

# Massification in Higher Education Institutions in Africa: Causes, Consequences, and Responses

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## **Abstract**

Most public higher education institutions in Africa, in response to historical conditions, have enrolled students in excess of their capacity, resulting in massification and negative consequences on educational quality. Increased enrolment has addressed issues of equity; but the equally important issue of ensuring equity in success for the enrolled students has received limited attention. Apparently graduation rates in higher education in Africa remain fairly low. Higher education institutions have taken several corrective measures to address the consequences of massification. Governments have also created new institutions and put quality assurance systems in place. There have also been continental responses. Sub-Saharan Africa has the lowest tertiary enrolment of any world region, a handicap in its development. It must also meet the demands of its rapidly increasing secondary school graduates. There is a compelling need to further increase tertiary enrolment, a situation that challenges both institutions and countries. The growth in private higher education, if regulated and quality-controlled, could relieve this pressure.

Pour des raisons historiques, la majorité des établissements d'enseignement supérieur d'Afrique admet plus d'étudiants qu'elle ne peut en accueillir. Ceci conduit à la massification de l'enseignement supérieur et a des conséquences négatives sur sa qualité. L'augmentation de la participation a permis de répondre à des problèmes d'équité, mais la tout aussi importante question de l'équité dans la réussite des étu-

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dians admis a reçu une attention limitée. Le taux de réussite dans l'enseignement supérieur en Afrique reste faible. Les établissements d'enseignement supérieur ont mis en place plusieurs mesures visant à corriger les conséquences néfastes de la massification. Les gouvernements ont aussi créé de nouvelles institutions et mis en place des systèmes d'assurance qualité. Des réponses ont par ailleurs été proposées à l'échelle du continent. Cependant, l'Afrique sub-saharienne a le plus faible taux d'inscription dans l'enseignement supérieur du monde, un handicap pour son développement. Elle doit aussi répondre aux demandes d'une population de diplômés du secondaire qui augmente rapidement. Il est impossible de nier la nécessité d'augmenter les admissions dans l'enseignement supérieur, une situation qui pose des problèmes aussi bien aux établissements qu'aux nations. La croissance des établissements privés pourrait permettre de relâcher la pression, s'ils sont correctement régulés et contrôlés en termes de qualité.

### Historical Background

Centres of higher learning have existed in Africa for several centuries, well before the arrival of Europeans. Examples of these are the University of al-Karawiyyin in Fez, Morocco; Al-Azhar University in Cairo, Egypt; and the University of Timbuktu in Mali. However, modern higher education in Africa has its roots in university colleges that were created by and affiliated with European universities during the colonial period. They were staffed by Europeans or Africans trained in Europe, and their major objective was training the workforce for the public sector and teachers for the rapidly expanding secondary education sector. These institutions were patterned on the European higher education system; and after the colonies achieved independence in the 1960s, the colleges became universities. Again, their academic structure, governance mode, course curricula, and methods of instruction were modelled on European universities. They were all created in the major cities, meant for the elite of African society, and alienated from the rural areas where the majority of the population lived and where the development challenges were greatest. It is hardly surprising therefore that the relevance of such higher education institutions to Africa's post-independence development has often been questioned.

For a couple of decades after independence, African universities thrived with generous support from Europe; and several developed into centres of excellence, including such as Makerere University in Uganda, the University of Ibadan in Nigeria, the University Cheikh Anta Diop in Senegal, and the University of Khartoum in Sudan.

However, severe deterioration in African economies in the late 1970s and 1980s made it difficult for governments to invest in higher education. And exacerbating factors were budget cuts as a result of externally imposed structural adjustment programmes, with accompanying limits on the financing of higher education. That period coincided with major national and inter-state conflicts in Africa, resulting in poor governance and even dictatorship in some countries. African universities, having inherited the concept of academic freedom from the West, did not hesitate to criticise their governments and soon came to be regarded as hotbeds for political opposition. Restrictive governments inevitably responded with increased involvement in university affairs. As a result, many African universities witnessed the flight of their academics, often persecuted, to countries in the North. One example is Makerere University in Uganda where several leading academics disappeared, allegedly killed by President Idi Amin, while others fled the country, bringing the famous institution to its knees (Mohamedbhai, 2011).

