major field of study for the region as a whole.

Figure 4 Number of students (all levels of study) per major field of study



Overall, most SADC students are enrolled in the humanities and social sciences. Enrolment in the health sciences is low, especially given the importance of preventing and treating HIV and AIDS, malaria and other diseases (MDG 6), reducing child mortality (MDG 4) and improving maternal health (MDG 5). As noted above, HIV and AIDS has been included within all SADC programmes due to the extent of the pandemic. It seems unlikely that the region will be able to produce sufficient health science graduates to meet regional needs in this and other areas of health care. Given its population size and number of higher education institutions, it is not surprising that South Africa currently enrolls the largest number of the health sciences students (51 720), followed by the DRC (13 019), Tanzania (3 991), Zimbabwe (3 086) and Madagascar (2 671). Swaziland enrolls the lowest number of the health sciences students (386).



Science and technology is another key area of focus for SADC, yet enrolments in this area are also relatively low. At present, total enrolment in science and technology ranges between 1 108 students in Namibia and 168 079 students in South Africa. Mozambique and Zimbabwe report the next highest enrolment numbers in this field of study, 11 702 and 10 644 respectively. Further, the student gender disparity is greatest for science, engineering, and technology compared to other fields of study. Drawing on data from 2002/2003, Umlilo weMfundo reports similar trends.

In terms of the percentage of tertiary students concentrating on science, engineering, manufacturing and construction, areas which are of critical importance at this stage of the development of SADC, only Mauritius, South Africa and Namibia have more than 40% of their tertiary enrolment in these areas (Mauritius 71%, South Africa 58% and Namibia 41%). Four countries had a medium level of enrolment in this sector (Zimbabwe 28%, Madagascar 22%, the United Republic of Tanzania 20% and Malawi 16%). Other countries have 10% or less (Zambia 10%, Swaziland 7.6% and Mozambique 3%) (Umlilo weMfundo, 2007:61).

It is not only the total number of students enrolled in each major field of study that is important, but also the level at which these students are studying and the number who are awarded qualifications.

Table 17 Regional overview of level of study by major field of study (all countries) (most recent year for which data were available)

Major field of study	Level of study					
	Under-graduate degrees/ diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other	Total
Science, engineering and technology	202 546	7 139	12 840	3 799	10 308	236 632
Business, management and law	284 469	23 160	17 440	1 165	17 484	343 718
Humanities and social sciences	344 948	23 724	19 454	4 663	17 513	410 302
Health sciences	61 201	3 857	7 550	909	3 965	77 480
Other	4 071	963	392	51	518	5 995
Total	897 234 (83,5%)	58 843 (5,5%)	57 676 (5,4%)	10 587 (1,0%)	49 788 (4,6%)	1 074 128

Sources: Higher education institution questionnaire responses and HEMIS data for five South African institutions that did not submit a response

Note: Percentages have been rounded off and may not total 100 exactly



Table 18 Regional overview of level of study by major field of study (excluding South Africa) (most recent year for which data were available)

Major field of study	Level of study					
	Under-graduate degrees/ diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other	Total
Science, engineering and technology	58 842	2 047	3 446	242	1 732	66 309
Business, management and law	72 322	13 475	7 346	116	4 054	97 313
Humanities and social sciences	118 934	4 766	4 207	276	588	128 771
Health sciences	24 812	891	757	51	760	27 271
Other	3 536	963	253	0	373	5 125
Total	278 446 (85,7%)	22 142 (6,8%)	16 009 (4,9%)	685 (0,2%)	7 507 (2,3%)	324 789

Sources: Higher education institution questionnaire responses and HEMIS data for five South African institutions that did not submit a response

Note: Percentages have been rounded off and may not total 100 exactly

Tables 15 and 16 show the low numbers of students registered at postgraduate level. When South Africa is excluded, only 685 students (0,20%) are registered for PhDs. With South Africa included this number increases to 1%, which is still very low. These low numbers of postgraduate students are closely related to the challenges of research output presented above.

Other research reports have also found the proportion of graduate students to total enrolment to be very low in many African countries (see for example Tettey, 2006; UNESCO, 2003). One possible strategy for tackling this challenge is the use of research networks to strengthen postgraduate programmes in African universities. Sall notes:

With additional resources, the regional networks and institutions [such as CODESRIA, for example] could play much more significant roles in the regeneration of the universities, in strengthening the links between scholars of the region, and in strengthening communication between scholars from different regions (Sall, 2004:199).

The need for and potential of regional initiatives in this regard is clear (see section on regional collaboration).



2.5 Qualifications awarded

The low enrolment numbers within the region as well as in specific major fields of study, were discussed above. Possibly more worrying is the even lower number of students who graduate each year. Each of the tables presented below shows the number of qualifications at each level of study awarded per major field of study for each of the SADC countries. For purposes of comparison, the total number of students enrolled is also included (see highlighted total row).

Table 19 Qualifications awarded in science, engineering and technology (most recent year for which data were available)

Country	Total number of qualifications	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Angola	582	532	0	50	0	0
Botswana	590	569	0	21	0	0
DRC	621	388	227	5	2	0
Lesotho	0	0	0	0	0	0
Madagascar	2 389	936	1 077	343	33	0
Malawi	50	34	11	5	0	397
Mauritius	739	616	8	120	21	0
Mozambique	555	550	0	5	0	0
Namibia	129	122	0	7	0	0
South Africa	26 426	20 515	2 007	2 057	464	3 159
Swaziland	317	303	0	14	0	0
Tanzania	2 045	1 669	33	364	14	13
Zambia	581	569	0	11	1	0
Zimbabwe	2 117	2 051	0	51	1	14
Total number of qualifications awarded (all countries)	37 141	28 854 (73,3%)	3 363 (8,5%)	3 053 (7,8%)	536 (1,4%)	3 583 (9,1%)
Total number of qualifications awarded (SA excluded)	10 715	8 339 (74,5%)	1 356 (12,1%)	996 (8,9%)	72 (0,6%)	424 (3,8%)
Total number of students enrolled	236 632	202 546	7 139	12 840	3 799	10 308

Sources: Higher education institution questionnaire responses and HEMIS data for five South African institutions that did not submit a response

Note: Percentages have been rounded off and may not total 100 exactly



Table 20 Qualifications awarded in business, management and law
(most recent year for which data were available)

Country	Total qualifications	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Angola	153	153	0	0	0	0
Botswana	182	149	0	33	0	0
DRC	2 582	1 388	1 146	47	1	0
Lesotho	0	0	0	0	0	0
Madagascar	4 360	3 163	1 174	21	2	0
Malawi	246	231	8	7	0	0
Mauritius	781	613	2	186	14	0
Mozambique	246	243	0	3	0	0
Namibia	337	265	16	2	1	53
South Africa	35 700	28 207	4 674	2 261	104	2 531
Swaziland	309	309	0	0	0	0
Tanzania	1 582	1 234	4	254	1	86
Zambia	302	265	16	20	1	0
Zimbabwe	2 842	1 946	38	838	0	20
Total (all countries)	49 622	38 166 (73,8%)	7 078 (13,7%)	3 672 (7,1%)	124 (0,2%)	2 690 (5,2%)
Total (SA excluded)	13 922	9 959 (71,4%)	2 404 (17,2%)	1 411 (10,1%)	20 (0,1%)	159 (1,1%)
Total number of students enrolled	342 718	284 469	23 160	17 440	1 165	17 484

Sources: Higher education institution questionnaire responses and HEMIS data for five South African institutions that did not submit a response
Note: Percentages have been rounded off and may not total 100 exactly

Table 21 Qualifications awarded in the humanities and social sciences
(most recent year for which data were available)

Country	Total qualifications	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Angola	1 413	1 383	0	30	0	0
Botswana	2 108	1 589	462	93	0	0
DRC	1 867	1 377	373	96	21	0
Lesotho	0	0	0	0	0	0
Madagascar	3 015	2 354	602	53	6	0
Malawi	190	172	0	16	2	0



Country	Total qualifications	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Mauritius	427	382	1	44	0	0
Mozambique	769	1 832	0	1	0	0
Namibia	383	346	26	10	1	0
South Africa	50 419	37 359	8 124	2 514	489	2 312
Swaziland	178	173	0	5	0	0
Tanzania	1 580	1 447	9	114	10	0
Zambia	1 191	1 091	0	36	0	64
Zimbabwe	4 654	4 051	45	549	0	65
Total (all countries)	68 194	53 556 (76,8%)	9 642 (13,8%)	3 561 (5,1%)	529 (0,8%)	2 441 (3,5%)
Total (SA excluded)	17 775	16 197 (85,6%)	1 518 (8,0%)	1 047 (5,5%)	40 (0,2%)	129 (0,7%)
Total number of students enrolled	410 302	344 948	23 724	19 454	4 663	17 513

Sources: Higher education institution questionnaire responses and HEMIS data for five South African institutions that did not submit a response
 Note: Percentages have been rounded off and may not total 100 exactly

Table 22 Qualifications awarded in the health sciences (most recent year for which data were available)

Country	Total qualifications	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Angola	139	139	0	0	0	0
Botswana	82	82	0	2	0	0
DRC	2 150	1 300	715	129	6	0
Lesotho	0	0	0	0	0	0
Madagascar	184	0	140	44	0	0
Malawi	137	101	22	7	0	6
Mauritius	82	82	0	0	0	0
Mozambique	70	69	0	1	0	1
Namibia	169	154	11	4	0	0
South Africa	8 087	6 255	1 646	804	103	781
Swaziland	133	133	0	0	0	0
Tanzania	535	453	3	72	5	0
Zambia	237	217	4	16	0	0



Country	Total qualifications	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Zimbabwe	0	0	0	0	0	0
Total	12 005	8 985 (66,5%)	2 541 (18,8%)	1 079 (8,0%)	114 (0,8%)	788 (5,8%)
Total (SA excluded)	3 918	2 730 (69,7%)	895 (22,8%)	275 (7,0%)	11 (0,3%)	7 (0,2%)
Total number of students enrolled	77 480	61 201	3 857	7 550	909	3 965

