

Widening Participation in Higher Education in Ghana and Tanzania: Developing an Equity Scorecard

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Working Paper 3: A Profile of Participation in Higher Education in Ghana and Tanzania

Rosemary Lugg
Louise Morley
Fiona Leach

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Acronyms

GER	Gross Enrolment Ratio
GoG	Government of Ghana
GPI	Gender Parity Index
HEAC	Higher Education Accreditation Council (Tanzania)
ISCED	International Standard Classification of Education
KNUST	Kwame Nkrumah University of Science and Technology (Ghana)
NAB	National Accreditation Board (Ghana)
NABPTEX	National Board for Professional and Technical Examinations (Ghana)
NER	Net Enrolment Rate
MHEST	Ministry of Higher Education, Science and Technology (Tanzania)
NCTE	National Council for Tertiary Education (Ghana)
OECD	Organisation for Economic Cooperation and Development
SSS	Senior Secondary School (Ghana)
UDSM	University of Dar es Salaam (Tanzania)
UNESCO	United Nations Educational, Scientific and Cultural Organisation

Glossary

Gender Parity Index	A Gender Parity Index is the value of an indicator for women divided by that for men. A GPI of 1 indicates parity between sexes.
Gross Enrolment Ratio	In higher education, the Gross Enrolment Ratio is the total enrolment in higher education regardless of age, expressed as a percentage of the population in the five-year age group following from the secondary school leaving age.
Gross Entry Ratio	The number of tertiary students beginning their studies as a percentage of the population at the typical entry age.
Higher Education	The terms ‘higher education’ and ‘tertiary education’ are often used interchangeably to refer to education that is more advanced than secondary education (i.e. both terms refer to programmes at ISCED levels 5 and 6). Post-secondary education may take many forms, at different levels of education content. The terms ‘higher education’ and ‘further education’ are used to distinguish between forms of post-secondary education. Further education programmes (ISCED level 4) are usually not more advanced than senior secondary programmes (ISECD level 3), but serve to broaden students’ knowledge. Higher education programmes involve content that is more advanced than programmes offered at ISCED levels 3 (senior secondary) and 4 (post-secondary non-tertiary).
Internationally mobile students	Those who leave their country or territory of origin and move to another country or territory with the objective of studying. The definition aims to separate factors shaping student flows from other migration patterns.
International Standard Classification of Education (ISCED)	A classification system that provides a framework for the comprehensive statistical description of national educational systems and a methodology that translates national educational programmes into internationally comparable levels of education. The basic unit of classification in ISCED is the educational programme.
ISCED Level 5A	Tertiary programmes which are largely theoretically based. Intended to provide qualifications for gaining entry to advanced research degrees and to professions with high skills requirements. Minimum full-time equivalent of three years of study, but often more.
ISCED 5B	Tertiary programmes with a minimum full-time equivalent

of two years study. More practically oriented and occupationally specific. Provide access to employment of a particular type, a class of occupation or a trade. Typically provide graduates with a labour market qualification. Does not provide direct access to an advanced research programme.

ISCED 6	Tertiary programmes leading to advanced research degrees. Typically requires the submission of a thesis or a dissertation which is the product of original research and makes a significant contribution to knowledge.
Net Enrolment Rate	An indicator used to measure access to the education system. The Net Enrolment Rate (NER) is the number of children enrolled in a level of education who are of the official age for that level, expressed as a percentage of the total population in that age group.
Outbound mobility ratio	The outbound mobility ratio expresses number of mobile students from region/country as percentage of all tertiary students in that region/country.
Tertiary Education	Tertiary education refers to all post-secondary education programmes with education content more advanced than those offered in secondary education. UNESCO defines tertiary education in terms of ISCED levels. Tertiary education comprises all programmes at ISCED levels 5 and 6.

Note about the statistics used in this report.

This paper draws on statistics published by national and international agencies mandated to collect and publish such information. It also draws on analysis of public statistics published by researchers. The authors acknowledge that collecting and collating statistics to describe higher education in Ghana and Tanzania is problematic, and international and national data may be contested.

Note about terminology

Throughout this paper, the term 'higher education' is used to refer to the system of education programmes at ISCED levels 5 and 6. However, where data are cited, the term used by the data source is retained.

A Profile of Participation in Higher Education in Ghana and Tanzania

1. International Participation in Higher Education

1.1 Higher Education: A Diverse Sector

Globally, higher education is a diverse landscape of different systems, education institutions, programmes of study, qualifications and pathways. Higher education takes place in a range of different institutions, including universities, technical institutes, polytechnics, training colleges (for example, colleges of education, nursing, agriculture etc), community colleges and distance education centres. The sector also encompasses both public and private institutions, and the various forms that public/private provision may take.

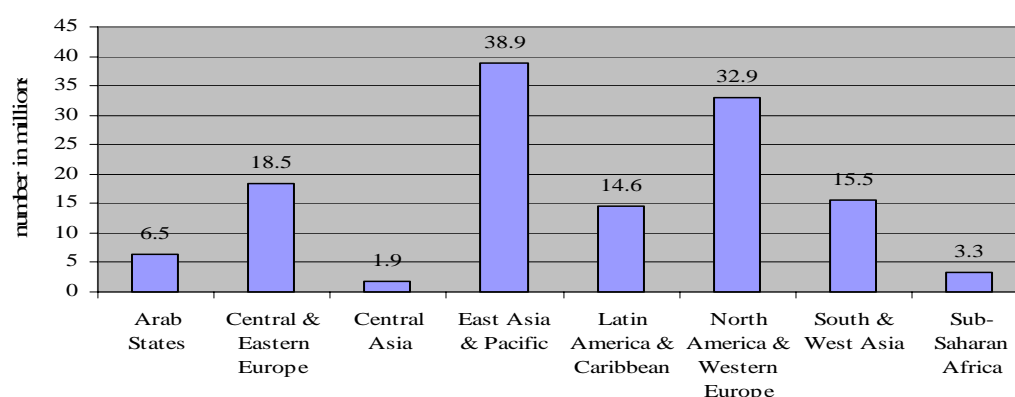
The diversity within global higher education presents challenges for defining the sector and measuring participation within it. UNESCO, through its International Standard Classification of Education (ISCED97) defines ‘tertiary’¹ education in terms of the level of programme content, not the institutional context that the programme is offered in. Tertiary (or Higher) education comprises all programmes with content more advanced than that offered by senior secondary schools. Thus, higher education programmes include diplomas, degrees, post-graduate qualifications, and doctoral programmes (UNESCO, 2006).

1.2 Global Participation in Higher Education

In 2004, 132 million people were enrolled on higher education programmes (UNESCO, 2006). Most students were to be found in two UNESCO regions: firstly East Asia and the Pacific (combined), and secondly North America and Western Europe (combined). These two regions account for over half of the world’s higher education students (UNESCO, 2006).

¹ See Glossary for discussion of terms ‘higher education’ and ‘tertiary education’.