Since independence, the demographic situation in Sub-Saharan African countries has been characterised by rapid population growth, a profile in which youth formed an increasingly larger ratio. Effective measures taken in the 1980s to improve access to primary education resulted in a dramatic increase in output from that sector, and, in due course, increased secondary education enrolment and a steadily burgeoning proportion of secondary education graduates with legitimate expectations for tertiary education. Higher education institutions then faced enormous social and political pressures to increase their enrolments, which they did—well beyond what they could accommodate and in spite of critical shortages in human, physical, and financial resources.

In the 1990s came another blow. The World Bank, based on the findings of some economists that later proved to be erroneous, came to the conclusion that the rate of social return on investments in tertiary education was lower than in basic and primary education and accordingly significantly reduced its tertiary education sector spending in Africa. This policy influenced other donor and development agencies to follow their lead in reducing spending for tertiary education. This policy had severe repercussions, not only on the development of higher education, but also on development generally in Africa. Hence, throughout the 1980s and 1990s, higher education institutions in Sub-Saharan Africa suffered from abandonment and underfunding.

In 1998, the UNESCO World Conference on Higher Education (UNESCO, 1998) issued a declaration emphasising the importance of higher education in addressing development challenges. From the

beginning of the 21st century, support for higher education in developing countries was renewed, and African universities began experiencing revitalisation. A decade later, in 2009, the UNESCO World Conference on Higher Education held a special session on Africa and noted that, although progress had been made since 1998, higher education in Africa still faced many challenges (UNESCO, 2009).

The terms “higher education” and “tertiary education” are often used interchangeably to denote post-secondary education. “Tertiary education” is more encompassing and covers all post-secondary education. “Higher education” normally refers to education leading to a degree. Most international statistics are in terms of tertiary education.

### Massification of Higher Education: The Global Perspective

In the first half of the 20th century, higher education in European and other industrialised countries was mainly reserved for social elites, mostly males, and accessible to only a small proportion of the population. The latter part of the 20th century, however, witnessed a democratisation of higher education and a shift from the elitist to mass higher education. Thus, in OECD countries, the proportion of adults with higher education qualifications doubled from 22% in 1975 to 40% in 2000 (Wooldridge, 2005). The term “massification” was coined to describe this massive increase in enrolment in higher education.

Trow (2000) provided an interpretation of “massification” of higher education by suggesting that, depending on the proportion of enrolment in a country’s higher education system, it would transition from “elite” to “mass” to “universal” higher education. He proposed that a country having a national enrolment of up to 15% of the relevant age group be considered as having an “elite” higher education system; one with an enrolment of 16-50% as having a “mass” system; and one with more than 50% enrolment as a “universal” system. However, this classification was first proposed in 1973, at a time when substantial quantitative growth in higher education enrolment worldwide had not yet taken place, and it refers to national higher education systems, not to institutions. Also, it was relevant to countries which already had a well-established higher education system in the mid-20th century, such as the USA or Europe, but which was not applicable to, for example, African nations, which started establishing their systems almost from scratch around that time.

One way of interpreting Trow’s classification is that an elite system caters to a privileged or talented group; a mass system considers higher education as a right for those who are qualified; and a universal one as society’s obligation to the population (Quintero-Re, 2011). It has,

**Table 1.** Gross Tertiary Enrolment Ratio (GTER, 2000-2011) and Gender Parity Index (GPI, 2010) in different world regions

Region	GTER (%)				GPI
	2000	2004	2008	2011	2010
Arab States	18	20	22	23	1.02
Central & East Europe	43	55	64	68	1.26
Central Asia	21	26	26	24	1.09
East Asia & the Pacific	16	22	26	30	1.05
Latin America & the Caribbean	23	29	39	42	1.28
North America & Western Europe	60	68	71	77	1.32
South & West Asia	9	10	14	18	0.76
Sub-Saharan Africa	4	5	6	8	0.62
WORLD	19	23	27	30	1.08

Source: UNESCO Institute for Statistics (2013)

Note: GTER is the total enrolment in tertiary education, regardless of age, expressed as a percentage of the population in the five-year age group following the secondary school leaving age, usually 18. GPI is the ratio of female to male enrolment in tertiary education.

however, been suggested that massification should be considered as an upward achievement in credentials by an increasing number of the population rather than a shift in social attitudes towards higher education by the community (Scott, 1995, qtd. in Quintero-Re, 2011). In any case, a system that has achieved a mass or universal status can still have, within it, an elite sub-system. This is true today in many developed countries (e.g., the USA and UK) in which elite and so-called world-class universities exist as separate entities within an overall mass or universal higher education system.