Sources: Higher education institution questionnaire responses and HEMIS data for five South African institutions that did not submit a response

Note: Percentages have been rounded off and may not total 100 exactly

Table 23 Qualifications awarded in 'other' major fields of study
(most recent year for which data were available)

Country	Total qualifications	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Angola	0	0	0	0	0	0
Botswana	422	422	0	0	0	0
DRC	0	0	0	0	0	0
Lesotho	0	0	0	0	0	0
Madagascar	601	440	153	8	0	18
Malawi	0	0	0	0	0	0
Mauritius	0	0	0	0	0	0
Mozambique	0	0	0	0	0	0
Namibia	381	219	119	0	0	0
South Africa	3 594	2 696	53	86	23	1 127
Swaziland	148	13	130	5	0	0
Tanzania	398	15	0	0	0	383
Zambia	0	0	0	0	0	0
Zimbabwe	0	0	0	0	0	0
Total (all countries)	5 544	3 805 (64,4%)	455 (7,7%)	99 (1,7%)	23 (0,4%)	1 528 (25,9%)
Total (SA excluded)	1 950	1 109 (57,6%)	402 (20,9%)	13 (0,7%)	0 (0,0%)	401 (20,8%)
Total number of students enrolled	5 995	4 071	963	392	51	518

Sources: Higher education institution questionnaire responses and HEMIS data for five South African institutions that did not submit a response

Note: Percentages have been rounded off and may not total 100 exactly



**Table 24 Regional overview of qualifications awarded (all countries)
(most recent year for which data were available)**

Major field of study	Qualifications awarded					
	Total	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Science, engineering and technology	39 389	28 854	3 363	3 053	536	3 583
Business, management and law	51 729	38 166	7 125	3 625	124	2 690
Humanities and social sciences	69 729	53 556	9 721	3 482	529	2 441
Health sciences	13 507	8 985	2 626	994	114	788
Other	5 910	3 805	455	99	23	1 528
Total	172 506	133 366 (74,0%)	23 289 (12,9%)	11 253 (6,2%)	1 326 (0,7%)	11 030 (6,1%)

Sources: Higher education institution questionnaire responses and HEMIS data for five South African institutions that did not submit a response
Note: Percentages have been rounded off and may not total 100 exactly

Table 25 Regional overview of qualifications awarded (excluding South Africa) (most recent year for which data were available)

Major field of study	Qualifications awarded					
	Total	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Science, engineering and technology	11 187	8 339	1 356	996	72	424
Business, management and law	13 953	9 959	2 451	1 364	20	159
Humanities and social sciences	18 931	16 197	1 597	968	40	129
Health sciences	3 918	2 730	980	190	11	7
Other	1 925	1 109	402	13	0	401
Total	49 914	38 334 (76,8%)	6 786 (13,6%)	3 531 (7,1%)	143 (0,3%)	1 120 (2,2%)

Sources: Higher education institution questionnaire responses and HEMIS data for five South African institutions that did not submit a response

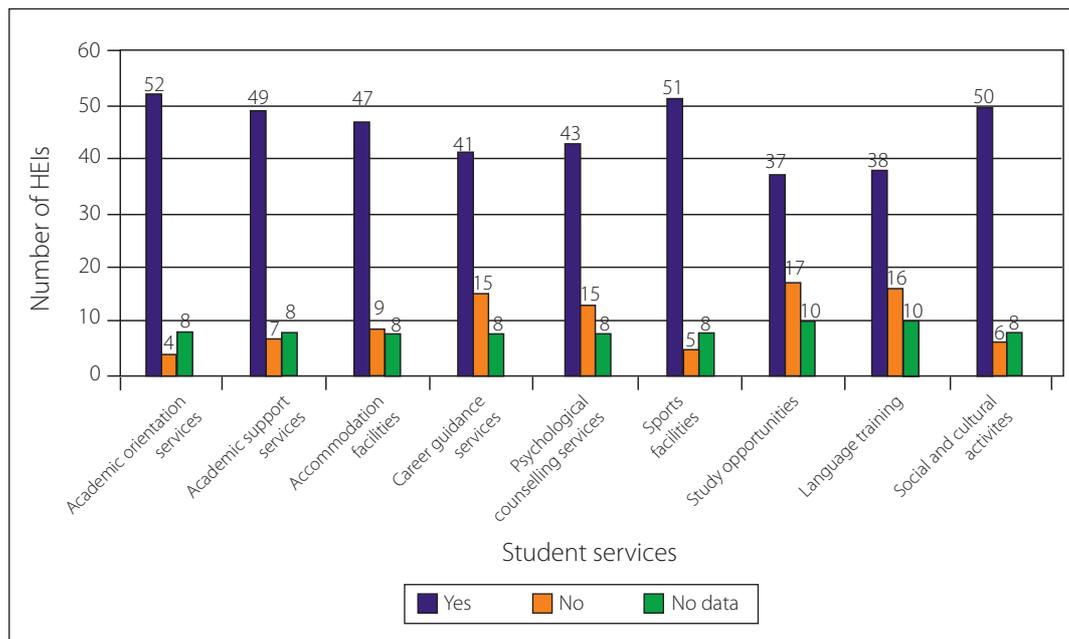
Qualifications data demonstrate very similar patterns to enrolment data. Relatively few qualifications are awarded in science, engineering and technology and the health sciences, with the most qualifications awarded in the humanities and social sciences. In particular, the number of students being awarded postgraduate qualifications, especially doctoral degrees, is low.



It is not possible to calculate throughput rates, since enrolment numbers do not differentiate the year of study of students. Nonetheless, comparison of total enrolment numbers in the most recent year for which data were available with the number of qualifications awarded in the most recent year for which data were available suggests that throughput rates are low.

The importance of investing in providing a range of student services and other means of support to improve throughput rates has been widely documented in higher education literature (see for example Kuh, Kinzie, Schuh and Whitt, 2005a, 2005b). Based on the data collected here, it does appear that institutions are seeking to provide a wide range of student support services as shown in the graph below. However, higher education institutions were only asked to report 'yes' or 'no' for each service and no further details were analysed regarding the quality of these services as this level of depth was beyond the scope of this study. As such, it is not possible to draw conclusions regarding the quality or comparability of these services across institutions.

Figure 5 Student support services provided by participating higher education institutions



2.6 Staff capacity and development

Sawyer (2002, 2004) provides a description of three generations of African academics, highlighting implications for the current generation. The first generation, mostly educated in the 1960s, benefited from study at newly created African institutions without funding constraints together with many opportunities for international study, and at a time when academic careers were highly valued and supported. The second generation, mostly educated in the 1970s and 1980s, studied at a time when many opportunities for international study at graduate level still existed. However, this was also a time of harsh economic conditions and reduced funding for African universities, and the related decline



in teaching and research conditions. As a result, many of this generation remained abroad after completing their studies, contributing to the brain drain challenge. The third generation, educated from the mid 1980s onwards, had to face the brunt of the declining higher education environment in Africa. Further, at this time, far fewer opportunities were available for study abroad and, when available, came at great cost. Consequently, many of this generation had to complete their studies at struggling African universities at a time when investment in higher education was not seen as a priority and there were fewer opportunities for graduate study. The levels of qualifications of this group have thus remained lower than generations one and two as generation-three academics have had to struggle with large teaching loads in resource-poor learning environments, with little possibility of advancement. This generation currently forms the majority of the staff complement in African universities (Sawyerr, 2004). In this context the need for capacity-building initiatives and an improvement in working conditions for African academics is highlighted (Tettey, 2006).

Tables 26 to 32 provide an illustration of current patterns of academic and research staffing per major field of study. A summary table presenting consolidated regional statistics is included after the more detailed tables that show staffing by country. Totals within each table do not always tally accurately. The most common reason for this is that some institutions provided total staff numbers, but not breakdowns by gender or by level of qualification. The data as provided by institutions (and verified as far as possible as described in the methodology section above) have been used as the basis for preparing these tables.

Table 26 Academic and research staff patterns in science, engineering and technology (most recent year for which data were available)

Country	Gender breakdown		Staff qualifications				
	Female	Male	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Angola	75	376	0	0	69	133	0
Botswana	0	0	0	0	0	0	0
DRC	18	506	56	130	16	107	32
Lesotho	0	0	0	0	0	0	0
Madagascar	124	365	0	2	145	340	0
Malawi	7	56	126	20	427	169	0
Mauritius	48	107	15	3	61	60	5
Mozambique	71	356	451	0	118	90	103
Namibia	33	83	26	4	53	33	1
South Africa	1 721	3 782	760	664	1 311	1 868	557
Swaziland	23	73	3	0	5	41	1
Tanzania	156	899	52	0	268	589	69



Country	Gender breakdown		Staff qualifications				
	Female	Male	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Zambia	37	249	15	0	72	12	5
Zimbabwe	125	376	119	0	363	45	61
Total (all countries)	2 438 (25,2%)	7 228 (74,8%)	1 623 (16,8%)	823 (8,5%)	2 908 (30,1%)	3 487 (36,1%)	834 (8,6%)
Total (SA excluded)	717 (17,2%)	3 446 (82,8%)	863 (19,1%)	159 (3,5%)	1 597 (35,4%)	1 619 (35,9%)	277 (6,1%)

Source: Higher education institution questionnaire responses

Note: Percentages have been rounded off and may not total 100 exactly

Table 27 Academic and research staff patterns in business, management and law (most recent year for which data were available)