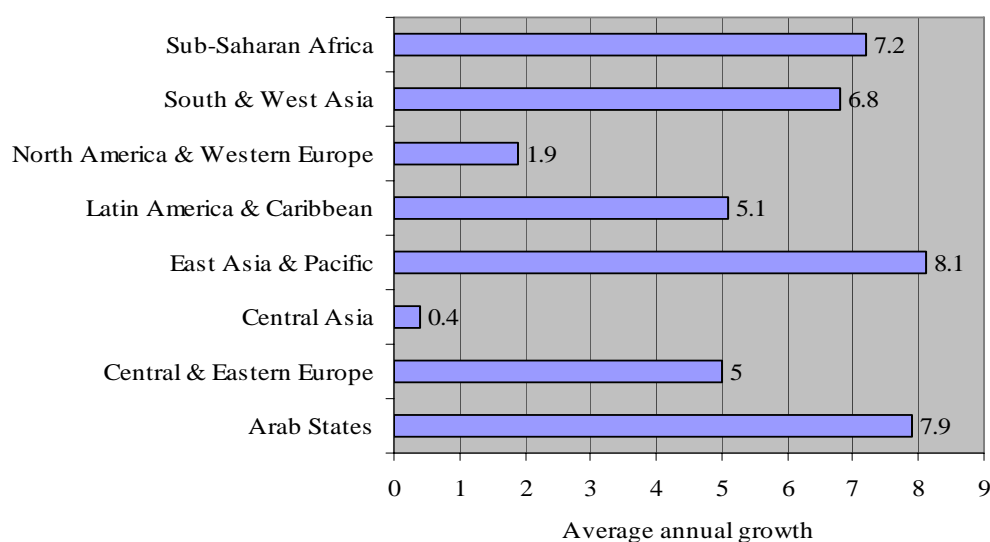
Figure 1: Number of students enrolled in higher education, by region, 2004



Source: Total Enrolment Tertiary Education, ISCED 5 and 6 (UNESCO, 2006:128)

Global enrolment in higher education in 2004 (132 million) was more than double the level it had reached thirteen years earlier; in 1991, 68 million students were enrolled in higher education (UNESCO, 2006). The pace of growth in higher education enrolment has also increased recently. Globally, the rate of growth rose from 4 percent annually in the early 1990s, to 5 percent in the late 1990s and has been growing at 7 percent annually since 1999 (UNESCO, 2006). The highest rate of growth has been seen in the East Asia and Pacific region, largely driven by expansion of higher education in China where the number of students rose by 25-29 percent per year between 2001 and 2004 (UNESCO, 2006:22). Sub-Saharan Africa also experienced one of the fastest rates of growth, with an average increase of 7 percent per year between 1991 and 2004 (UNESCO, 2006).

Figure 2: Growth in global higher education enrolment, between 1991 and 2004, by region

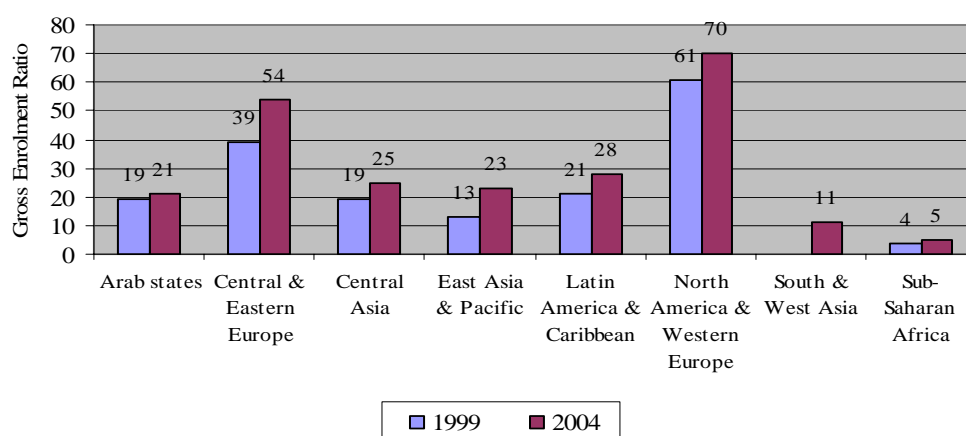


Source: Average Annual Growth Rates in Tertiary Enrolment (UNESCO, 2006: 23)

In spite of this growth, a relatively small share of the world's population participates in higher education. In 2004, the global Gross Enrolment Ratio (GER) was 24 percent

(UNESCO, 2006:128). Some of the lowest rates of participation are found in the regions with high rates of growth in enrolment. Figure 3, below, provides rates of participation in higher education for each region of the world, in 1999 and in 2004. GER in the populous East Asia and the Pacific region remain just below the global average (at 23 percent), in spite of enormous growth in enrolment in this region. In Sub-Saharan Africa, 5.1 percent of young people have access to higher education, the lowest regional GER in the world (UNESCO, 2006). In contrast, the highest participation rates are seen in North America and Europe. GERs have reached 70 percent in North America and Western Europe, and 54 percent in Central and Eastern Europe.

Figure 3: Gross enrolment in higher education in 1999 and 2004, by region



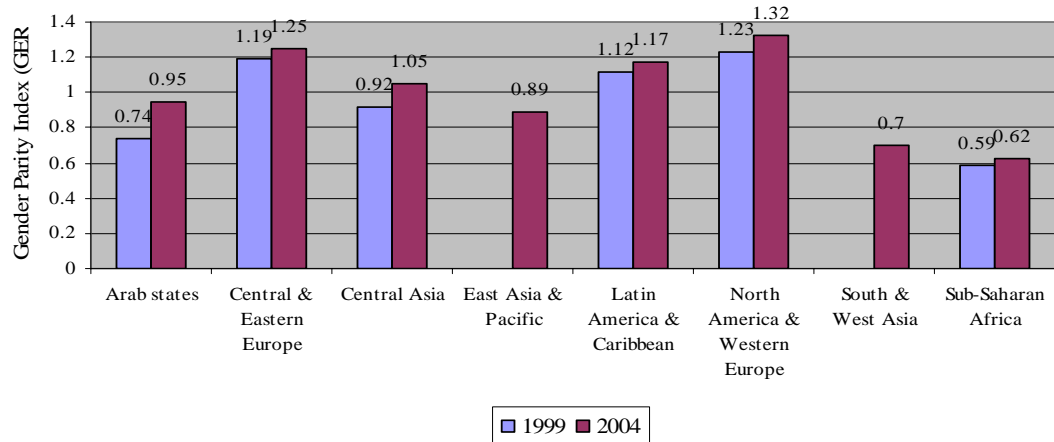
Source: Gross Enrolment Ratios (UNESCO, 2006:128)

The GER for higher education in North America and Western Europe is 70 percent (UNESCO, 2006). As a result of this relatively high rate of participation in higher education, a child entering primary school in this region can expect to spend three years of their life in higher education. In contrast, at current rates of participation, a child in Sub-Saharan Africa can expect to spend less than half a year in higher education, but as we have seen, only five percent will actually make it that far into the system.

1.3 Gender Equity in Higher Education

Globally, the Gender Parity Index (GPI) for higher education is 1.03, suggesting that rates of participation are slightly higher for women than for men (UNESCO, 2006). However, this global figure disguises differing participation rates for men and women in different regions of the world. In 2004 participation in higher education was greater for women than for men in four regions of the world; firstly Northern America and Western Europe, secondly Central and Eastern Europe, thirdly Latin America and the Caribbean, and fourthly, Central Asia (see Figure 4 below).

Figure 4: GPI for gross enrolment in higher education, in 1999 and 2004, by region



Source: Gender Parity Index (for GER) (UNESCO, 2006:128)

As the increase in the GPI in Figure 4 shows, participation rates for women increased between 1999 and 2004 in all regions of the world. It would seem that increasing GER have generally been of benefit to women (UNESCO, 2006). In the OECD countries, women's participation in higher education has grown rapidly in comparison to men's (OECD, 2007). Indeed, the difference is particularly marked in countries such as Korea, Japan and Spain where attitudes towards the role of women in society have undergone profound changes (OECD, 2007:12). Yet, in several regions of the world, including East Asia and the Pacific, South and West Asia and Sub-Saharan Africa, participation rates for men continue to outstrip those for women and the GPI remains well below one (see Figure 4) (UNESCO, 2006). In East Asia and the Pacific the GPI for enrolment in higher education is 0.89, in South and West Asia it is 0.7 and in Sub-Saharan Africa it is 0.62 (UNESCO, 2006:128).

UNESCO statistics also appear to suggest that across the globe graduation rates are higher for women than for men. However, half of the countries in the world do not provide separate figures for male and female graduation rates. The countries without available data on education outcomes tend to have lower participation rates for women (UNESCO, 2006: 19).

To explore gendered patterns of participation at different levels within the higher education system, UNESCO analysed the GPI for GER for 31 countries with low enrolment rates in the most common type of higher education programme, namely ISCED 5A programmes. The most prevalent pattern (found in 30 percent of the countries studied) was that gender disparities favoured women in ISCED 5A and 5B programmes, but favoured men at ISCED 6. In the second most prevalent pattern, found in almost as many countries, men outnumbered women in all types of programme. In only five countries were women found to outnumber men at all levels, for example Bulgaria, Estonia and Mongolia. UNESCO notes that this situation is rarely found in countries with relatively low levels of participation in higher education (UNESCO, 2006:29).

