


14 Tanzania

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| COUNTRY CONTEXT STATISTICS | |
|--|---|
|  | <p>Population: 46.2 million (2011)</p> <p>GDP per capita: US\$516 (2010)</p> <p>Human development index: 0.466</p> <p>Unemployment: 10.7% (2011)</p> <p>Key economic sectors: mining, agriculture, manufacturing, tourism</p> <p>Principal exports: gold, coffee, cashew nuts, manufactured goods, cotton</p> <p>HIV and AIDS prevalence: 5.6% (2009 est.)</p> <p>Gross primary enrolment ratio: 102% (2010)</p> <p>Gross secondary enrolment ratio: 6% (1999)</p> <p>Gross tertiary enrolment ratio: 2% (2010)</p> |
| <small>Country context data were obtained from a variety of sources: CIA (2012), Tanzania National Bureau of Statistics (2012), UNAIDS (2011), UNDP (2011), UNESCO (2011).</small> | |

Tanzania is situated on the east coast of Africa with a population of just over 46 million people. The United Republic of Tanzania was established in 1964 when mainland Tanganyika merged with Zanzibar shortly after independence from the British. The first President, Julius Nyerere, and his post-independence Arusha Declaration in 1967, laid the foundations for Tanzania's national development, based on egalitarianism, socialism and self-reliance. However, the 1970s witnessed an economic crisis which forced the government to adopt policies imposed by foreign donors. After the structural adjustment programmes of the 1980s and 1990s, the economy has improved.

Agriculture continues to dominate the economy, making a contribution of more than 30 per cent to national gross domestic product (GDP) and contributing to more than 75 per cent of all employment; the rapidly growing service sector makes a 47 per cent contribution to GDP (URT 2011). Poverty remains a major challenge facing the country, with an unemployment rate of about 24 per cent among urban youth.

Higher education landscape

The higher education system in Tanzania has undergone a number of shifts and changes as it has sought to become relevant and responsive to its society.

Brief historical overview of higher education

Higher education in Tanzania dates back to the early 1960s. The first university started as a college of the University of London with a single faculty (Law). In 1963, two years after the college was established, the institution became a component of the University of East Africa, which at the time included Nairobi University College in Kenya and Makerere University College in Uganda. The East African Authority's decision for a split in 1970 resulted in the establishment of Dar es Salaam

University College, which later attained full university status to become the University of Dar es Salaam (UDSM). The majority of public institutions can be argued to have derived from the UDSM (Mwollo-Ntallima 2011). These include Sokoine University of Agriculture (SUA), established in 1984 out of the UDSM's Faculty of Agriculture, Forest and Veterinary Science, as well as Mkwawa University College and the Dar es Salaam University College of Education.

National higher education policy context

The Tanzanian education system has a 7–6–3 format: primary education lasts for a period of seven years, followed by six years of secondary education and three years of university education. The secondary level is further divided into two: a four-year period which leads to the ordinary level certificate, and entrance into the upper secondary level, which culminates in the advanced-level certificate and qualification for entry into university education. Upon completion of the advanced level, a student qualifies to enrol for a degree programme at a university or university college. An undergraduate qualification generally lasts for three years, but there are some programmes that take longer (Shaik n.d.).

The post-secondary education system is divided into two parts: tertiary and higher. Tertiary education specifically deals with semi-skilled qualifications, and tertiary institutions of learning generally offer certificate and diploma qualifications. Institutions of higher education (which include universities and university colleges), on the other hand, offer highly skilled qualifications.

Higher and tertiary education in Tanzania is governed by a number of policies, structures and frameworks aimed at enhancing the sector (SARUA 2009):

The Education and Training Policy (1995) covers a number of areas including:

- equity in access to education;
- quality control and assurance;
- partnerships between the state and the private sector in providing education;
- teacher management and reform; and
- broadening access.