Country	Gender breakdown		Staff qualifications				
	Female	Male	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Angola	46	224	0	0	61	25	0
Botswana	0	0	0	0	0	0	0
DRC	17	429	32	56	11	74	163
Lesotho	0	0	0	0	0	0	0
Madagascar	32	66	0	2	49	49	0
Malawi	0	0	0	0	0	0	21
Mauritius	23	42	5	1	46	13	0
Mozambique	40	133	103	0	55	15	202
Namibia	8	34	1	2	23	16	8
South Africa	1 542	2 137	557	501	1 028	629	421
Swaziland	10	13	1	0	18	4	1
Tanzania	86	198	69	0	135	87	19
Zambia	10	56	5	0	22	7	16
Zimbabwe	61	184	61	0	185	3	64
Total (all countries)	1 875 (34,8%)	3 516 (65,2%)	834 (17,1%)	562 (11,6%)	1 633 (33,6%)	922 (19,0%)	915 (18,8%)
Total (SA excluded)	333 (19,5%)	1 379 (80,6%)	277 (16,1%)	61 (3,5%)	605 (35,0%)	293 (17,0%)	494 (28,6%)

Source: Higher education institution questionnaire responses

Note: Percentages have been rounded off and may not total 100 exactly



Table 28 Academic and research staff patterns in the humanities and social sciences (most recent year for which data were available)

Country	Gender breakdown		Staff qualifications				
	Female	Male	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Angola	154	473	0	0	124	83	0
Botswana	0	0	0	0	0	0	0
DRC	56	860	163	186	53	261	30
Lesotho	0	0	0	0	0	0	0
Madagascar	69	115	0	0	71	107	0
Malawi	8	40	21	0	25	3	4
Mauritius	38	21	0	1	36	22	4
Mozambique	78	264	202	0	94	46	126
Namibia	56	61	8	3	67	39	1
South Africa	2 390	2 488	421	465	1 428	1 469	868
Swaziland	26	57	1	0	42	20	0
Tanzania	230	457	19	0	186	557	94
Zambia	37	181	16	0	34	5	0
Zimbabwe	91	200	64	0	203	11	3
Total (all countries)	3 233 (38,3%)	5 217 (61,7%)	915 (11,9%)	655 (8,5%)	2 363 (30,7%)	2 623 (2,6%)	1 130 (14,7%)
Total (SA Excluded)	843 (23,6%)	2 729 (76,4%)	494 (16,3%)	190 (6,3%)	935 (30,8%)	1 154 (38,1%)	262 (8,6%)

Source: Higher education institution questionnaire responses

Note: Percentages have been rounded off and may not total 100 exactly

Table 29 Academic and research staff patterns in the health sciences (most recent year for which data were available)

Country	Gender breakdown		Staff qualifications				
	Female	Male	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Angola	66	87	0	0	9	18	0
Botswana	0	0	0	0	0	0	0
DRC	48	547	30	174	28	92	0
Lesotho	0	0	0	0	0	0	0
Madagascar	11	29	0	0	1	37	0



Country	Gender breakdown		Staff qualifications				
	Female	Male	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Malawi	4	5	4	0	3	1	0
Mauritius	9	4	4	0	3	6	1
Mozambique	91	140	126	0	114	46	577
Namibia	35	3	1	5	28	4	11
South Africa	1 916	1 494	868	197	872	496	125
Swaziland	21	6	0	0	19	8	2
Tanzania	158	376	94	0	174	265	3
Zambia	24	71	0	0	0	0	0
Zimbabwe	21	8	3	0	24	2	0
Total (all countries)	2 404 (46,5%)	2 770 (53,5%)	1 130 (25,1%)	376 (8,4%)	1 275 (28,5%)	975 (21,8%)	719 (16,1%)
Total (SA excluded)	488 (27,7%)	1 276 (72,3%)	262 (13,7%)	179 (9,3%)	403 (21,0%)	479 (25,0%)	594 (31,0%)

Source: Higher education institution questionnaire responses

Note: Percentages have been rounded off and may not total 100 exactly

Table 30 Academic and research staff patterns in 'other' major fields of study (most recent year for which data were available)

Country	Gender breakdown		Staff qualifications				
	Female	Male	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Angola	0	0	0	0	0	0	0
Botswana	0	0	0	0	0	0	0
DRC	8	61	0	0	0	0	0
Lesotho	0	0	0	0	0	0	0
Madagascar	36	50	0	0	23	57	0
Malawi	0	0	0	0	0	0	0
Mauritius	2	4	1	1	13	7	0
Mozambique	19	22	577	0	195	97	0
Namibia	12	15	11	0	13	3	0
South Africa	393	307	125	105	218	232	0
Swaziland	0	0	2	0	0	31	0
Tanzania	0	0	3	0	7	2	0



Country	Gender breakdown		Staff qualifications				
	Female	Male	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Zambia	0	0	0	0	0	0	0
Zimbabwe	12	16	0	0	12	5	0
Total (all countries)	482 (50,4%)	475 (49,6%)	719 (41,3%)	106 (6,1%)	481 (27,6%)	434 (24,9%)	0 (0%)
Total (SA excluded)	89 (34,6%)	168 (65,4%)	594 (56,0%)	1 (0,1%)	263 (24,8%)	202 (19,1%)	0 (0%)

Source: Higher education institution questionnaire responses

Note: Percentages have been rounded off and may not total 100 exactly

Table 31 Summary of academic and research staff patterns (all countries) (most recent year for which data were available)

Major field of study	Total academic and research staff	Gender breakdown		Staff qualifications				
		Female (%)	Male (%)	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Science, engineering and technology	10 336	25,2	74,8	1 623	823	2 908	3 487	834
Business, management and law	5 804	34,8	65,2	834	562	1 633	922	915
Humanities and social sciences	9 941	38,3	61,7	915	655	2 363	2 623	1 130
Health sciences	5 437	46,5	53,5	1 130	376	1 275	975	719
Other	956	50,4	49,6	719	106	481	434	0
Total	32 474	39,0	61,0	5 221	2 522	8 660	8 441	3 598

Source: Higher education institution questionnaire responses



Table 32 Summary of academic and research staff patterns (South Africa excluded) (most recent year for which data were available)

Major field of study	Total academic and research staff	Gender breakdown		Staff Qualifications				
		Female (%)	Male (%)	Under-graduate degrees/diplomas	Post-graduate diplomas	Master's degrees	Doctoral degrees	Other
Science, engineering and technology	4 598	17,2	82,8	863	159	1 597	1 619	277
Business, management and law	1 892	19,5	80,6	277	61	605	293	494
Humanities and social sciences	4 933	23,6	76,4	494	190	935	1 154	262
Health sciences	1 942	27,7	72,3	262	179	403	479	594
Other	256	34,6	65,4	594	1	263	202	0
Total	13 621	24,5	75,5	2 490	590	3 803	3 747	1 627

Source: Higher education institution questionnaire responses

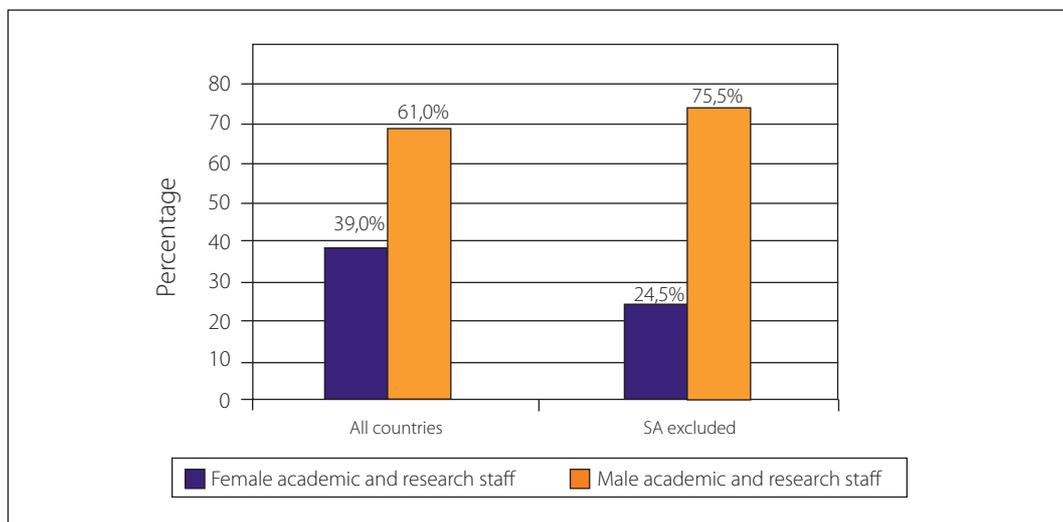
Note: Percentages have been rounded off and may not total 100 exactly

Tables 26 and 28 show that the total number of staff members in science, engineering and technology is approximately the same as that for the humanities and social sciences. This finding contradicts the common challenge of too few teaching and research staff in the science, engineering and technology field of study. It is also likely that the science, engineering and technology figures are relatively high because agriculture was included in this field for the purposes of this study. However, as was reported earlier, student enrolment in the science, engineering and technology field remains relatively low compared to the other fields of study, excluding the health sciences. Further research is needed to verify and better understand this emerging trend.

Clear gender disparities were found in student enrolment in the section above, with male students outnumbering female students. With respect to academic and research staff, a gender disparity of greater magnitude is evident. As is the case with students, the gender disparity amongst staff is greater when South African numbers are excluded, with 75,5% of academic and research staff being male. In the field of science, engineering and technology, 83% of staff members are male.



Figure 6 Gender breakdown of academic and research staff in participating SADC higher education institutions (most recent year for which data were available)



The highest number of academic and research staff are employed in the science, engineering and technology field of study (10 336), compared to 9 941 in the humanities and social sciences, 5 804 in business, management and law and 5 437 in the health sciences. A comparison of the total number of students enrolled in each major field of study with the total number of academic and research staff reveals ratios of approximately 23 students per staff member in science, engineering and technology; 61 students per staff member in business, management and law; 42 students per staff member in the humanities and social sciences; and 14 students per staff member in the health sciences.

Data presented in Tables 26 to 32 show that most academic and research staff members at participating institutions have postgraduate qualifications, with 8 660 having master's degrees and 8 441 having PhD degrees. However, what is unclear from this data is the extent to which these numbers include ageing academics soon to retire, a global phenomenon (Hugo, Daysh and Rudd, 2004). This challenge was explicitly noted in the Madagascar Ministry of Education questionnaire response and reported in the country report as follows:

The faculty is also reported to be aging, with an average age of 56 years, as higher education suffers from a decade long 'hiring freeze'. Only 15 staff members from all six universities are under the age of 40.