1.4 Students' Participation in Fields of Study on Higher Education Programmes

Choices students make in terms of which subject to study reflect, in part, the national wealth and economic opportunities of their countries (UNESCO, 2006). In countries with low national income, a greater proportion of students are engaged in subjects linked to public sector employment. For example in many low-income countries, the discipline of Education accounts for a greater share of the nation's small number of graduates. In Sierra Leone, over 60 percent of graduates in higher education studied in the field of Education (UNESCO, 2006:17). In countries with low national income, the public sector is often a major employer of graduates, and students' choices seem to reflect this. Although globally Education is the second most popular field of study, only eight to 20 percent of graduates in higher income countries are in Education, for example less than ten percent of graduates in Japan, France or Germany studied Education (UNESCO, 2006:17). Paradoxically, in some low-income countries the share of graduates in Education falls to less than five percent. In these countries, for example Argentina, Lebanon, Cambodia and Morocco, training at a higher education level is not required to teach in primary or, sometimes, secondary schools (UNESCO, 2006).

Globally, the social sciences, business and law are the most popular fields of study. In two thirds of countries with data available these areas were the largest study choice, in the other countries they were second. Wealthier countries tend to have lower shares of graduates in social sciences, and a larger share in health and science fields (UNESCO, 2006). The highest shares of health graduates are found in high-income countries such as Denmark, Germany and Sweden, with more than 20 percent of graduates in these fields. In low-income countries, the proportion of graduates in health related fields - programmes which are often more expensive to provide - is usually below 10 percent.

UNESCO notes that countries also vary substantially in the proportion of graduates in science and technology related fields. Where national data are available, UNESCO collates the proportion of a nation's graduates by field of study. The proportion of graduates in Science and Technology is compared to the proportion in 'other fields'. UNESCO defines 'Science' as including life sciences, physical sciences, maths and statistics, and computer sciences. Technology includes Engineering, manufacturing and construction, including architecture and building. The 'other' field comprises Agriculture; Education; Health and Welfare (which includes medicine); Humanities and Arts; Social Science, Business and Law; and Services (UNESCO, 2006:178). UNESCO notes that the proportion of graduates in science and technology is generally much lower in countries with low national income and weaker graduation rates (UNESCO, 2006:18). For example, in Finland, France and Sweden about 30 percent of graduates are from science fields whereas only 6 percent of graduates in Belize, Lesotho and Sierra Leone are in science- and technology- related fields (UNESCO, 2006:18). But the patterns are also divergent. Israel and the United States are high income countries with low proportions of science graduates (13 and 12 percent respectively (UNESCO, 2006:142-144) whilst Korea and Iran have the highest share of science graduates (39 and 37 percent respectively, (UNESCO, 2006: 140-144). Many countries do not provide national graduation data disaggregated by field of study. These include nations with growing populations of higher education students and national interest in developing expertise in Science and Technology,

such as India and China. Table 1 provides some examples of graduation rates in science and technology for a few of the countries where such data is available.

Table 1: Proportion of graduates in science in selected countries, 2004

Country	Graduates in science and technology	
	% of total graduates	%F
Republic of Korea	39	31
Finland	30	30
Germany	27	24
Tanzania	21	---
United Kingdom	23	31
South Africa	16	36
Bangladesh	13	24
United States	12	34
Uganda	10	22

Source: Graduates by field of Education (UNESCO, 2006: 138-147)

In many countries, patterns of participation in programmes differ for men and women. Globally, women students are concentrated in non-science subjects. In many countries, two-thirds to three-quarters of graduates in the fields of Health, Welfare and Education are women (UNESCO, 2006). Thus, women continue to be concentrated in subjects associated with low-wage sectors of the economy, in particular health and welfare, humanities, arts and education (OECD, 2007). Men predominate in subjects related to Engineering, Manufacturing and Construction, and Maths and Computer Science (OECD, 2007). However, in Sub-Saharan Africa, and some parts of East and South Asia, where enrolment rates of women are lower than for men, men also dominate health, welfare and education (UNESCO, 2006:19).

1.5 Internationally Mobile Students in Higher Education

Increasing numbers of students in higher education study outside their home country. UNESCO calls students who study in a country where they are not permanent residents ‘internationally mobile students’ (UNESCO, 2006:33). In 2004, 2.5 million students went to another country to study. Between 1994 and 2004, the number of internationally mobile students increased by 40 percent (UNESCO, 2006). However, as higher education enrolment increased at a similar rate, the increase in the proportion of students who were mobile was marginal. Even so, rising numbers of internationally mobile students have an impact on the countries receiving them. Six countries host 67 percent of the world’s mobile student population (see Table 2 below). Between 1994 and 2004, these countries experienced 41 percent growth in mobile student populations, a rate of growth almost three times as fast as growth in domestic enrolment (around 15 percent) (UNESCO, 2006).

Table 2: Major host countries for internationally mobile students, 2004

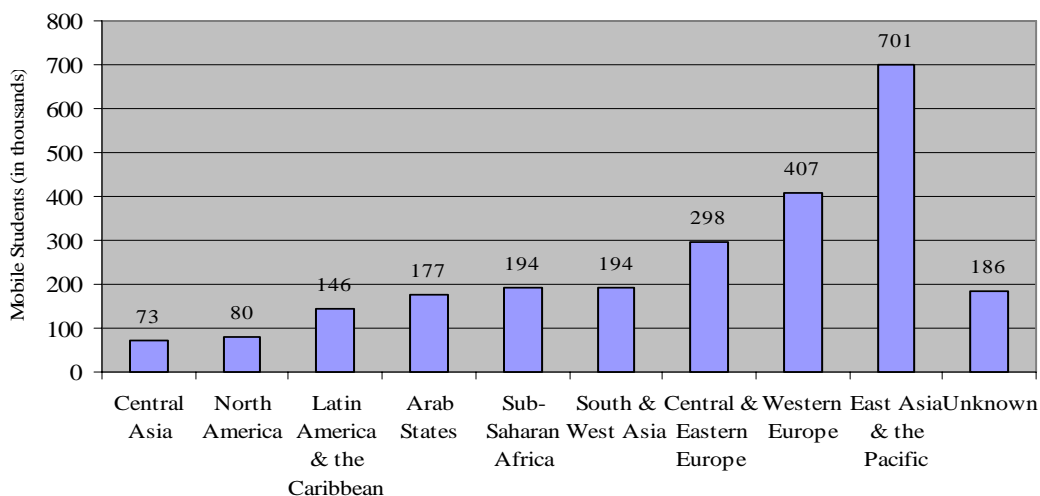
Country	Proportion of internationally mobile student population in this country (%)
USA	23
UK	12
Germany	11
France	10
Australia	7
Japan	5

Source: Internationally mobile students (UNESCO, 2006:47)

Although China's importance as a host country is increasing, data on internationally mobile students in China are not available, except for Hong Kong and Macau. In 2004 14, 627 students travelled to Macao (China) to study, creating an inbound mobility rate of 58.9 percent. 3, 270 students went to Hong Kong, representing 2.1 percent of the student population (UNESCO, 2006: 130). Most of the inbound students in both territories came from the East Asia and Pacific region. Russia's increasing importance as a host country for international students is not reflected in a high inbound mobility rate. In a context of relatively high rates of enrolment in higher education, (GER in Russia in 2004 was 68 per cent) the 75,786 internationally mobile students studying in Russia in 2004 represented only 0.9 percent of the student body (UNESCO, 2006:130).

The largest group of internationally mobile students comes from East Asia and the Pacific; 29 percent are from this region. Western Europe provides 17 percent of the international population, most of whom - 77 percent - stay within the region. With 14 percent of the total of mobile students, China is the single most important country of origin followed by India, Korea and Japan (UNESCO, 2006). While East Asia and the Pacific provide a large proportion of the globally mobile student population, most students in the region remain in their own country to study. The regional outbound mobility ratio is only 1.8 percent.