The Higher Education Policy (1999) focuses primarily on ensuring that there is a council that caters for the needs and demands of the higher education sector. Some of the needs and demands that are to be addressed include:

- management and control of expansion within the higher education sector;
- funding: formulating and implementing cost sharing mechanisms;
- addressing gender imbalances in enrolment and participation rates in the natural sciences;
- linking higher and tertiary education to the demands of the market; and
- establishment of private institutions.

During SARUA's previous higher education profiling study (Kotecha 2008) it was noted that this policy was under review. In the present study, the research team sought information about recommendations or changes made to this policy, but no data or clarification was provided. It is likely that this policy has been superseded by the Higher Education Development Programme 2010–2015 (URT 2010) discussed below.

The mandate of the National Science and Technology Policy (1996) is to promote a culture of embracing science and technology in every sector of Tanzanian society. The policy has sixteen objectives which focus on achieving this goal.

The Higher Education Development Programme includes other policies such as the Technical Education and Training Policy (1996) and, more recently, the Higher Education Development Programme (HEDP) 2010–2015 (2010). The HEDP explicitly recognises the role of higher education in supporting sustainable social and economic development in Tanzania. Building on the Education Sector Development Programme (ESDP), the HEDP moves the national focus from the development of primary and secondary education to higher education. Acknowledging that participation rates in Tanzanian higher education have remained 'abysmally low' at only 3 per cent and that, although

there has been some development in the areas of science, engineering and technology (SET), this has had little impact on people's day-to-day lives (URT 2010:viii), the following developmental objectives are defined:

- establish a comprehensive and co-ordinated higher education system through institutional reforms;
- improve delivery of higher education through ensuring relevance and diversification of the curriculum, and increased access, equity and quality; and
- enhance the capacity of the higher education system so as to maintain and sustain all its functions effectively and efficiently.

Based on a review of the national context and important policy thrusts, it is noted that the HEDP is needed to respond to the increased social demand for higher education in Tanzania as well as the following needs (paraphrased from HEDP: 10):

- increased growth in agriculture, manufacturing and other economic sectors;
- capacity-building in new and emerging SET areas, including biotechnology, environmental science, molecular biology, nanoscience and informatics;
- improving capacity in both existing and emerging higher education institutions;
- ensuring that higher education institutions are more competitive in a globalised environment;
- increased demand for middle and high-level skills;
- improved knowledge and entrepreneurial skills amongst the youth;
- sustainability of higher education by efficient and effective resource mobilisation;
- addressing and solving problems related to poverty reduction; and
- addressing cross-cutting issues such as democracy, gender, environment, entrepreneurship, good governance and various infectious diseases.

The implementation of HEDP 2010–2015 is organised around nine areas of focus within three main thematic areas: institutional reforms, service delivery and sustainability mechanisms. The HEDP document provides a detailed account of the expected outputs and outcomes with specific targets set in many cases (URT 2010:x-xi, 11-33). Thus, higher education in Tanzania has been accorded an increasingly important place on the national agenda, and a supportive policy environment has been put in place as the basis from which the sector can grow.

Size and shape of higher education

Seven of the eight public higher education institutions in Tanzania provided questionnaire responses for the current study. The only outstanding response was that from the Open University of Tanzania. However, the Open University did submit a questionnaire response in SARUA's previous study that was published in 2008. In order to present a more complete picture of higher education in Tanzania, the Open University data from the previous study have been used together with updated data from the other seven universities.

Demand for higher education

The higher and tertiary education sector has witnessed considerable expansion in recent years. This is evident in the rapid increase in the number of private and public institutions. With only one university at independence, today the country has eight public higher education institutions, a large number of private institutions and publicly-funded colleges. In the Ministry of Education questionnaire response it was reported that the country has plans to establish new universities in the next five to ten years. The high number of private higher education institutions can be attributed to the government policy, implemented in the late 1980s and early 1990s, of opening up the sector to private investment. In the HEDP 2010–2015 document it is noted that private higher education accounts for about 26 per cent of the total national enrolment (URT 2010:17).