The expansion of tertiary education in different regions of the world can be gauged from Table 1 which shows the increase in the Gross Tertiary Enrolment Ratio (GTER) over 2000 to 2011. Tertiary enrolment in Sub-Saharan Africa and South and West Asia, which was very low in 2000, doubled in 2011. In Central Asia and Eastern Europe, enrolment increased by 25%, in Latin America and the Caribbean by 19%, and in North America and Western Europe, which had by far the highest enrolment in 2000, by 17%. According to Trow’s definition, all the regions, except Sub-Saharan Africa, had experienced mass higher education in 2011, with two regions—(a) North America and (b) Western Europe/Central and Eastern Europe—having achieved universal status. Higher education in Sub-Saharan Africa would be considered elitist. But a large proportion of Africa’s “elite” pursue their

studies outside Africa (or outside their native country), while most of the countries in North America and Western Europe have an elite sub-system of higher education. Nor would one describe higher education in Central Asian and Arab countries as having reached massification. This comparison again illustrates that, given the dramatic changes that have taken place in the higher education sector worldwide over the past few decades, Trow's definition may no longer be appropriate now. Perhaps a single enrolment ratio, say 60%, could be used to determine whether massification has been attained in a national higher education system.

### Tertiary Enrolment in Sub-Saharan Africa

Although the GTER for Sub-Saharan Africa is the world's lowest and does not appear to have significantly increased recently in comparison to growth in other world regions, paradoxically actual numerical tertiary enrolment has dramatically increased over the past few decades. In 1970, tertiary enrolment in the region was less than 0.2 million and this figure increased to over 4.5 million in 2008 (UIS, 2010). In Nigeria alone, which has the largest tertiary education system in Africa, tertiary enrolment doubled from about 0.7 million in 2000 to 1.4 million in 2005. The annual increase in GTER for Sub-Saharan Africa was 8.6% between 1970 and 2008, compared to 4.6% globally. Table 2 shows the increase in enrolment over the period 2000 to 2011 for a few selected countries for which data are available. Some of the countries, for example, Ethiopia, Mozambique and Rwanda, have experienced staggering increases in enrolment.

**Table 2.** Increase in Tertiary Enrolment in Selected African Countries

Country	Year			Ratio 2011/2000
	2000	2005	2011	
Burkina Faso	11,100	27,942	60,998	5.5
Cameroon	65,697	99,864	244,233	3.7
Ethiopia	67,732	191,212	632,344	9.3
Madagascar	32,046	44,948	85,548	2.7
Mozambique	11,619	28,298	113,464	9.8
Rwanda	9,357	27,787	73,674	7.9
Uganda	55,767	90,000	289,545	5.2

Source: UNESCO Institute for Statistics (2013)

There is inevitably significant variation in tertiary enrolment among countries in the region. In 2009, when the overall GTER for Sub-Saharan Africa was about 7%, that ratio was as low as 0.5% for Malawi, 2.0% for Chad and Eritrea, 2.5% for Central African Republic, and 2.7% for Burundi. On the other hand, some countries had significantly higher ratios—for example, 25.9% for Mauritius, 14.9% for Cape Verde, 9.2% for Guinea, 8.9% for Namibia, and 8.4% for Côte d'Ivoire (UIS, 2010).

The annual increase in tertiary enrolment of 8.6% in Africa has been greater than the population growth in the relevant age group, but the demand for access to tertiary education has continued to increase because of improved access to secondary education. In Kenya, for example, between 1963 and 2002, primary enrolment increased from 0.89 to 5.9 million, and secondary enrolment from 31,000 to 650,000. In Zimbabwe, secondary school enrolment went up from 537,427 in 1986 to 887,697 in 2006, a 65% increase (Mohamedbhai, 2008). From a regional perspective, in 2008 the GTER for Sub-Saharan Africa was 6% but the equivalent enrolment ratio for upper secondary education was 27%, 4.5 times that for tertiary education. In most of the other world regions, the enrolment ratio for upper secondary education is only about twice that of the tertiary sector (UIS, 2010).