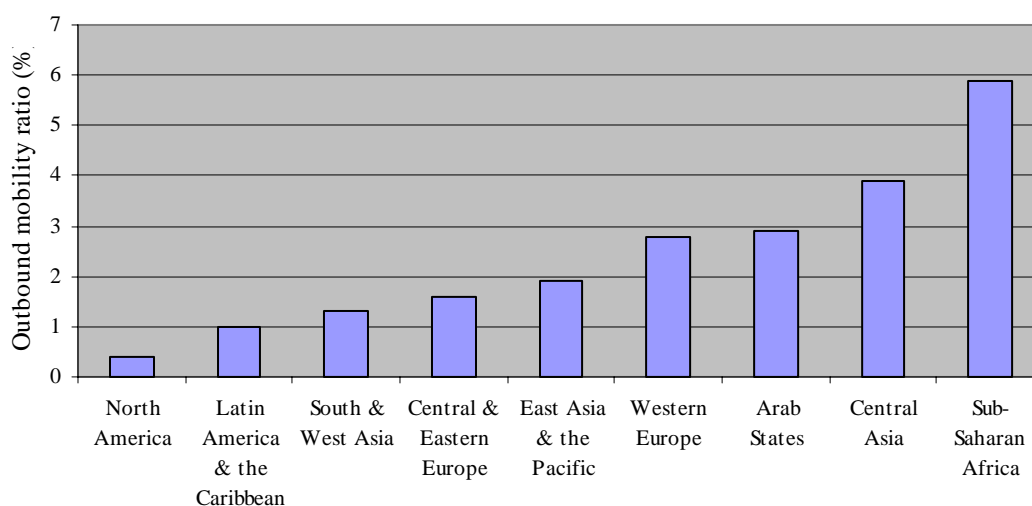
Figure 5: Where do mobile students come from? Mobile students (in thousands) by region of origin, 2004



Source: Mobile Students (in thousands) by region of origin, 2004. (UNESCO, 2006:38).

Students from Sub-Saharan Africa make up a small proportion of the internationally mobile student population, only eight percent. Yet, students in Sub-Saharan Africa are three times more likely to study abroad than the average student across the world. One in 16 - or 5.9 percent - of Sub-Saharan African students studies in a country that is not their home. Fifty-one percent travel to Western Europe, and 21 percent stay in the region (predominantly travelling to South Africa to study). Central Asian students are the second most mobile group. Even though they only make up 3 percent of the world's total of mobile students, 3.9 percent of students in this region go abroad to study, although most stay in the region (reflecting the importance of language). North American students have the lowest outbound mobility ratio with only 0.4 percent travelling abroad to study, and of these, students from the US are the least mobile (0.2 percent) (UNESCO, 2006).

Figure 6: What share of students study abroad? Mobile students from a given region as a percentage of higher education students enrolled in that region (outbound mobility ratio), 2004



Source: Outbound Mobility Ratio, 2004. (UNESCO, 2006:37).

1.6 Participation in Public and Private Higher Education Institutions

Globally, the provision of higher education remains predominantly public. However, according to UNESCO (2006), the private sector² plays a larger role in three regions; namely Latin America, East Asia and Sub-Saharan Africa. In Latin America independent³ private institutions provide for more than half of higher education students. In Chile 74 percent of students are in private, independent institutions, in Brazil 68 percent of students study with private providers, in Paraguay this figure is 58 percent and in Colombia 55 percent (UNESCO, 2006). In East Asia, private provision also plays a significant role. Four out of five students in Korea and Japan are enrolled in independent private institutions. In Macao, the Philippines and

² UNESCO distinguishes between public and private providers in terms of whether a private entity or public agency has control over the institution *i.e.* in terms of policy and appointing staff.

³ An independent private institution receives less than 50% of core funding from government agencies and its staff are not paid by a government agency. A government dependent agency either receives 50% or more of its core funding from government agencies or has a staff paid by a government agency.

Indonesia, over 60 percent of students are in private independent institutions. In Sub-Saharan Africa, three countries rely on private institutions to make up the higher education sector. Botswana and Namibia have education systems made up of government dependent private institutions, and Cape Verde provides most of its higher education through independent private providers (UNESCO, 2006).

2. Participation in Higher Education in Ghana

There is a mixed economy of higher education in Ghana, with multiple delivery points. The higher education system includes six public universities (NCTE, 2006a), thirteen private universities (NCTE, 2006b), ten polytechnics (one in each region) (GoG, 2007), 38 post-secondary teacher training colleges (GoG, 2007) and two professional institutes (NCTE, 1999). Higher education institutions fall under the responsibility of the Ministry of Education and Sport, supported by the National Council for Tertiary Education (NCTE). Oversight for the quality of teaching, learning and assessment in both private and public institutions is provided by the National Accreditation Board (NAB) and the National Board for Professional and Technical Examinations (NABPTEX).

2.1 Rates of Participation in Higher Education in Ghana

Participation rates for higher education in Ghana are lower than other countries in the region, and lower than the regional average (see Table 3 below). In 2004, the GER was 3 percent and the student population totalled 69,968 (UNESCO, 2006:126).

Table 3: Enrolment in higher education in Sub-Saharan Africa, selected countries, 2004

Country	Total enrolment	GER	%F
South Africa	717,793	15	54
Nigeria	1,289,656	10	35
Ghana	69,968	3	32
Kenya	108,407	3	37
Tanzania	49,948	1	29
Sub-Saharan Africa	3,300,418	5	38

Source: Gross Enrolment Ratio (UNESCO, 2006:126-129)

Although participation rates are relatively low in Ghana, enrolment in higher education is growing. As Table 4 shows, student numbers increased during the 1990s as a result of reforms of the higher education sector at the beginning of the decade and the government's renewed commitment to expansion (GoG, 1991). Girdwood notes that enrolment in higher education in Ghana increased by 80 percent between 1993 and 1998 (Girdwood, 1999).

Table 4: Increasing enrolment in higher education in Ghana, between 1993 and 2001

Type of HE institution	Number of students enrolled	
	1993/1994	2000/2001
Public Universities	15,365	40,637
Private Universities		1,662
Polytechnics	1,299	18,474
Post-secondary Teacher Training Colleges	18,955	21,410
	35, 619	82, 183

Sources: Enrolment (Rows 1, 3, 4: GoG, 2007. Row 2: NCTE, 2006b)

Recent figures from the National Council for Tertiary Education suggest that enrolments continue to rise, with university enrolment alone now over 93,285⁴ (see Table 5).

Table 5: Enrolment at public and private universities in Ghana in 2005/6

	M	F	T	%F
public universities				
students enrolled in certificate and diploma programmes	1074	923	1,997	0.46
students enrolled in degree programmes	50,820	27,008	77,828	0.35
students enrolled in post-graduate programmes	2,835	1,128	3,963	0.28
total students enrolled in public universities	54,729	29,059	83,788	
private universities				
students enrolled	5,582	3,915	9,497	0.41
all universities				
total students enrolled in public and private universities	60,311	32,974	93,285	0.35
% at private universities	9	12	10	

Sources: Student enrolment (i)Public universities: All Tables S5 in NCTE (2006a) (ii) Private universities: NCTE (2006b) .

Although higher education in Ghana comprises programmes at ISCED levels 5 and 6, from certificate through to PhD, most students are enrolled on degree level programmes. According to UNESCO, 87 percent of students in Ghana are on ISCED 5A programmes, and only 13 percent are on programmes registered at ISCED 5B (certificates and diplomas) (UNESCO, 2006: 127). Figures in Table 5 above indicate that in 2005/6, 93 percent of all students in public universities were enrolled on degree programmes.

2.2 Expanding Private Higher Education

Private universities became part of the national higher education system in 1999. Since then, the number of nationally-recognised private universities has risen steadily, as Table 6 below shows. Student enrolment is also increasing at each private university.

⁴ This figure does not include enrolment figures for polytechnics, colleges and professional institutes.