Evaluating the number of students who have access to higher education, Ishengoma (2007) argues that the provisioning of higher education in the country remains elitist, citing the huge disparity between the number of applicants who qualify to enrol for degree programmes and those who are actually enrolled. Ishengoma gives an example of the data that he collected in the 2006/2007 academic year at the University of Dar es Salaam. Of the 15 185 students who applied and who met the requirements for enrolling for an undergraduate qualification, only 7 049 were admitted. Many students who qualify for higher education do not even apply. This is reflected in the extremely low gross tertiary enrolment ratio.

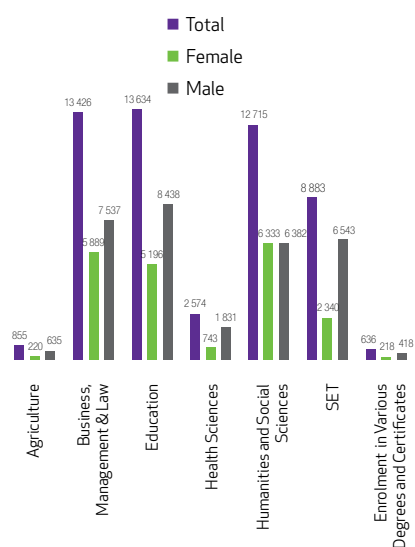
Student profile

The majority of registered public university students in Tanzania are contact students, although a relatively large proportion of students are reported to be studying part-time. Of the 52 723 students enrolled at public higher education institutions, only 49 students were reported as coming from other SADC countries (and 302 from other countries outside of SADC). While these figures are indicative of small numbers of international students, they should be treated with caution due to nationality data missing for several of the universities. There are reportedly 5 176 students enrolled in distance learning programmes, a trend facilitated by the Open University of Tanzania.

Figure 1 shows the number of students enrolled in various fields of study. Available data show that the largest total enrolment is found in education, followed by business, management and law, and then the humanities and social sciences. Despite the policy focus on SET, the total number of enrolments in this field of study remains fairly low. The greatest gender disparity in enrolments is also seen in the SET field, with male students making up 73.6 per cent of all students. Only in the humanities and social sciences is an even split evident between male and female students.

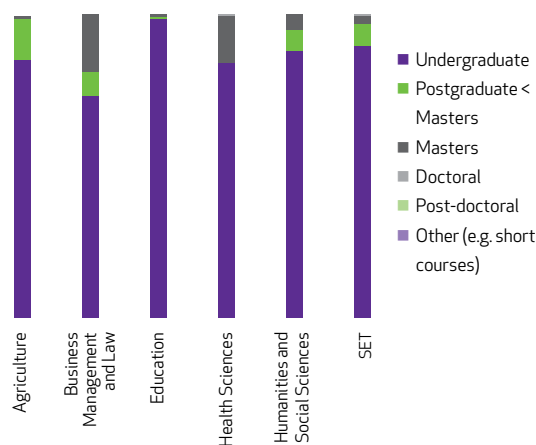
With respect to the level of qualification for which students in Tanzanian public universities are enrolled, the vast majority (87.7 per cent) are enrolled for undergraduate study. A total of 4.9 per cent are enrolled for postgraduate study below the masters level, 7.3 per cent for masters degree programmes, and only 0.2 per cent for doctoral study. Figure 2 shows the proportional enrolment per level of study for each of the major fields of study. Almost all the students (98.9 per cent) who are enrolled for studies in education are studying in undergraduate programmes.

Figure 1: Enrolment by major field of study and gender



Sources: SARUA university questionnaires (2008 and 2011)

Figure 2: Proportional enrolment by major fields and levels of study



Sources: SARUA university questionnaires (2008 and 2011)

Staff profile

Almost all the staff members (both academic and administrative) are Tanzanian citizens. Combined, the eight universities reported only five academic and research staff members coming from other SADC countries, and 69 from countries outside of SADC. All management and administrative staff members are Tanzanian.