There is a close relationship between a country's economic development and the proportion of its skilled workforce. Human capital development is a major strategy used for national development (World Bank, 2009). All the indicators show acute shortages in an appropriately trained workforce in Africa, a factor that could hamper its economic and social development at this crucial stage when the continent has emerged from a long period of turmoil and economic stagnation. Africa has experienced laudable and consistent economic growth and development over the past decade which, for it to be sustained, will require more skilled workers. African countries therefore have a responsibility to continue to increase their tertiary enrolment to be at par with other developing countries. The challenges that their tertiary education institutions face, however, are how to further increase access when they have already made huge efforts to increase enrolment, when their completion rates are relatively low, and when their graduates are finding it increasingly difficult to find employment.

### Access and Institutional Massification

The large number of qualified secondary school graduates inevitably put pressure on the tertiary sector, one gauge of which is the number of applications for admission to the institutions. For example, in Ghana the number of applications for admission to the University of

Ghana increased from 4,712 in 1988 to 17,813 in 2006, even though other public universities had been created during this time frame. In Mozambique, the number of candidates eligible to sit for the entrance examinations of the University of Eduardo Mondlane increased from about 7,000 in 1997 to over 16,000 in 2006. In most countries in Francophone Africa, access to higher education is prescribed by national policy; and all secondary school leavers having obtained a baccalaureate are entitled to admission to a university. Even in countries where university admission is regulated, as in most Anglophone universities, the social and political pressures to admit large numbers of students are inescapable.

Data showing the increase in enrolment in higher education institutions in Africa over the past decades are not easily available. A study on the effects of massification in higher education in Africa surveyed seven public universities in Africa (Mohamedbhai, 2008). These were: University Cheikh Anta Diop in Senegal; University Eduardo Mondlane in Mozambique; University of Ghana, Legon; University of Nairobi and Kenyatta University in Kenya; University of Ouagadougou in Burkina Faso; and the National University of Science and Technology in Zimbabwe. The student enrolments between 1986 and 2006 are shown in Table 3. Although there was a steady increase in student enrolment in all of the institutions from 1986 to 2006, the marked increase occurred from 1996 in particular, and especially during 2001-2006. Table 3 also shows the annual percentage of increase in enrolment aggregated over the decade 1996-2006 as well as for the period 2001-2006. The increase over 2001-2006 was considerably higher than that over the decade 1996-2006 for all the institutions except the University of Ghana and the National University of Science and Technology. The staggering 50% annual increase for Kenyatta University from 2001 to 2006 has been achieved mainly through open learning and the creation of open learning centres in different parts of the country.

What is clear is that all the institutions experienced an annual increase in enrolment on the order of 15-25%, whether aggregated over the decade 1996-2006 or over the half-decade of 2001-2006. They all accommodated numbers of students far in excess of their institutional capacity. Although the six countries had GTER values of between 1-6%, far below the threshold for massification as defined by Trow, all seven institutions reported having experienced massification, as they understood it, in their respective institutions. One institution defined massification as “enrolment of students in large numbers.” One could therefore say that the institutions had experienced “institutional massification.” A crude and simple criterion that could be used for defining

**Table 3.** Evolution of Student Enrolment in Selected African Universities, 1986–2006

University	Student Enrolment in Year				Aggregated Annual Enrolment Increase	
	1986	1996	2001	2006	1996–2006	2001–2006
1. UCAD	12,721	17,810	24,776	55,850	16%	25%
2. UEM	1,630	3,016	7,085	14,199	17%	20%
3. UG	3,564	4,514	15,991	24,480	23%	16%
4. UoN	6,506	14,606	13,772	32,305	14%	27%
5. UO	*	*	11,824	23,780	15%	20%
6. KU	*	*	7,057	21,150	N/A	50%
7. NUST	N/A	256	2,568	5,563	27%	23%

Source: Mohamedbhai (2008)

Note: 1. University Cheikh Anta Diop, Senegal; 2. University Eduardo Mondlane, Mozambique; 3. University of Ghana; 4. University of Nairobi, Kenya; 5. University of Ouagadougou, Burkina Faso; 6. Kenyatta University, Kenya; 7. National University of Science & Technology, Zimbabwe.

\*: No data available

N/A: Not applicable.

institutional massification might be the average annual increase in enrolment over the previous decade, which could be around 15-25%, although that figure would depend to some extent on the baseline used for the institution's student population.