Should a similar trend be evident more widely across the region, the relatively low enrolment in postgraduate studies presented above provides even greater cause for concern.



Illustrative examples of challenges noted by ministries

Malawi: Difficulties in retaining qualified and experienced teaching staff, perpetual problems with underfunding, lack of teaching and learning materials, dilapidated physical infrastructure and facilities.

Mauritius: Difficulties in attracting high-quality faculty because of limited research programme infrastructure.

Swaziland: Brain drain of lecturers caused by poor salaries and other conditions of work, lack of up-to-date equipment and faculties required to provide training and skills development that is commensurate with the changing socio-economic environment.

Zambia: The higher education curriculum is not sufficiently responsive to current local and global needs. There are high levels of brain drain for lecturers and instructors.

Zimbabwe: Financial resources in higher education are inadequate for teaching and research in both old and new institutions. Brain drain/flight of skills is resulting in inadequate human resources in terms of quality and quantity. Addressing the negative effects of HIV and AIDS is also a challenge. There are losses in qualified human resources and reduced performance.

Due to increasing market pressures facing higher education, as well as the environment becoming more competitive, institutions are required to differentiate themselves in order to succeed. Thus, the sector is also experiencing rapid growth in the complexity of higher education activity (for instance, new types of students, greater complexity of work, and students' and stakeholders' expectations). Increasingly, academic staff are expected to take on consultancy and advisory work, as well as commercial activities, and this may require special training and new infrastructure and support (OECD, 2007b). Yet, when compared to salaries of graduate professionals in the private sector, academic salaries tend to perform poorly (Kubler and Lennon, 2007). In a context of increasing complexity, ongoing development of higher education human capacity resources becomes a key issue (OECD, 2007b, 2007c).

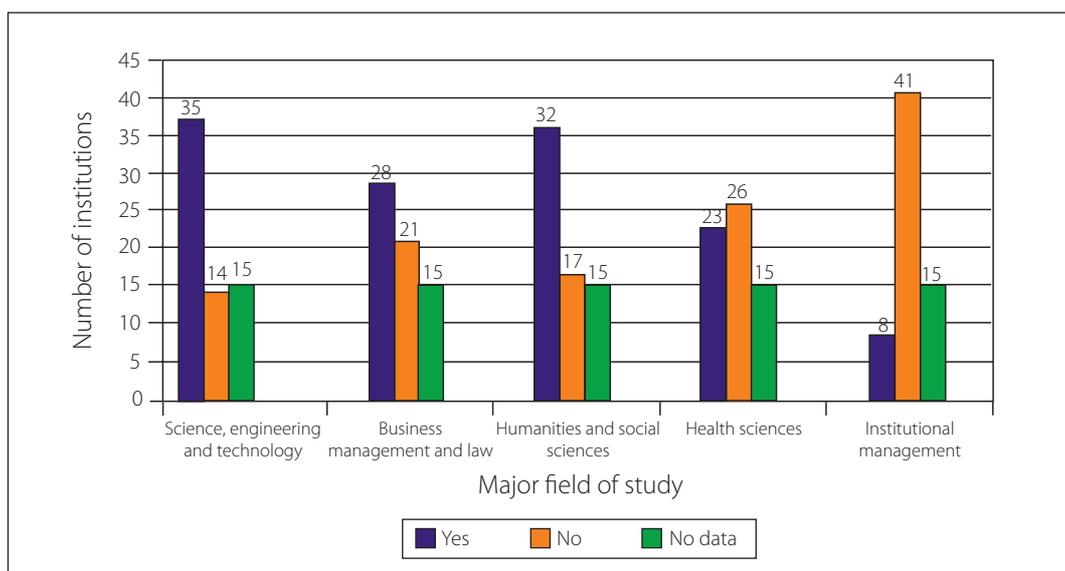
As highlighted in the box above, institutional capacity remains relatively weak in many African universities (Sall, 2004; Tettey, 2006). There are many reasons for this, of which brain drain is possibly most commonly noted (Umlilo weMfundo, 2007). For example, Ramphele (2004) notes that even with a higher education enrolment rate of only approximately 4%, it is estimated that 30 000 Africans holding PhDs live outside Africa. Several ministries also noted the loss of qualified staff as a national challenge. In a context of globalisation, the market for advanced human capital has become global. Many African countries and universities find it increasingly difficult to provide the working conditions for academics and researchers that are offered in other countries (Tettey, 2006; Ramphele, 2004).

Higher education institutions participating in this study identified critical staff shortages in science, engineering and technology; and business, management and law most frequently. The health sciences were also identified as an area of staff shortage. It is significant that reported staff shortages are the greatest in science, engineering and technology, when this is the area in which the largest number of academic and research staff are employed. As previously noted, further research is needed to better understand this finding. There does not appear to be a shortage of staff in the humanities and social sciences. Somewhat surprisingly, most institutions also reported that they had no staff shortages in



management roles. Understanding the extent of staff shortages is important as it impacts on the teaching load of academic and research staff, research output and also working conditions.

Figure 7 Areas of critical staff shortages reported by participating higher education institutions



Similar responses were provided by the ministries of education, as shown in the box below.

Given the often difficult working environment, aggravated by a lack of resources and low salaries, facing academic staff in African universities, many turn to consultancy and other private work as a means of generating additional income (Ramphela, 2004; Sall, 2004). This further reduces the capacity available for development within the public higher education sector and impacts on quality of teaching and research. This phenomenon has been called 'internal brain drain' (Ramphela, 2004).

A further challenge to development of capacity within African higher education has been the phenomenon of 'tied aid'. This refers to aid provided with the condition that expertise for the project is provided by the donor country.

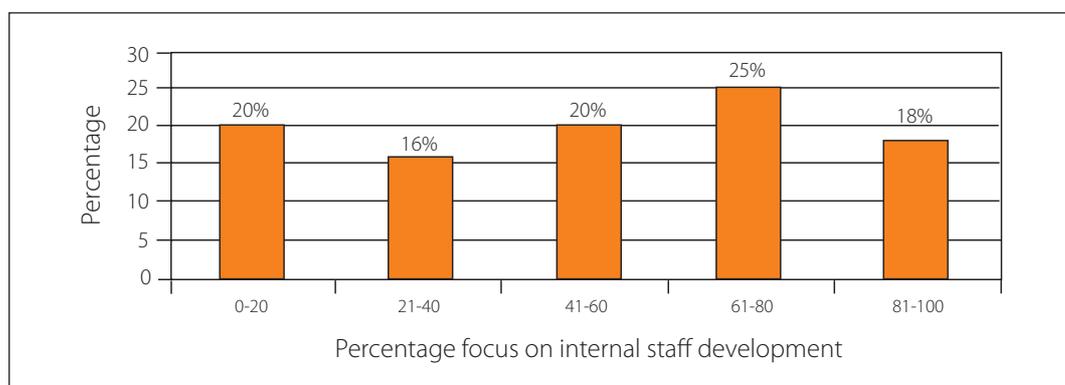
Tied aid undermines the institution building that traditionally occurs in universities in developed countries. Typically, such universities cover substantial proportions of their overheads by winning research contracts from both the public and private sector to design and implement development projects and policy interventions. The university in the developing world is, in this respect, denied the opportunity to serve as a development actor. Its hands are tied. The missed opportunities of tied aid related to contract work add to the brain drain problem. How can skilled people remain stimulated if they are denied the challenge of tackling the development problems affecting their own societies? (Ramphela, 2004:26).



Instead, Ramphele argues that the focus should turn to development, retention, promotion and use of local talent and skills.

Based on data provided in the higher education institution questionnaires, the majority (76,6%) of the 64 institutions included in this study have mechanisms in place for staff development. Only 6,3% report not having staff development mechanisms in place. The remaining 17,2% (or 12 institutions) did not provide data for this question. Institutions were further asked to estimate the extent to which staff development is provided internally by the institution, or by using external support. The average across the 45 institutions that responded to this question was an almost even split, with 56% of staff development being provided internally and 44% externally. However, the range of the data, when considered institution by institution, shows that there are vast differences in the ways in which institutions approach staff development. The responses of institutions were coded into the following categories: 0-20% internally, 21-40% internally, 41-60% internally, 61-80% internally, and more than 81% internally. Figure 8 shows that the extent of focus on internal staff development is fairly evenly spread across the defined categories. The overall range of staff development conducted internally is between 5% and 100%. Thus, there is a lot of variation in approaches to staff development across institutions.

Figure 8 Extent to which staff development is done internally by higher education institutions (n=44)



2.7 Funding⁹

Under-funding of higher education receives much attention and has been discussed in many sections of this report. A review of the responses provided by ministries of education and higher education institutions highlights the extent of this challenge (see also Pillay, 2008). Of the 50 institutions that responded to this specific question, 43 (86%) reported facing infrastructure constraints and 44 (88%) general resource constraints. Furthermore, 72% of institutions reported that they receive insufficient funding for effective operation. Many ministries noted the need to compete with other education

⁹ Only high-level funding data are presented in this report since SARUA commissioned a specific research project on higher education funding frameworks (see Chapter 3).



sectors for higher education funds. Some examples of under-funding experienced at a national level reported in ministry of education questionnaires included:

- Botswana does not qualify for international donations and aid as the economy is perceived as being robust and strong.
- Priority is given to primary and secondary education (Mauritius).
- Competing demands for funding between schools and higher education institutions as the current focus for the country is on basic education (Namibia).
- Heavy reliance on government for higher education scholarships by students, alongside conflicting interest on government to channel more resources towards basic education (Swaziland).
- More students demanding loans due to increased number of students in higher education institutions (Tanzania).