As shown in Table 1, large gender disparities are evident with respect to staffing at all levels and across all fields of study. Less than one-third of academic and research staff are female. For management and administrative staff the proportion is slightly higher (39.8 per cent female).

Table 1: Staff by major field of study and gender

| Staff category | Major field of study | Female staff members | Male staff members |
|-------------------------------------|-------------------------------------|----------------------|--------------------|
| Academic and research staff | Agriculture | 42 | 135 |
| | Business, management and law | 85 | 300 |
| | Education | 46 | 109 |
| | Health sciences | 82 | 275 |
| | Humanities and social sciences | 124 | 298 |
| | Science, engineering and technology | 103 | 463 |
| Management and administrative staff | Agriculture | 228 | 903 |
| | Business, management and law | 140 | 193 |
| | Education | 33 | 37 |
| | Health sciences | 215 | 255 |
| | Humanities and social sciences | 150 | 124 |
| | Science, engineering and technology | 56 | 200 |
| | Other | 903 | 900 |

Sources: SARUA university questionnaires (2008 and 2011)

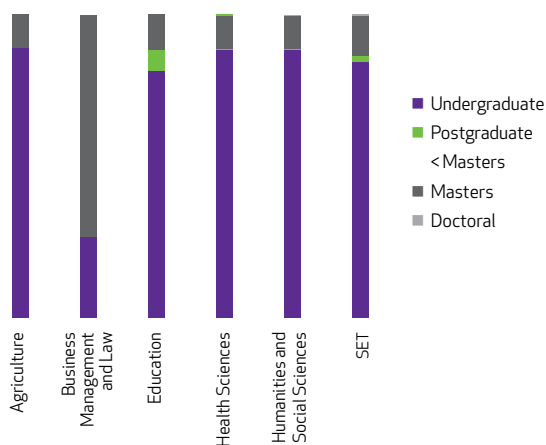
More positive findings are evident in the area of staff qualifications. A total of 17.6 per cent of academic and research staff have undergraduate qualifications, while 32.3 per cent have masters degrees, and nearly half (49.3 per cent) have doctoral degrees. The very low number of postgraduate enrolments was noted above, but the staffing data implies that the capacity – at least with respect to human resources – is available to expand the provision of postgraduate study.

National higher education outputs and alignment with policy imperatives

This section presents an overview of graduate trends, quality assurance and research output.

Graduate patterns

As is to be expected given the large proportional enrolment in undergraduate qualifications, most of the graduates produced by public universities in Tanzania (68.4 per cent) are at the undergraduate level. Excluding qualifications in business, management and law, more than 80 per cent of the qualifications awarded are at undergraduate level. Interestingly, there are more graduates at masters degree level in business, management and law than there are at undergraduate level. We might speculate that these are MBA graduates, although the data do not refer to specific qualifications. For the remaining major fields of study the proportion of postgraduate qualifications is very low. Only 29 doctoral qualifications were reported by the eight participating universities.

Figure 3: Graduates by field of study and level of study

Sources: SARUA university questionnaires (2008 and 2011)

The largest number of graduates (at all levels of study) are found in the humanities, followed by business, management and law. Although graduates from science, engineering and technology (SET) currently account for 18.8 per cent of all graduates, the actual number of graduates (1 643) is relatively low considering the importance accorded to expanding higher education output in the area of SET. Also concerning, given the importance of SET, is that there was only one doctoral graduate in this major field of study for the 2010 academic year.

While understanding the number, level and type of graduates produced by any higher education system is important, these numbers do not say much about the value of this higher education output, unless there is evidence that the qualifications meet certain standards. The following section discusses quality assurance in Tanzanian higher education.