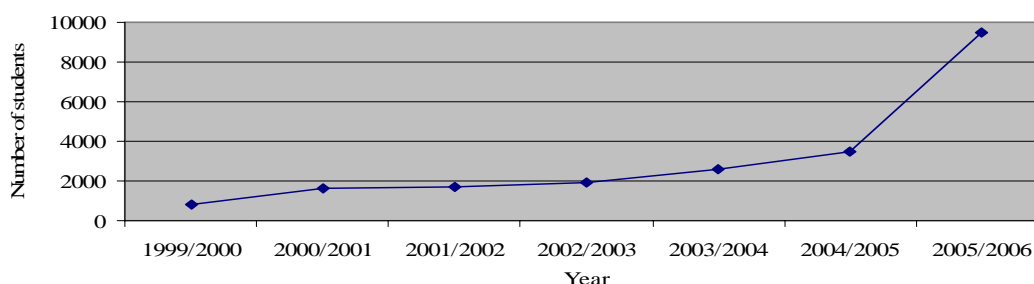
Table 6: Enrolment at private universities in Ghana, 1999/2000-2005/6

	1999/2000	2000/1	2001/2	2002/3	2003/4	2004/5	2005/6
Number of private universities	2	4	4	7	8	9	13
Total enrolment	783	1662	1667	1901	2588	3470	9497
% change in enrolment		83	20	14	36	34	174
%F	44	51	42	40	40	39	41

Source: Student enrolment NCTE (2006b)

The rate of growth in the private sector quickened in 2003 and has increased rapidly since 2004, as Figure 7 demonstrates. Students in private universities now make up ten percent of all university students in Ghana (see Table 4 above).

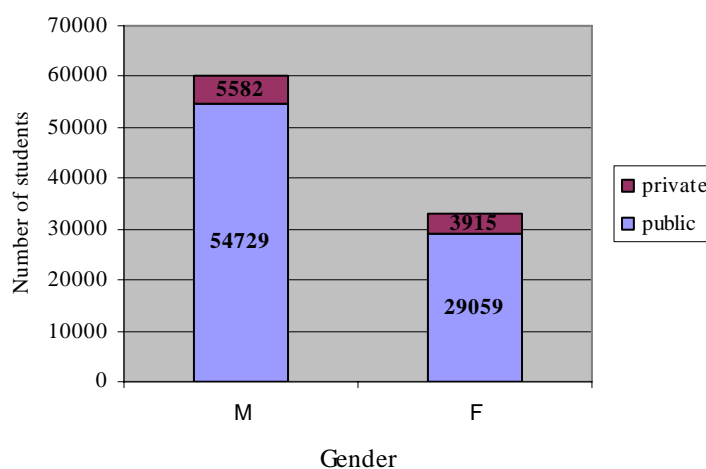
Figure 7: Rising enrolment at private universities in Ghana 1999/2000-2005/2006



Source: Student enrolment (NCTE, 2006b)

In spite of the rapid expansion in private higher education, the public sector continues to be the main provider, as illustrated by Figure 8.

Figure 8: Enrolment of men and women at public and private universities in Ghana, 2005/6



Sources: Student enrolment (i) NCTE (2006a) (ii) NCTE (2006b)

2.3 Gender Equity in Higher Education

According to UNESCO, 32 percent of students in the higher education sector in Ghana are women (UNESCO, 2006:126). With a GER for men that is double that for women, the GPI for Gross Enrolment in higher education is 0.48, falling far short of equity (UNESCO, 2006: 126). Even so, participation for women has improved over the past seventeen years; in 1991/2 only 21 percent of students in universities were women (Effah, 2003).

Within the higher education sector, participation rates for women are higher in private universities than in public universities. Women make up 41 percent of students in private universities, compared to 35 percent of undergraduates in public universities (see Table 5 above).

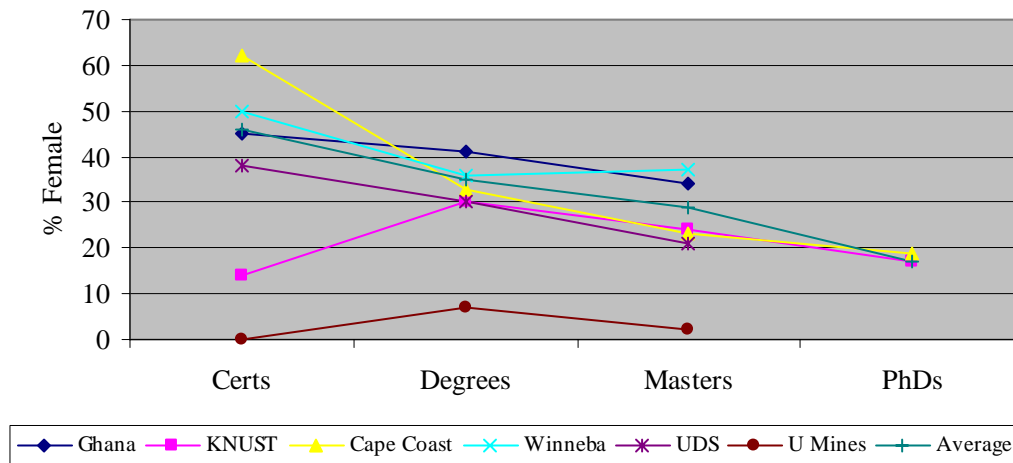
Women's participation in higher education decreases at each level of the system. Recent figures available for public universities, presented in Table 7 below, reveal that women's participation is highest on programmes leading to certificate and diploma level qualifications where 46 percent of students are women; it falls to 35 percent for degree programmes, and is lowest at post-graduate study. Only 29 percent of Masters students and 17 percent of PhD students in Ghana are women. The decreasing participation of women at each level of the system across all public universities is evident in Figure 9 below.

Table 7: Enrolment of women on higher education programmes at public universities in Ghana in 2005/6

	Enrolment on Certs & diplomas	%F	Enrolment on Degrees	%F	Enrolment on post-grad & Masters	%F	Enrolment on PhDs	%F
Univ of Ghana	1,213	45	25,656	41	1,613	34	not disaggregated	
KNUST	117	14	18,343	30	1,398	24	65	17
Cape Coast	327	62	16,229	33	480	23	54	19
Winneba	246	50	11,659	36	263	37	4	0
Uni of Development Studies	94	38	5,137	30	33	21		
Univ of Mines & Technol			804	7	48	2		20
TOTAL	1,997	46	77,828	35	3,835	29	128	17

Source: Student Enrolment (NCTE, 2006a: Tables S5)

Figure 9: Women’s participation in higher education in Ghana, by university and by level of programme, 2005/6



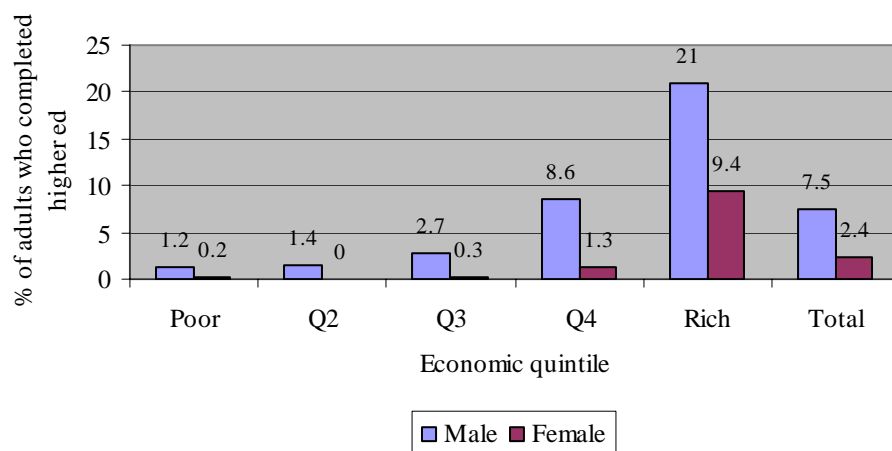
Source: Student Enrolment (NCTE, 2006a: Tables S5)

Figure 9 and Table 7 reveal that women’s participation also differs between public universities. This varying participation reflects the different subject specialisms of the universities. Women’s participation is greatest in universities that specialise in Education (Winneba and Cape Coast), and at the University of Ghana - a university that historically has been predominantly a social sciences university. Women’s participation is lowest in the universities that specialise in science, engineering and technology (*i.e.* the Kwame Nkrumah University of Science and Technology (KNUST) and the University of Mines and Technology).