When asked specifically whether their current level of funding was sufficient to function effectively, of the 64 participating institutions, six reported that it was, 45 said 'no' and 13 did not provide a response. Selected examples of reasons provided for these responses are presented in the box below:

Selected quotations from higher education institution questionnaires explaining why current funding is not sufficient for effective operation

- "Overall the core activities are not adequately funded, namely research, teaching and learning materials."
- "Non-existent financing for investment, the acquisition of large equipment and periodic maintenance of the infrastructure and equipment, all allocation goes to research projects."
- "With inadequate subsidy from the state, staff need to raise more funds from other sources. Whilst it is normal practice to raise some other funds, the extent of the supplementation means that either staff are too preoccupied raising funds to do their work effectively, or else choices have to be made such as sacrificing maintenance of infrastructure."
- "Government has significantly increased funding in the last three years; however, funding still remains a challenge because the current period was preceded by a longer period of severe underfunding and borrowing."
- "This anomaly has always been a thorn in the development of our institutions since the government grants have decreased in real terms over the years and universities are unable to acquire/replace teaching equipment in their labs! This usually breeds serious discontent that has led to astronomic levels of staff turnover in state institutions!"

However, Ramphele (2004) also argues that the problem of insufficient financial resources and declining funding is sometimes compounded by inefficient use of available funds by institutions (see also Pillay, 2008). High dropout and repetition rates have been identified as one of the main areas of inefficient use of financial resources, together with high proportions of overhead and salary expenses for non-teaching staff. A finding from this research that might support this argument is that 45% of the participating institutions reported that they do not calculate the tuition costs per faculty to take different needs into account, 30% reported that they did calculate or in some cases estimate these costs, and 25% did not provide a response. Very few were able to provide specific numbers illustrating complete tuition costs.



Nonetheless, in the past two decades, the proportion of 'core' funding of higher education institutions by the state has declined in many countries (Ischinger, 2006). For example, in the United States, state revenue dropped from 42% of all higher education revenue in 1989/90 to 38% in 1995/96 (OECD, 2007b, 2007d). Decreased state funding for African higher education has also been documented by several authors (Association of African Universities, 2004a; Cardoso, 2005). Correspondingly, student fees in the USA have risen 25% in the past five years. In Australia, Commonwealth grants made up 69% of revenue in 1990, compared with 43% in 2001. As a result, higher education institutions are being forced to take steps to ensure their financial sustainability, many of them looking for funding from abroad via aggressive strategies to attract international students (Altbach, 2002; Tilak, 2006; OECD, 2007b). In the recently released OECD Indicators, it is reported that private sources of funding for education are becoming increasingly important. The OECD data show that 24% of expenditure on tertiary education across OECD countries came from private sources (OECD, 2007d).

The challenge for governments is to ensure that increasingly autonomous and market-driven institutions respond to public interest agendas, at national and regional levels, while also taking a greater responsibility for their own financial sustainability. The challenge for institutions is to manage a more complex portfolio of aims and funding; to differentiate themselves in an increasingly competitive environment; and to protect and maintain academic quality and their ability to deliver in the long term (OECD, 2007b:3).

The 64 institutions participating in this study were asked to indicate the percentage of institutional funding coming from a variety of sources. These data are presented as country averages in the table below. For most SADC countries, the vast majority of funding comes from government subsidy and student fees. It seems that institutions should focus on getting increased private sector support, as this appears to be low.

Table 33 Sources of higher education funding as reported by participating institutions (most recent year for which data were available)¹⁰

Country	Sources of funding (%)				
	Student fees	Government subsidy	Donations	Loans	Other
Angola	No data	No data	No data	No data	No data
Botswana	26,0	74,0	0,00	0,0	0,0
DRC	48,3	33,3	4,5	0,0	0,0
Lesotho	No data	No data	No data	No data	No data
Madagascar	19,6	75,4	0,2	0,2	3,8
Malawi	7,7	91,3	0,5	0,0	0,5
Mauritius	58,5	39,5	0,0	0,0	2,0

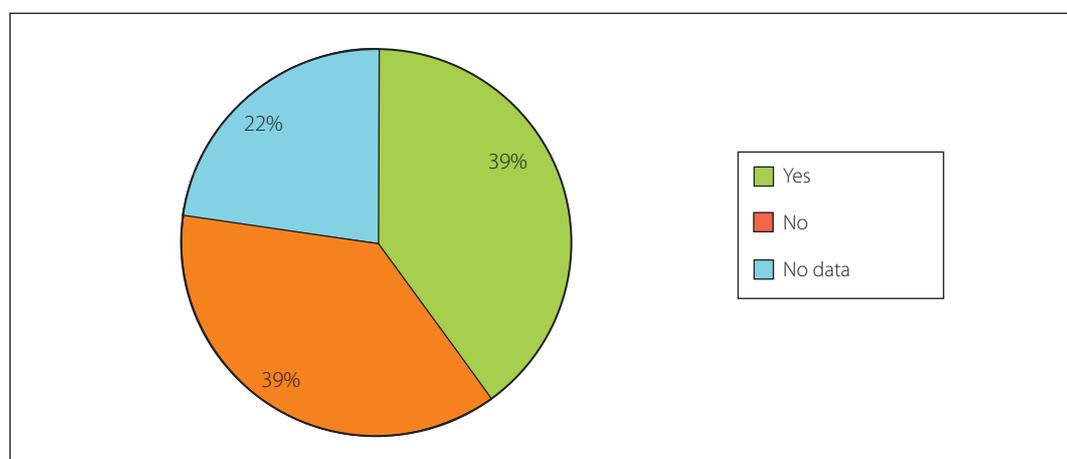
¹⁰ Note that for the DRC, Madagascar, South Africa, Swaziland and Tanzania the percentages do not add up to exactly 100%. Data verification was sought, but not provided by the time of preparing this report.



Country	Sources of funding (%)				
	Student fees	Government subsidy	Donations	Loans	Other
Mozambique	1,3	88,5	0,5	0,0	10,8
Namibia	21,0	62,0	13,0	0,0	4,0
South Africa	29,4	46,0	2,6	3,4	13,9
Swaziland	20,0	66,0	0,0	0,0	0,0
Tanzania	18,9	62,6	14,1	0,6	3,0
Zambia	31,5	62,0	0,0	0,0	6,5
Zimbabwe	12,4	82,4	0,2	1,3	4,2
Regional average	24,6	65,3	3,0	0,5	4,1

Higher education institutions were asked to indicate whether their sources of funding had changed significantly over the past ten years. Interestingly, an equal number of institutions reported 'yes' and 'no', while 13 did not provide data.

Figure 9 Responses to question: Have funding sources changed significantly in the past ten years? (n=64)



Although state funding has been shown to be decreasing in Africa and globally, the data above support claims that most resources for universities still come from the state (66,2%) (Sall, 2004). It appears that only two countries (Malawi and Mozambique) provide public higher education at almost no cost to the student. In most countries, students are also required to carry a relatively high cost burden. In particular, students in the DRC and Mauritius are responsible for a large portion of higher education funding (49,7% and 58,8% respectively). The data collected in this study point to widely varying percentages of students receiving student loans. Institutions were asked to estimate the percentage of students receiving additional financial support at their institution. These data were used as the basis for calculating a national average as shown below. Of the 64 participating institutions, only 42 provided a response to this question, thus the percentages presented should only be interpreted as



indicative of possible trends. Angola and Lesotho are shown as 0% because no data were provided, so this does not necessarily mean that no students receive financial support. Additional and in-depth research would be needed to verify the accuracy of these estimates.

Figure 10 National estimates of percentage of higher education students receiving additional financial support (most recent year for which data were available)

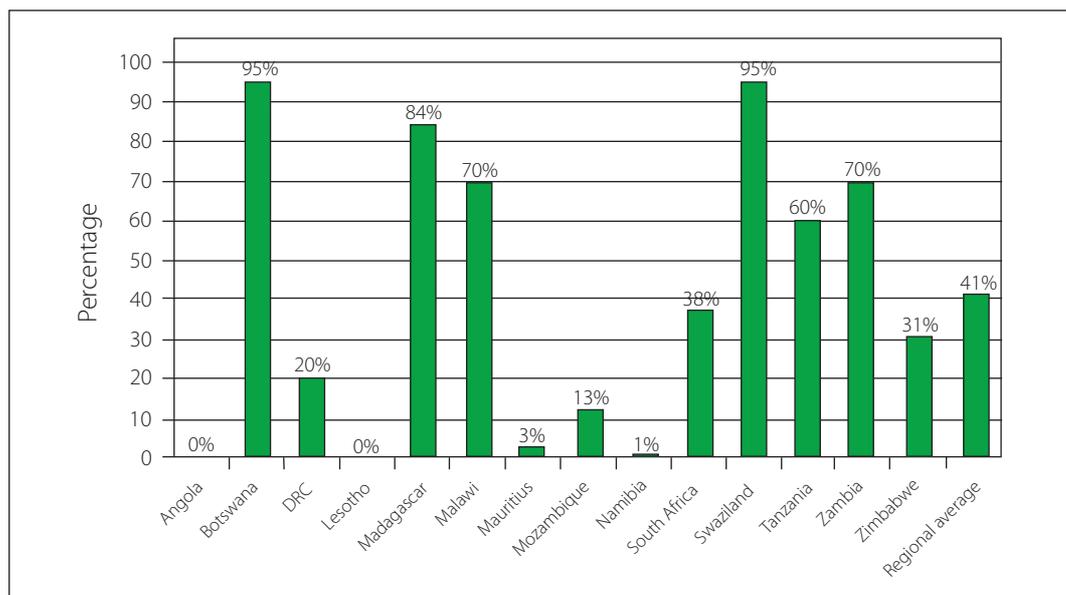


Table 33 also highlights the limited extent to which higher education institutions in the SADC region are generating third-stream income or making use of donor funding that is not channelled through governments. Yet, 41 (64%) of the 64 institutions included in the study reported having a strategic plan in place to generate additional funding. Only six institutions reported not having such a plan, while the remaining 17 did not provide a response.