Quality assurance

Issues of quality assurance have taken centre stage in Tanzanian education. The HEDP document (URT 2010:26) identifies the following areas in which quality challenges are experienced:

- overcrowding as a result of expansion in student numbers without the corresponding expansion of infrastructure;
- inadequate teaching and learning facilities, partly due to the pressures of expanding student numbers, but also because teaching and learning facilities are old and outdated;
- poor learning techniques, with most universities still making use of lecturer-centred pedagogies using traditional teaching and learning methods;
- inadequate supply and use of books and other learning materials – in general, there is a scarcity of textbooks and other learning materials, and those available tend to be outdated;
- staff members who are not well qualified for university teaching as a result of a freeze on employment in the mid-1990s to early 2000s, which meant that universities were not able to appoint and develop the next generation of academics; and hence now have newly appointed young staff members who lack experience and require further training; and
- less competent entrants to the university sector, with many secondary school leavers being reported to have problems with spoken and written English as well as a lack of exposure to practicals in science subjects.

The Tanzania Commission for Universities (TCU) is responsible for setting the quality standards and accreditation of institutions and the degree programmes that they offer and for co-ordinating quality assurance efforts across the sector. While five of the eight universities participating in this study reported having internal quality assurance processes in place, the HEDP document notes

that many higher education institutions in Tanzania do not have well-organised quality assurance units.

In terms of the Public Service (Amendment) Act No. 9 of 2008, all public service institutions (including universities) must put in place results management and open performance and review systems. This system involves self-evaluation, peer evaluation, student appraisal, as well as management review and evaluation (URT 2010:27).

At the institutional level, six of the eight participating universities reported having peer review quality assessments in place, three regularly conduct internal evaluations, and three sometimes conduct internal evaluations. Most of the universities reported that they have training and orientation for new staff members, and five universities have mechanisms in place for ongoing staff development. Six of the eight universities make use of external and independent moderators for their examinations.

Research output

Higher education in Tanzania has recognised knowledge as a key instrument in national development. Knowledge output has been observed in diverse formats. Besides the production of human capital through the training and throughput of graduates, the main form of knowledge and research output is that of peer-reviewed publications. Despite the relatively large numbers of staff with doctorates in Tanzanian public universities, research output remains low, with fewer than 300 peer-reviewed journal articles reported for 2008, 2009 and 2010. Interestingly, four patents were registered in 2010. Although not usually considered for promotion and international recognition, participating universities noted various other forms of knowledge output including seminar papers, workshop presentations, policy briefs and student dissertations.

The establishment of the Nelson Mandela African Institute of Science and Technology (NM-AIST) in Arusha can be regarded as a significant milestone in the country's attempt to boost its research capacity in science and technology. The institute is solely dedicated to the advancement of scientific research in Africa. Despite only recently having opened, the institute has a vision of becoming a renowned leader in scientific research. Plans are in the pipeline for the establishment of four other campuses across the continent (Daily News 2011). With a strong national emphasis on knowledge and innovation for national development in the knowledge economy (URT 2011), it is expected that this research institution will enhance knowledge production in science and technology and contribute towards national development.

Recent developments and debates in higher education

Like many countries in the region, Tanzania is confronted with the problem of increasing access to higher education institutions for the many youth who qualify for entry into tertiary education, but who cannot enrol due to inadequate infrastructure. Recently, the University of Dar es Salaam received a major boost of funding that will see the construction of a number of world-class facilities on its premises. This is part of the World Bank programme to improve higher education infrastructure in the country (Domasa 2012).

The role of higher and tertiary education in Tanzania is linked to meeting the developmental needs of the country's economy. Recently the higher education sector was applauded for its role in contributing to the development of the rural areas through research that promotes the use of renewable energy amongst the rural population (Domasa 2011). The sector has also been commended for its contribution towards addressing the millennium developmental goals, given that the goal of research is to create knowledge that will improve the livelihoods of the local people (Bloom et al. 2006).