2.4 Socio-economic Background of Students in Higher Education in Ghana

National data on enrolment in higher education in Ghana are not disaggregated by socio-economic background of students. However, information from a range of sources indicates that participation in higher education has, in the main, been predominantly available to men from wealthier backgrounds who have been students at elite schools. Whilst participation is increasing for women, students in higher education continue to be predominantly from wealthier socio-economic backgrounds, as Figure 10 below shows.

Figure 10: Who completes higher education in Ghana? Percentage of adults completing higher education (age 25+) by socio-economic quintile⁵ and gender, 2003



Source: World Bank Development Indicators. Ghana DHS Survey, 2003. DHS data indicator 26 (World Bank, 2007).

In a study of admissions to two universities in Ghana, Addae-Mensah (2000) revealed that the majority of students come from the top 50 schools in the country, *i.e.* they are drawn from fewer than ten percent of the country's schools (Addae-Mensah, 2000). Addae-Mensah studied admissions data for the University of Ghana and KNUST for the academic years 1998/99 and 1999/2000. The data for the University of Ghana revealed that students were admitted from a total of 350 education institutions. Of these 338 were schools, the others being teacher training colleges, regional centres or other routes. Thus, students were drawn from 67 percent of the 504 Senior Secondary Schools (SSS) in the country. The number of schools feeding in to KNUST was smaller; 206 schools or 40.9 percent in the country.

Addae-Mensah identified two categories of elite school. In the Ministry of Education's table of schools, the top 50 schools are well endowed (as a result of additional funding through donations from affluent alumni), do consistently well in the public examinations, and experience keen competition for admission (Addae-Mensah, 2000). These 50 schools make up 9.9 percent of senior secondary schools in Ghana. Among the 'top 50 schools' Addae-Mensah identified a second, even more elite group of 18 schools which he called the 'starred schools'. Their ranking was based on consistently excellent performance in a national quiz programme that shaped public perceptions of schools. These 18 'starred' schools represented only 3.65 percent of all Ghanaian secondary schools. Table 8 below shows the proportion of students admitted to the University of Ghana that came from the country's top 50 schools, and from the 'starred schools'. Table 9 reveals admissions to KNUST.

⁵ In constructing wealth quintiles from DHS data, households are classified in terms of living standards based on information on household ownership of durable goods and housing characteristics. Households are then ranked, from the wealthiest to the poorest. The poorest 20 percent of households form the first wealth quintile, the next 20 percent the second quintile and so on, with the top 20 percent forming the fifth quintile (World Bank, 2006).

As Tables 8 and 9 reveal, Addae-Mensah found that 79 percent of admissions to degree programmes at the University of Ghana in 1989/99, and 71 percent in 1999/2000 came from the top 50 schools. At KNUST, 75 percent of admissions were from the top 50 schools, for both years studied. Furthermore, the proportion of students from the top schools was greatest in medicine and engineering.

Table 8: Admission to the University of Ghana from elite schools, in 1998/9 and 1999/2000

Subject	% from top 50 schools		% from top 18 schools	
	1998/99	1999/2000	1998/99	1999/2000
Humanities including law	75.17	69.60	40.33	49.24
Sciences including agric	91.02	85.81	56.61	50.44
Admin	78.05	61.21	32.68	32.77
Total degree courses	79.13	71.71	43.16	47.97
Diploma / Cert	40.05	23.53	12.09	8.07
Grand Total	71.55	62.65	31.13	40.52

Source: Admissions (Addae-Mensah, 2000:9 Table 2).

Table 9: Admission to KNUST from elite schools, in 1998/9 and 1999/2000

Subject	% from top 50 schools		% from top 18 schools	
	1998/99	1999/2000	1998/99	1999/2000
Agriculture	87.87	78.9	47.89	54.59
Architecture	76.72	79.32	37.93	49.15
Pharmacy	77.55	84.56	61.22	61.07
Science	74.31	77.70	39.45	46.26
Social Sciences	67.55	60.73	30.32	30.46
Land Economy	73.26	73.15	36.05	41.61
Mining and Min Engineering	66.67	70.47	33.33	38.19
Engineering	87.82	87.27	57.69	59.36
Medicine	87.04	84.65	61.11	62.38
Grand Total	75.21	75.24	41.49	46.26

Source; Admissions (Addae-Mensah, 2000:11, Table 3).

The stability of access to higher education from the top schools in Ghana is indicated by Addae-Mensah's comparison of the admissions to the University of Ghana in the late nineties to those a decade earlier: 35 of the top 50 schools that supplied the bulk of admissions in 1998-2000 also featured prominently in 1985, providing 64.46 percent of admissions to degree courses, and 57.54 percent of total admissions. However, in 1985 the 35 schools represented 18.8 percent of schools from which admissions were made; by 1998/1999 these 35 schools represented less than 7 percent of the schools from which admissions were made. So, whilst the universities are recruiting from a larger number of schools, the elite schools still dominated in terms of the numbers and proportions of students admitted. In other words, their relative advantage was *increasing*. The top schools take the same percentage of places as in the past, even though they constitute a smaller percentage of institutions from which students access higher education (Addae-Mensah, 2000). Addae-Mensah points out that 300 of the country's 504 senior secondary schools could not get a single candidate into KNUST, and about 200 could not get a candidate into the University of Ghana (Addae-Mensah, 2000).

2.5 Additional Dimensions of Diversity amongst Higher Education Students

Participation in primary and secondary education in Ghana differs for rural and urban communities, for children with disabilities, and for children from different regions (Akyeampong *et al*, 2007). These patterns of participation are reflected in higher education. Ethnic and religious differences may also be associated with different participation rates in higher education. As national data are not disaggregated in terms of these differences - ethnicity, disability, region or age - relatively little is known about national patterns of participation for rural, disabled, or older students.

3. Participation in Higher Education in Tanzania

The mixed economy of higher education in Tanzania is provided by five public universities, five university colleges (MHEST, 2005), 17 private universities (MHEST, 2006), four technical education institutions, one private technical institution, and fourteen higher education institutions that fall under Ministries other than the Ministry of Higher Education, Science and Technology (MHEST), for example agricultural colleges, nursing colleges and accountancy training institutions (MHEST, 2005). Public universities fall under the responsibility of MHEST, and public and private universities are subject to accreditation by the Higher Education Accreditation Council (HEAC).

3.1 Participation Rates in Higher Education in Tanzania

Participation rates in higher education in Tanzania are low. As Table 10 shows, in 2004 the GER⁶ was 1 percent and the student population totalled 49,948 (UNESCO, 2006:126). Enrolment has gradually increased over the past decade. In 1990, Tanzania had only 3146 students enrolled at the country's two universities. This was one tenth the size of the student population in Kenya at the same time (Cooksey *et al*, 2003).

Table 10: Enrolment in higher education in Sub-Saharan Africa, selected countries, 2004

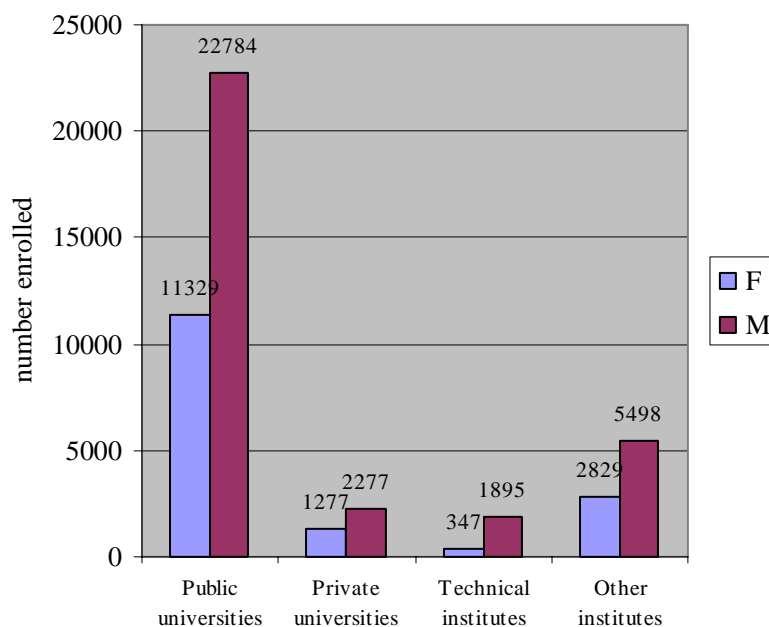
Country	Total enrolment	GER	%F
South Africa	717,793	15	54
Nigeria	1,289,656	10	35
Ghana	69,968	3	32
Kenya	108,407	3	37
Tanzania	49,948	1	29
Sub-Saharan Africa	3,300,418	5	38

Source: Gross Enrolment Ratio (UNESCO, 2006:126-129)

⁶ According to UNESCO, enrolment data used to calculate GER for Tanzania do not include Zanzibar, whereas population data do. Indicators, such as GER, should be interpreted with caution (UNESCO, 2006:53)

Figure 11 shows the current distribution of students across different types of higher education institution in Tanzania. Most students, 71 percent, (a total of 34,113) are studying at a public university.