Sall (2004) argues for complementary relationships between private and public support of higher education, without allowing the private sector to play too great a role in defining higher education, as this can put the broader social purposes important for development at risk:

There is, therefore, an extremely solid case for public and donor funding of higher education and research in Africa, precisely when the whole world now seems to recognise the fact that higher education is a vital factor for economic and social development under the conditions of globalisation. The Internet has created unprecedented opportunities for the rapid diffusion of scientific knowledge, but it still matters where this knowledge is produced (Sall, 2004:207).



2.8 Quality assurance

Higher education enrolments in Sub-Saharan Africa have expanded greatly since the 1960s (Daniel, 2007). The importance of increasing enrolments, particularly in the context of the global knowledge society, has been discussed at various points in this report. Yet, increasing enrolments also came with a cost for African higher education, since:

The painful truth is that many developing countries do not have the capacity to expand graduate studies (Ramphele, 2004:19).

This issue was also noted by research participants, for example:

- Despite the university's attempts to control the staffing position, the increasing number of students annually, which has reached a critical point, has created a need to appoint additional academic staff. In addition, library facilities need to be upgraded in order not to compromise the quality of university education (Namibia Country Report).
- Rapid growth in the university has not always been met by a commensurate increase in resources for budget or management capacity (Mozambique Country Report).

Thus, the dual challenges, often in tension with one another, of expanding access as demanded by the global knowledge economy and of ensuring quality are commonly highlighted in the literature (Association of African Universities, 2004a). Citing Ng'ethe (2003), Assie-Lumumba notes that:

The crisis is still affecting the African universities; it was evident from site visits that the universities are under immense pressure to increase access even though funding from the state was generally shrinking (Assie-Lumumba, 2005:14).

The SADC Protocol on Education and Training notes that:

Member states agree to work towards harmonisation, equivalence, and eventual standardisation of university entrance requirements (SADC, 1997:6).

To achieve this, and many other elements of the protocol, it is important to ensure that both national and regional quality assurance systems are in place and functioning effectively. In recognition of this, a Technical Committee on Certification and Accreditation (TCCA) was set up for the SADC region in 1997. The TCCA is responsible for the development of the SADC Qualifications Framework (SADCQF).

The vision of the SADCQF is:

A regional qualifications framework that is a driving force for regional integration, quality assurance and global competitiveness of education and training systems in SADC member states (SADC, 2005:2).



Amongst others, the success of the SADCQF will depend on the extent of development of quality assurance systems within each of the SADC member states. This section presents an overview of quality assurance within the region at both national and institutional levels. The data gathered from ministries of education and higher education institutions in the 14 SADC countries included in the study show that at least five countries (Angola, Botswana, Malawi, Namibia and Swaziland) do not yet have national quality assurance systems in place. In Botswana, although the quality assurance system is not yet operating, several steps towards this outcome have been taken and a National Qualification and Accreditation Framework is currently being considered by parliament. The Association of African Universities lists the following quality assurance bodies in SADC member states.

Table 34 List of quality assurance bodies in SADC countries

Country	Name of institution	Type of institution	Mandate over
Angola	Ministry of Education and Culture	Government institution	National institutions
Botswana	Ministry of Education	Government institution	National and foreign institutions
DRC	Ministry of Higher and National Education	Government institution	National institutions
	Presidents of the Universities of the Democratic Republic of Congo	Professional body	National institutions
Lesotho	Ministry of Education	Government institution	National institutions
Madagascar	Ministry of Higher Education and Scientific Research	Government institution	National and foreign institutions
Malawi	Ministry of Education, Science and Technology	Government institution	National institutions
Mauritius	Ministry of Education and Scientific Research	Government institution	National institutions
Mozambique	Ministry of Higher Education, Science and Technology (MESCT)	Government institution	National and foreign institutions
Namibia	Ministry of Higher Education, Training and Employment Creation	Government institution	National institutions
South Africa	Higher Education Quality Committee (HEQC), Council on Higher Education (CHE)	Statutory body	National institutions
Swaziland	Ministry of Education	Government institution	National and foreign institutions
Tanzania	Committee of Vice-Chancellors and Principals in Tanzania	Professional body	National institutions
Zambia	Ministry of Education	Government institution	National institutions
Zimbabwe	Ministry of Higher and Tertiary Education	Government institution	National institutions

Source: Association of African Universities (2008a)

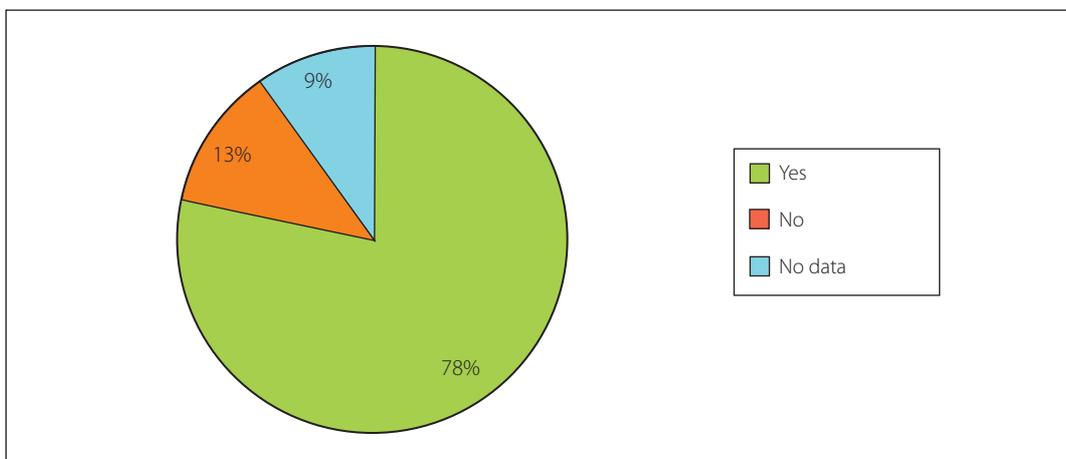


Participating institutions were asked to indicate whether they have internal institutional quality assurance processes in place. The majority (50) reported that they have some form of system in place. However, research visits to some institutions showed that the nature and quality of these quality assurance systems and processes differ widely. This anecdotal evidence is supported by research findings emerging from the Association of African Universities Quality Assurance Support Programme for African Higher Education, where it was noted that:

The majority of the institutions [six were included in the research] do not have any credible comprehensive quality assurance mechanism. However, the fact that some of the institutions have accepted the AAU quality assurance exercise is an indication that these institutions and many more recognise the importance of quality assurance (Association of African Universities, 2004b:27).

A detailed account of the functioning of quality assurance at institutional levels was beyond the scope of this baseline research study, but various questions were asked of institutions, and they provide an overview of the status of quality assurance in the region.

Figure 11 Overview of participating higher education institutions reporting internal quality assurance systems and/or processes (n=64)

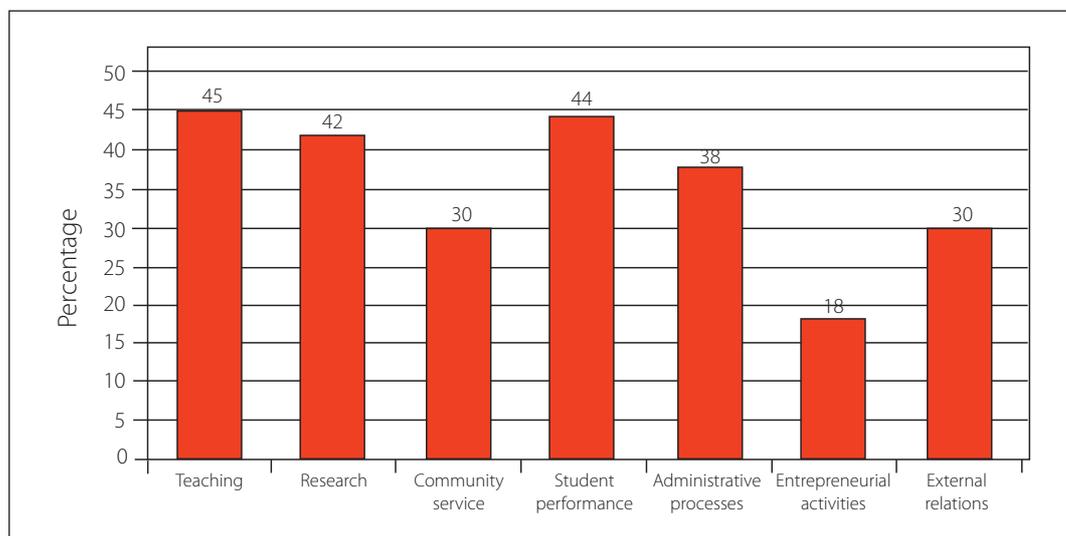


A total of 31 (48%) of the institutions reported having a specific budget allocated for quality assurance. This implies that 18 of the participating institutions report having a quality assurance system in place, but do not have institutional budget for implementation thereof, raising questions regarding the extent to which the quality assurance processes are being implemented at institutional level.