The role that research, researchers and higher education institutions have played in contributing to the development of the Tanzanian economy caused the government to consider tripling the budget allocated to research in 2011 (The Citizen 2011a). Such a drive by government can be linked to the shared notion that the generation of knowledge is the key to industrialisation and innovation.

Another critical issue that has taken centre stage in the Tanzanian education system is the use of information and communication technology (ICT). The Tanzanian situation is not unique among African countries when it comes to the use of ICT. The country's education system is lagging behind,

despite recent calls by government and efforts to integrate ICT into the education system from secondary level upwards (The Citizen 2011b). It is believed that such efforts will help the economy in the long run, and will also help with building the higher education sector in terms of both quantity and quality (URT 2010).

Regionalisation

Tanzania places a high value on issues of regionalisation. This can be seen, for example, by the Ministry of Education's efforts to include material on SADC in its primary and secondary school curricula in an attempt to promote consciousness about the regional community. In showing its support for the integration of the SADC region, the ministry reports that it is working towards creating a system of facilitating credit transfers from one university to another in the region. This would promote student mobility for exchange programmes. Tanzania is also a signatory of the SADC Protocol on Education and Training.

As in the previous SARUA profiling study (Kotecha 2008), the public institutions that took part in this study were in support of the regionalisation agenda, but identified a number of challenges that hinder the progress of regionalisation, including:

- lack of funding to finance collaboration;
- limited awareness of the benefits of regional collaboration;
- small numbers of students from SADC countries;
- brain drain;
- stiff competition; and
- inadequate infrastructure.

Despite these challenges, regionalisation offers a number of benefits, including:

- training staff at a cheaper cost;
- exchange of staff and students;
- undertaking joint research;
- contribution to regional development through research;
- provision of solutions to the social issues confronting the region;
- linkage of researchers; and
- increasing regional research output and publications.

At present, there appears to be little evidence of student and staff mobility in Tanzania. According to the institutional responses there were only 49 students from the SADC region studying in Tanzania, and 5 staff members working at universities. Interestingly, the HEDP also makes no reference to the SADC region or to regionalisation, apart from stating that the development of the plan took 'into consideration Regional and International Conventions and Protocols of which Tanzania is a signatory' (URT 2010: v).

Conclusions

This chapter provides a snapshot of higher education in Tanzania. It is clear from the information presented that in recent years there have been a number of policies and structures put in place to improve access to, and the quality of, higher education in the country. From having only one university at independence, the higher education sector (public and private) has expanded tremendously over the years. Key to this development is the participation of private organisations in the provisioning of higher education. The government's initiative of increasing primary and secondary school graduates has also played an influential role in increasing the demand for post-secondary education.

Higher education in Tanzania has been recognised by government and in policy as a key instrument in social and economic development. The link between higher education and development has, however, not been consolidated with policies aimed at increasing access and

throughput in the SET-related fields. There is a need for policy and investment to increase access and knowledge production from fields able to produce relevant scientific and innovative knowledge for development.

Prominent in the education system of Tanzania is the issue of quality. The government has gone to considerable lengths in ensuring that quality is upheld at all levels from primary to secondary to higher and tertiary education. At the post-secondary level, the TCU has been tasked with ensuring that quality is maintained and sustained, and future studies will be better placed to assess the extent to which the work of the TCU has impacted on quality at the institutional level.

Looking at participation issues, the greatest portion of those enrolling at universities are studying towards their first degree, with relatively low postgraduate enrolment and graduation rates. While the high undergraduate enrolments are likely to increase human capital production, there is cause for concern regarding the small extent of intensive research and knowledge that is being produced. The large gender disparities at both student and staff levels is also concerning and requires attention (a challenge that has been explicitly noted in the HEDP).

While there appears to be a favourable disposition from the higher education sector towards regionalisation, very little seems to have been achieved in practice. This chapter is part of an initiative aimed at increasing and enhancing regional participation and collaboration which, it is hoped, will help to open up Tanzanian higher education to the international academic community.