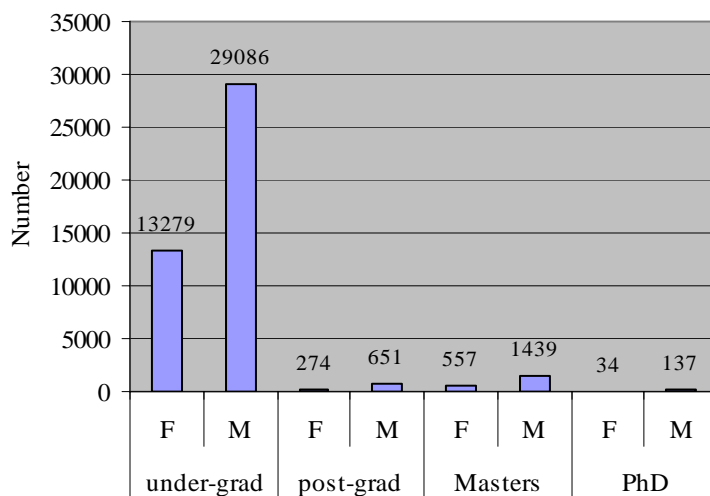
Figure 11: Enrolment in public and private higher education institutions in Tanzania, 2004/2005



Source: Student Enrolment in Higher Learning Institutions (MHEST, 2005: Summary 2)

The higher education sector includes programmes from certificate to PhD. Not all institutions deliver all types of programme. Undergraduate programmes are offered by four types of institution: public and private universities, technical institutions, and 'other institutions' such as colleges falling under other ministries. Technical institutions do not offer postgraduate or masters qualifications, and PhDs are only provided by universities. In 2004/5 only two PhD students were enrolled in private universities and 169 at public universities (MHEST, 2005). Figure 12 below highlights the predominance of enrolment on undergraduate programmes within the higher education sector. Eighty-eight percent of students in the higher education sector are enrolled in undergraduate programmes.

Figure 12: Enrolment in higher education programmes in Tanzania, by level of programme, 2004/2005

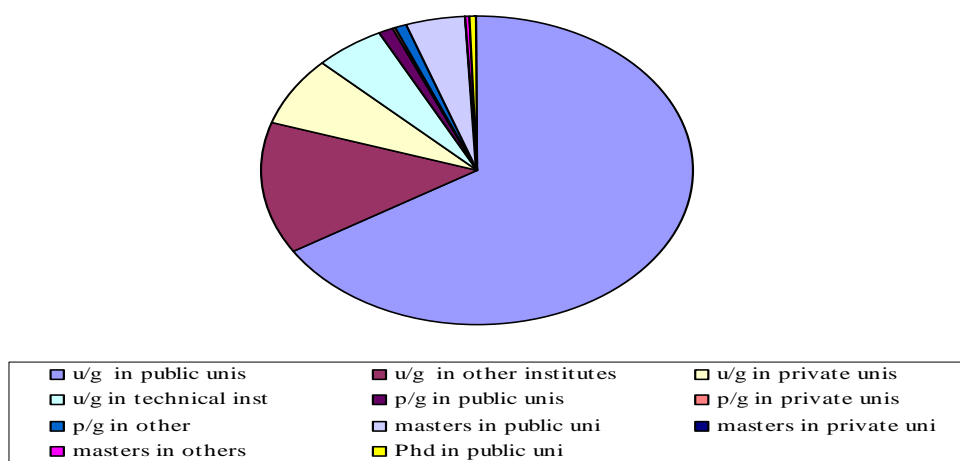


Source: Student Enrolment in Higher Learning Institutions (MHEST, 2005: Summary 2)

National data publicly available from MHEST do not distinguish between ISCED 5A and 5B programmes. UNESCO figures suggest that the majority of students are enrolled on degree programmes at ISCED 5A, and only 20 percent of all students in higher education are enrolled on programmes at ISCED 5B (UNESCO, 2006: 129).

The majority of students in Tanzania are enrolled in undergraduate programmes, the majority in public universities. Seventy-two percent of undergraduates enrolled in 2004/5 were studying at a public university. Figure 13 represents the relative contribution that students in different programmes in different institutions make to the HE sector as whole.

Figure 13: The composition of the higher education sector in Tanzania, by programme and institution type, 2004/2005



Key u/g = undergraduate p/g=post-graduate

Source: Student Enrolment in Higher Learning Institutions (MHEST, 2005: Summary 2)

In 2004/2005, 236 students were recorded by the MHEST as studying abroad. Although the national data is disaggregated by field of study, it is not disaggregated by level of study (undergraduate, postgraduate or doctoral) or funding source. As Table 11 shows, Nigeria hosted the largest number of internationally mobile Tanzanian students, followed by Algeria, Russia and China (MHEST, 2005). If these students are added to the total population of higher education students in Tanzania, they represent 5 percent of the nation's student body. This rate of outbound mobility of internationally mobile students is slightly lower than the Sub-Saharan regional average of 5.9 percent.

Table 11: Tanzanian students studying abroad, by host country 2004/2005

Host Country	M	F	T
China	32	6	38
Russia	44	1	45
Poland	9	1	10
Czech	3	0	3
Cuba	2	1	3
Algeria	40	22	62
UK	1	0	1
USA	1	1	2
Uganda	61	15	76
Total	191	45 ⁷	236
		19%	

Source: Students studying abroad, (MHEST, 2005:Summary 4)

The proportion of Tanzanian students studying science and technology abroad is significantly higher than the proportion studying these subjects at home. According to UNESCO, 21 percent of students in Tanzania graduate in science or technology (UNESCO, 2006:146). Applying the UNESCO definition of science and technology fields to MHEST data reveals that 43.2 percent of Tanzanian students studying abroad are studying science or technology (see Table 12 below).

Table 12: Tanzanian students studying abroad, by subject field, in 2004/5

Subject	M	F	T
Science and Technology fields	90	12	102
Other fields	101	33	134
Total	191	45	236

Source: Students studying abroad, (MHEST, 2005:Summary 4)

Most Tanzanian students studying abroad are men; only 19 percent are women. The proportion of women studying subjects other than science is higher than for those in science and technology fields. Only 11.8 percent of internationally mobile Tanzanian science and technology students are female, compared to 24.6 percent of students studying other subjects (See Table 12 above).