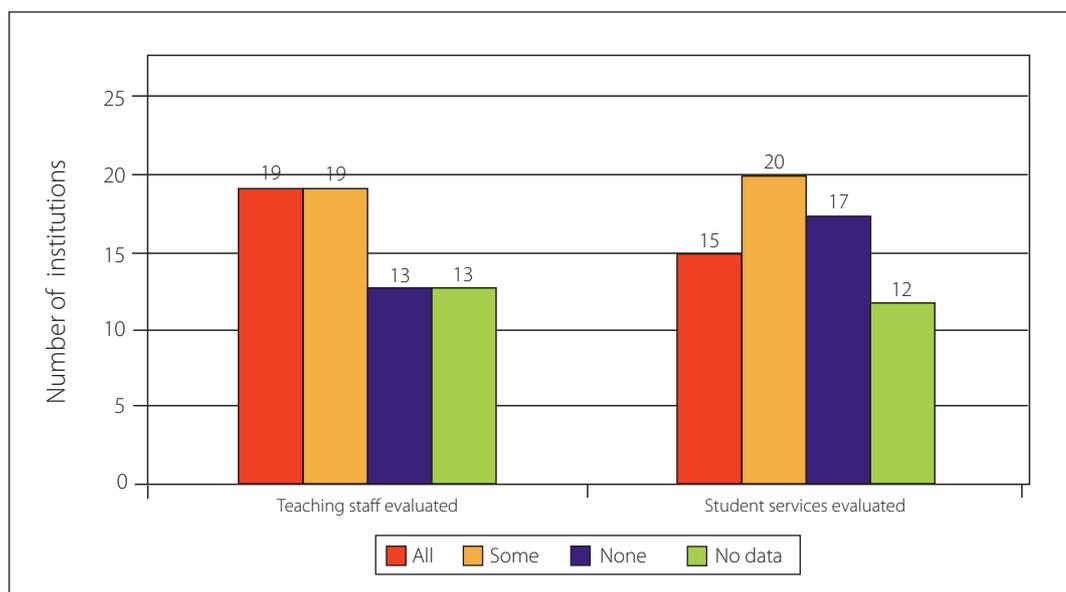
Institutions were asked to indicate which of a list of possible quality assurance areas were included in their frameworks. The numbers reporting 'yes' for each area is summarised below.

Figure 12 Areas included in quality assurance frameworks (n=64)



The majority of institutions (64%) reported that they participate in peer review processes. Of these, 36% noted that these peer review processes were mandatory and 22% that they were voluntary. Internal reviews of academic programmes are carried out by 78% of the 64 institutions taking part in the study. Evaluation of teaching staff is carried out by 43 of the institutions. For 28 of the 43, these evaluations are mandatory and for 15 it is voluntary. The extent of the review of student services and research teams is shown below.

Figure 13 Number of institutions that include a review of student services and research teams as part of institutional quality assurance (n=64)





Most higher education institutions, 48 out of the 64 included in the study, reported that student feedback is sought. Those that seek student feedback were then asked to indicate whether student feedback was sought in the areas of academic issues, governance and student services. All 48 institutions reported seeking feedback on academic issues, and 47 on student services. Only 29 of the 48 seek feedback on issues of institutional governance.

The SADC Protocol on Education and Training calls for increasing use of examination moderators from the region in order to “build a regional community of scholars” and “lead to the development of comparable standards in higher education across the region” (SADC, 1997:8). Institutions were asked whether they currently made use of external moderators for examinations. Interestingly, twelve institutions reported that they do not use external moderators for examinations at all, while 41 reported use of moderators and eleven did not provide data for this question. External moderation of examinations is a common higher education quality assurance practice, so it is somewhat surprising that as many as twelve institutions in this sample reported that this is not done. This indicates an area of quality assurance that might be targeted for further development, taking the rationale noted in the protocol into account.

Ministries reported a range of priorities in the area of higher education quality assurance in their countries. This included reviews of facilities, staff qualifications, funding mechanisms, quality of courses offered, management, accreditation of qualifications, capacity building, working conditions and quality of entering students. The questionnaire section requiring identification of specific interventions to tackle these priority areas was seldom fully completed, and where it was, little detail was provided. Nonetheless, some examples of interventions to enhance quality at a national level taken from ministry of education questionnaire responses include:

- The Ministry of Education, in collaboration with the EU, will be developing an NQF shortly (Swaziland).
- Government does provide training opportunities for university and college lecturers, but these efforts are not adequate due to insufficient funding (Swaziland).
- Established the Quality Innovation Fund (Mozambique).
- Pre-university programmes conducted by some universities (Tanzania).
- Possibility of establishing a National Qualification Framework (Tanzania).
- Results-based management (Zimbabwe).
- Recruitment of 186 new higher education educators (Madagascar).
- Establish a National [Quality Assurance] System. Assist institution to establish systems (Lesotho).

The data presented in this section indicate that a quality assurance system is in development for many countries and hence for the region as a whole. More detailed exploration is needed to better



understand the nature, scope and effectiveness of national and institutional quality assurance systems within SADC. An example of an initiative that might be considered with a specific focus on the SADC region is the Association of African Universities Quality Assurance Support Programme, mentioned previously. This project seeks to lay foundations for quality assurance processes at institutional and national level and within national quality assurance and accreditation agencies (Association of African Universities, 2008b).

2.9 Regional co-operation and cross-border education within the SADC higher education sector

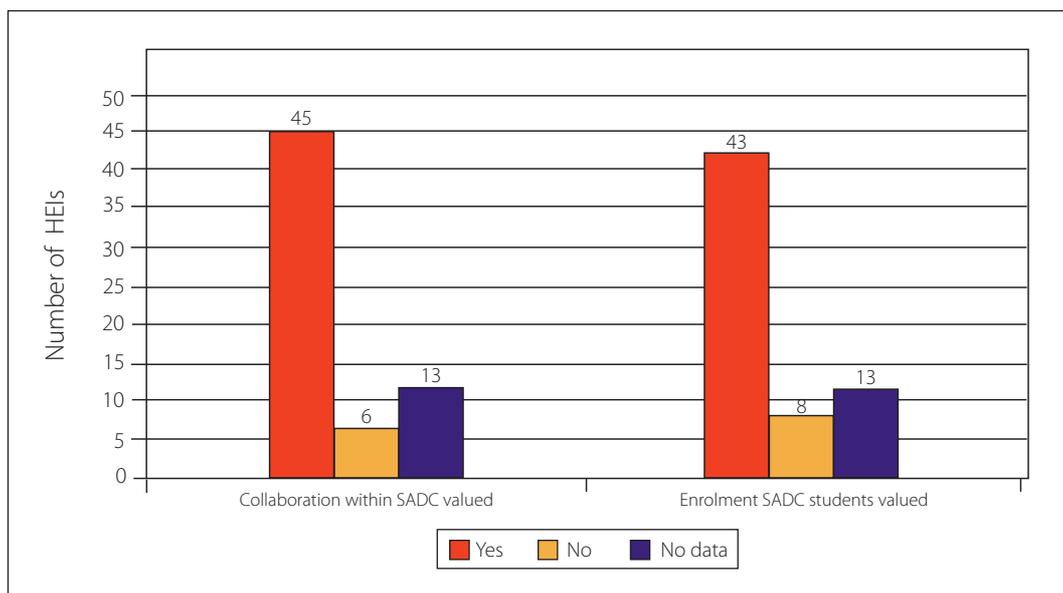
All twelve ministries that submitted questionnaire responses reported that they believed collaboration within the SADC region to be important, but only eight reported that regional development priorities influenced national higher education planning. Various reasons for why regional collaboration was important were provided. Some examples include:

- Botswana students are encouraged to study at SADC member state institutions where a course is not available locally. This is designed to widen the skills capacity within the country when they return.
- The benefits are related to financing, equipment, performance training and student exchange (DRC).
- The regional collaboration contributes to the realisation of the ministry's objective; we want our students to be competitive, creative, scientific, technology-oriented and interested in research and innovation to contribute to the development of the higher education system (Madagascar).
- Through the SADC Protocol on Education and Training, Swaziland has agreed on which collaboration and integration can be focused, and to some extent, such collaboration/integration initiatives have been successful. For example, on such areas as admission of students from the SADC region, harmonisation of entrance levels, mutual recognition of qualifications attained within the region, mobility of students within the region for purposes of study, research and other pursuits, student and staff exchange programmes, etc., even though not on all provisions of the protocol.
- The importance of having a regional qualification framework, exchange of students, staff and teaching materials, undertaking collaborative research projects, joint publications and workshops (Tanzania).

Similarly, most institutions that participated in the study reported that collaboration with other universities in the SADC region, as well as the enrolment of students from SADC countries, was valued within their institution. Further, most respondents (75%) noted that they believed their institution does or could derive benefit from regional collaboration within the higher education sector.



Figure 14 Value of higher education collaboration within SADC (n=64)



Staff and student mobility is a key element of regional collaboration. Various mechanisms that should be put in place to facilitate student mobility are outlined in the Protocol on Education and Training (SADC, 1997:6). However, previous research (Hahn, 2005; Umlilo weMfundo, 2007) and the data gathered in this study show that most of the movement of students and staff is from SADC countries to South Africa (35 745 SADC students). Namibia (700 SADC students) and Madagascar (537 SADC students) have the next highest number of SADC students enrolled. There is a much higher percentage of staff members who come from other non-SADC countries.

Table 35 Nationality of students enrolled in SADC institutions (most recent year for which data were available)

Country	National citizens	SADC citizens	Other international students
Angola	47 353	0	20
Botswana	14 942	136	632
DRC	60 546	10	112
Lesotho	0	0	0
Madagascar	14 428	537	175
Malawi	7 824	31	10
Mauritius	9 655	4	61
Mozambique	46 790	3	72
Namibia	7 469	700	209
South Africa	679 774	35 745	14 536
Swaziland	5 660	108	17



Country	National citizens	SADC citizens	Other international students
Tanzania	30 967	38	203
Zambia	14 315	21	59
Zimbabwe	52 289	120	44
Total (all countries)	992 012 (94,9%)	37 453 (3,6%)	16 150 (1,5%)
Total (SA excluded)	312 238 (99,0%)	1 708 (0,5%)	1 614 (0,5%)

Note: Percentages have been rounded off and may not total 100 exactly

Table 36 Nationality of staff enrolled in SADC institutions (most recent year for which data were available)

Country	National citizens	SADC citizens	Other international staff members
Angola	1 329	0	172
Botswana	540	0	278
DRC	1 359	0	5
Lesotho	No data	No data	No data
Madagascar	880	0	20
Malawi	774	2	16
Mauritius	285	1	12
Mozambique	2 045	1	119
Namibia	269	47	24
South Africa	25 261	466	1 560
Swaziland	154	46	29
Tanzania	2 542	1	17
Zambia	602	6	57
Zimbabwe	1 075	2	5
Total (all countries)	37 127 (92,8%)	572 (1,4%)	2 314 (5,8%)
Total (SA excluded)	11 866 (93,2%)	106 (0,8%)	754 (5,9%)