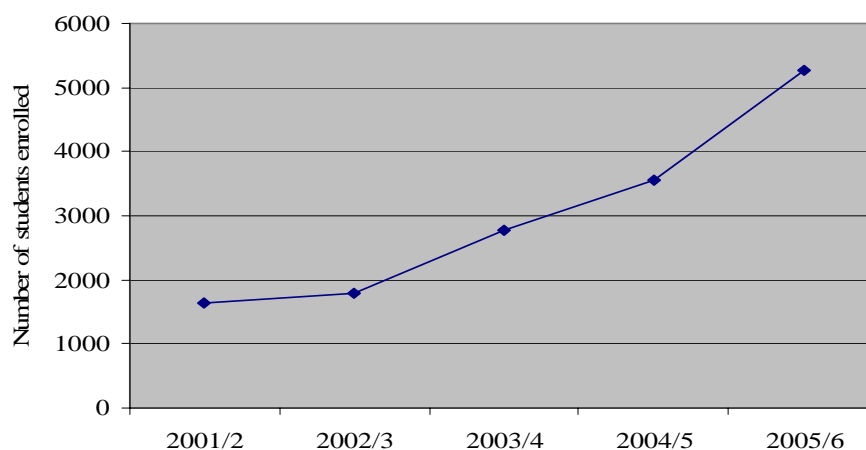
3.2 Expanding Private Higher Education

The number of private universities has steadily increased since they first arrived in Tanzania in 1994. To date, there are 17 private universities catering for 5,275 students

⁷ Inconsistencies in source data

(MHEST, 2006). As Figure 14 shows, enrolment in private universities has accelerated since 2002/3. The proportion of university students in private institutions is approaching 10 percent (Morley *et al*, 2007:40)

Figure 14: Rising enrolment in private universities in Tanzania between 2001/2 and 2005/6



Source: Student enrolment (MHEST, 2006)

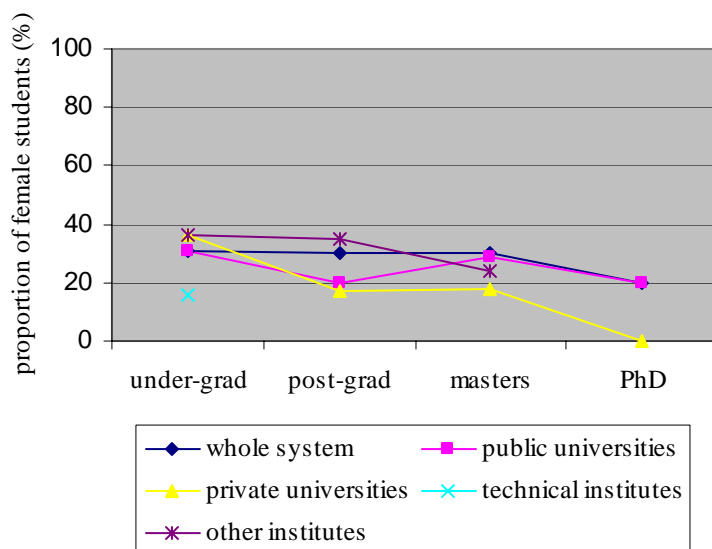
3.3 Gender Equity in Higher Education

Men outnumber women in higher education in Tanzania by a ratio of 2 to 1. Twenty-nine percent of students in higher education are women (UNESCO, 2006: 128). This inequity is reflected in a GPI for Gross Enrolment of 0.41 (UNESCO, 2006). Women's participation in higher education has increased. Cooksey *et al* (2003) note that in 1992/1993 only 17 percent of admissions to the main campus of the University of Dar es Salaam (UDSM) (at that time, the larger of Tanzania's two universities) were women. By 2003/4, Morley *et al* found that 31 percent of students enrolled at UDSM were women (Morley *et al*, 2006). Increasing participation for women has also been recorded for the higher education sector as a whole. Data from the MHEST show that by 2001, 23.7 percent of all students in higher education in Tanzania were women, and that by 2005/6 this rose to 30 percent (MHEST, 2005).

Women's participation in higher education in Tanzania appears consistent at each ISCED level. UNESCO figures claim that women make up 30 percent of students on ISCED 5B programmes, 28 percent of students on level 5B programmes and 27 percent at ISCED 6 (UNESCO, 2006). A similar consistency is evident in aggregate figures available from the National Ministry: 31 percent of undergraduate students, 30 percent of postgraduate students, 30 percent of Masters' students, and 20 percent of PhD students are women (MHEST, 2005). Yet, these figures disguise differences within the sector between women's participation rates at different institutions. Women make up 36 percent of undergraduate students in private universities, but their participation in postgraduate studies drops to 17 percent in the same institutions. Women make up 15.5 percent of undergraduate students in technical institutes, but comprise 36 percent of the population in 'other institutes', a group that includes the Institute of Social Work and the Mirembe Nursing School where female students

outnumber men (MHEST, 2005). Differing patterns of participation between types of institution and level of programme are evident in Figure 15 below.

Figure 15: Women’s participation in higher education in Tanzania in 2004/5, by level of programme and type of institution

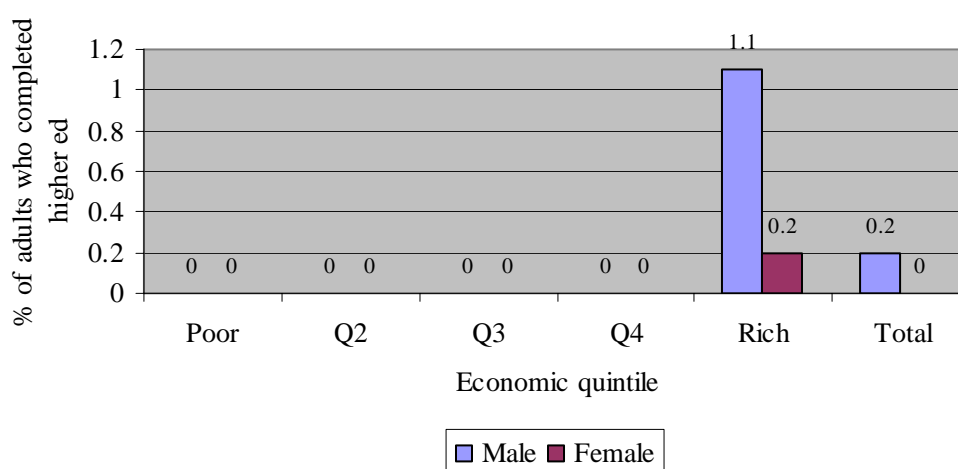


Source: Student Enrolment in Higher Learning Institutions (MHEST, 2005: Summary 2)

3.4 Socio-economic Background of Students in Higher Education

National data on enrolment in higher education in Tanzania are not disaggregated by socio-economic background. Demographic and Health Survey data indicate that those students who have completed a higher education have predominantly been men from wealthier backgrounds, as Figure 16 illustrates.

Figure 16: Who completes higher education in Tanzania? Percentage of adults completing higher education (age 25+) by socio-economic quintile and gender, 1999



Source: World Bank Development Indicators, Tanzania DHS Survey, 1999. DHS data indicator 26 (World Bank, 2007).

3.5 *Additional Dimensions of Diversity amongst Students in Higher Education in Tanzania*

Participation in higher education in Tanzania is shaped by dimensions of inequality that include religion, region, and ethnicity (Cooksey *et al*, 2003), although without appropriate national data it is difficult to quantify national patterns. The MHEST collates information about participation for disabled students, and in 2005/6 recorded 54 students with disabilities in total for all public universities (MHEST, 2006).

4. Conclusion

Enrolment in higher education is growing in both Ghana and Tanzania, and yet participation remains limited. Since the early 1990s, both countries have experienced tremendous growth in the numbers of students at public universities, and witnessed a rapid increase in both the number of private institutions and the number of students enrolled in them. Whether this expansion in enrolment reflects broadening participation is difficult to tell from the data available. Participation rates for women have increased since the 1990s but they remain far from equitable. Whether increased enrolment has improved access for students from poorer backgrounds is unclear. The limited statistics available give rise to a broad profile of expanding, but limited and inequitable participation in higher education. The collection of statistical information at a public and private institution in each country will enable the project to contribute to a better understanding of whether increased participation is widening participation for students from different socio-economic backgrounds and students at an older age.

Table 13: A Summary of indicators of participation in higher education in Ghana and Tanzania

Indicator	Ghana	Tanzania
Gross Enrolment Ratio	3%	1%
% Female in HE sector	32%	30%
Gender Parity Index	0.48	0.41
% Female in private universities	41%	36%
Enrolment in universities	93,285	49, 948
% enrolment in universities (private)	10%	10%
Outbound mobility ratio		5 %
Number of public universities	6	5
Number of private universities	13	17

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