Note: Percentages have been rounded off and may not total 100 exactly

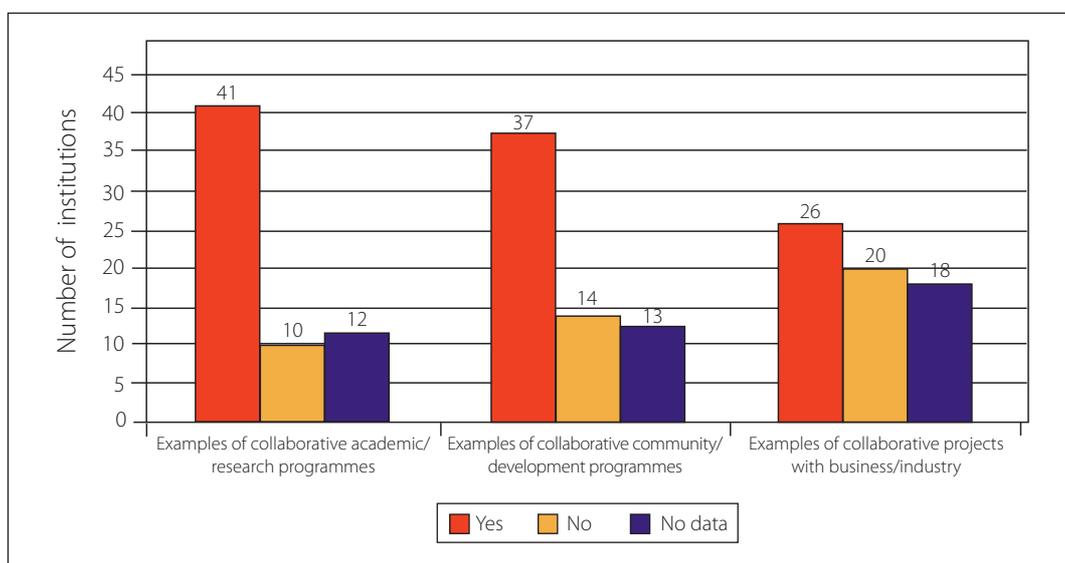
An increase in enrolment of foreign students in the past five years was reported by 30% of participating institutions, no change by 36% and a decrease by 9%, while 25% did not provide a response. A total of 27 higher education institutions report that they provide language support for non-national students who do not speak the language of instruction. Umlilo weMfundo (2007) note that no SADC country



reported during their study that movement of students within the SADC region was problematic, even though student visas were required for several countries. A more commonly noted challenge was that several countries still charge higher fees for SADC students. It was reported that only in Swaziland, South Africa and Zambia did SADC students pay the same fees as national students, despite the provisions for equal treatment of students from SADC countries agreed to in the protocol (SADC, 1997; Umlilo weMfundo, 2007).

In addition to student and staff mobility, another important component of regional collaboration is the extent to which there is evidence of collaboration between countries or specific institutions with respect to academic and research work, community projects and with business/industry.

Figure 15 Number of institutions that provide examples of collaborative work (n=64)



This provides some evidence that cross-border education is developing within the SADC region. Further examples of cross-border education were provided in some of the higher education institution questionnaire responses. A few illustrative examples of collaboration include:

- Rhodes University in South Africa offers postgraduate qualifications in education to students from Namibia.
- Namibian students complete pre-engineering courses in Namibia and then move on to South Africa to complete their qualifications.
- The Faculty of Engineering at the University of Botswana administers a Project Management Programme in partnership with the University of Dar es Salaam.
- Ardhi University in Tanzania has academic staff and student exchange programmes with the University of Cape Town and the University of Botswana.



- The University of Malawi has an agriculture programme administered by the Faculty of Agriculture in partnership with Sokoine University in Tanzania, a water research programme in collaboration with the University of the Western Cape in South Africa and an education research programme in partnership with the University of KwaZulu-Natal in South Africa.
- Lupane State University in Zimbabwe facilitates leave for staff exchanges with any SADC universities of the staff member's choice, and in some instances, memoranda of agreement have been signed.

While the research did provide evidence of cross-border education within the region, a greater number of collaborative initiatives tended to be with countries outside of SADC. Institutions reported a range of examples of collaborative projects with business and industry and collaborative community projects. In total 58% of institutions reported examples of collaborative community development programmes and 41% provided examples of collaborative projects with business and industry.

While the data provide many examples of how regional collaboration within the higher education sector is developing, a range of challenges and barriers still exist. With respect to achieving the regional integration goals of the SADC Protocol, Hahn lists the following challenges:

- lack of systematically generated and centrally stored data on higher education;
- lack of concreteness of the strategies outlined in the protocol, in particularly when it comes to operationalisation;
- lack of ownership of the protocol within the higher education sector since the protocol was debated and agreed at political level with little involvement of stakeholders within higher education; and
- the challenge of avoiding asymmetrical integration, as is evident with staff and student mobility to South African institutions, as well as South Africa's stronger integration into global markets (Hahn, 2005).

For the institutions participating in this research, lack of funding for collaborative work and the challenge of maintaining effective communication, particularly where ICT resources are often scarce or costly, were commonly noted as challenges. Examples of specific challenges are presented in the box below.

Quotations demonstrating challenges to regional collaboration noted in higher education institution responses

- "South African universities often have a dominant position in partnerships."
- "Maintaining effective communication."
- "Lack of funding for regional collaboration."
- "Lack of awareness of benefits of regional collaboration."
- "Poor infrastructure and facilities that support learning and teaching."
- "Staff turnover."
- "Skills flight."
- "Limited information technology resources."
- "Very little or no involvement by researchers in practical research which involves their local environment."
- "National ICT infrastructure and bandwidth prices."
- "Internal apathy."



The results presented in this section are well summed up by the following quotation:

Under the SADC Protocol, co-operation in higher education and training plays an important role. Higher and tertiary education is the area where collaboration is most needed and most possible, and indeed this is taking place, but generally on an ad hoc basis, depending on individual ... initiative rather than on nationally and regionally based systems. The higher and tertiary education systems within SADC have been evolving and expanding quite rapidly. However, in this process there appears to be, in general, a lack of close co-ordination and collaboration, with a few notable exceptions (Umlilo weMfundo, 2007:58).



Part 3: Conclusion: Challenges and opportunities facing higher education in the SADC region

The sections above presented a wealth of data and information mapping out the higher education landscape of the SADC region in a way that we believe is unique to the region. By way of conclusion it seems useful to bring these findings together in a brief analysis of key factors – enabling and constraining – regarding the potential of higher education in the region, both in terms of development of the sector itself and the role that higher education can play in regional development.

Table 37 Summary of key factors influencing the potential of higher education in the SADC region

Factors influencing higher education potential in the SADC region	Enabling features	Constraining features
Regional policy frameworks	Various regional policy frameworks are in place to guide higher education development in the region. These include the SADC Protocol on Education and Training, the Regional Indicative Strategic Development Plan and the SADC Quality Assurance Framework.	Protocol on Education and Training is somewhat dated now and lacks practical implementation details.
National level policy frameworks	All SADC countries have national higher education policy frameworks in place.	Sophistication of national policy frameworks varies across countries.
Enrolment patterns	Enrolment is reported to have increased over the past five years and most countries provide some higher education programmes in fields of study essential for regional development.	Increasing enrolment places constraints on institutional capacity and impacts on quality. Enrolments in science, engineering and technology and the health sciences are insufficient to meet regional needs. Very few students are enrolled at postgraduate level and significant gender disparities in enrolment remain.
Staff capacity	Ministries have recognised this challenge and are seeking ways to improve staff numbers and capacity. Most institutions report having staff development mechanisms in place. Regional collaboration and exchanges can help to build staff capacity.	Critical staff shortages have been identified in various areas, but particularly in science, engineering and technology. Lack of resources prevents institutions from attracting well-qualified and experienced people into higher education employment. Brain drain and HIV and AIDS further impact on staff numbers and capacity.



Factors influencing higher education potential in the SADC region	Enabling features	Constraining features
Research output	Low research output is recognised as a major challenge by both ministries of education and higher education institutions, and various interventions are planned in this area.	Research output is low across the SADC region and the low number of postgraduate students is likely to exacerbate this problem in the future if not addressed promptly.
Funding	Governments have recognised the need to increase higher education funding when funds are available. An increase in donor funding is occurring. Most of the institutions reported having strategic plans in place to generate additional funding.	In all countries, insufficient funding for higher education is noted, and this limits the potential for expansion and impacts negatively on quality. Most institutions in the SADC region remain heavily dependent on government subsidy.
Quality assurance	More than half of the SADC countries have quality assurance frameworks in place at a national level and most of those that don't are in the process of setting these up. Initiatives such as the SADC Qualifications Framework and the Association of African Universities Quality Assurance Project can provide additional support. Most institutions reported having some form of internal processes in place.	The imperatives to expand access and to improve quality are in tension. It is unclear how well national and institutional quality assurance frameworks and processes are being implemented. Further research is needed to better understand this.
Regional co-operation and cross-border education	Most ministries of education and higher education institutions reported a high value being placed on regional co-operation, and various examples of co-operation efforts were presented. Regional policies such as the SADC Protocol and Qualifications Framework, as well as the establishment of SARUA, which is focused specifically on higher education in the region, are positive developments.	Regional co-ordination efforts appear to be ad hoc rather than co-ordinated at institutional and national levels, although some examples to the contrary were found. The funding challenges faced by all national higher education sectors constrain regional collaboration. In several countries, lack of or poor quality ICT infrastructure limit communication needed for successful regional collaboration.

The presentation of the data above and its accompanying analysis provide an initial baseline picture of higher education in the SADC region that will support future planning and decision-making, as well as laying a platform for an ongoing, systematic maintenance of data about regional higher education systems. The challenges associated with assembling this preliminary picture and the many remaining gaps in completing it also contain important lessons for ongoing regional data-gathering initiatives and possible future research projects.



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