National massification usually has a positive connotation because it indicates an increased degree of access to higher education. Institutional massification, on the other hand, can have either a positive or a negative connotation. It would be positive if the institution had adequate resources to cope with the rapid increase in enrolment, negative if it did not. The determining factor for institutional massification, then, is the institution's carrying capacity. Determining the carrying capacity, and establishing the criteria to be used, can be a complex exercise, especially as many institutions now use dual mode provision—both face-to-face and open and distance learning. Many countries, including those in Africa, have established minimum accreditation standards in terms of, for example, staff/student ratios, requirement per student of lecture room space, laboratory space for lab-based programmes, number of books and computers, etc. Such specifications, which need to be contextualised for each region, could prove a useful guide in determining whether massification has been positive or negative for an institution (Mohamedbhai, 2008).

### Equity in Access

An issue closely related to access is equity. All societies have inequities whose origins can be social, racial, gender, or ethnic, to mention only a few. Such inequities are often reflected in the distribution of student participation in higher education. The measures commonly used to redress inequity in higher education are affirmative action in the selection of students, reservation of a quota for a particular disadvantaged group, or provision of financial assistance to those unable to fund their own educations.

In Sub-Saharan Africa, a major concern is gender inequity in higher education. Table 1 shows that, in 2010, the ratio of female to male enrolment, referred to as the Gender Parity Index (GPI), for Sub-Saharan Africa was the lowest of any world region—only 62 female students for every 100 male students enrolled. There are, of course, variations among countries and even among different disciplines in a particular institution. For instance, a greater proportion of women are enrolled in humanities and social sciences than in engineering and technology subjects.

Data show that gender parity improves with increasing access and enrolment. For example, at the University of Ghana, the enrolment of female students increased from 925 in 1991, which was then 20% of total enrolment, to 11,748 in 2006, representing 41% of total enrolment (Mohamedbhai, 2008). Countries such as Mauritius, Cape Verde, and Namibia, which have high GTER values, also have GPI values in excess of 1.0. Another factor that helps in achieving gender parity is a country's level of wealth. Again, statistics for Sub-Saharan Africa indicate that countries with higher levels of wealth report higher enrolment rates for women than men (UIS, 2010). At the University of Mauritius, for example, in 2012 women accounted for about 59% of the total enrolment (TEC, 2013). Even the University of Technology, Mauritius, which, as its name indicates, runs mainly technology-related programmes, had almost gender parity in student enrolment in 2012. Mauritius has the highest GTER in the whole of Africa and also has one of the highest GDP per capita value in Africa.

Affirmative action has been used in some African countries to increase female enrolment. At the National University of Science and Technology in Zimbabwe, by lowering the entry requirements for female applicants, the proportion of female students increased from 14% in 1991 to 33% in 2007. Kenya adopts a similar admission policy of affirmative action favouring female applicants in its public universities. The figures show that female enrolment at the University of Nairobi, which was 22% of enrolment in 1991-1992, increased to 34% in 1996-1997. Kenyatta University went further in its admission policy

by additionally lowering the admission requirement for female students wishing to study a science and technology programme. In 2007, nearly 50% of Kenyatta University's student population were females, although women were still grossly under-represented in science and technology programmes (Mohamedbhai, 2008). Whether the increase in female enrolment would have occurred without affirmative action as access and enrolment increased over time is difficult to assess. What is important is that affirmative action needs to be constantly monitored and, if necessary, adjusted. Otherwise it can perpetuate the very condition it tries to redress.

Increasing access, however, can exacerbate inequalities (Altbach, 2010). In the name of equity, many African countries either charge minimal or no tuition fees to students admitted to public universities, or provide them with bursaries to cover their costs. But often, the majority of the beneficiaries of such actions are those who can afford to pay for higher education, since those who get admitted usually come from the best secondary schools and from well-educated and affluent families. This is the case at the University of Mauritius where admission is restricted and where all the best-qualified students admitted to undergraduate programmes do not pay tuition fees, although a large majority of them can afford such fees. No financial means test is applied to exempt only those who cannot pay fees.

A slightly different inequity situation existed in Kenya until very recently. There, selecting students for admission to all public universities is done centrally. The selected students are sponsored and pay a highly subsidised tuition fee. However, the popular professional programmes, such as medicine, law, and engineering, have a restricted quota of sponsored students, and any additional students for the same programmes have to pay a much higher fee for admission as "private" students. Thus, well-qualified candidates who do not fall within the quota and also cannot afford the fee have to opt for less popular programmes, whereas lesser-qualified candidates who can pay are admitted as private candidates (Mumene, 2013). A similar situation prevails at Makerere University in Uganda. In the long run such inequity could lead to a greater social divide among the population.

Perhaps no country in the world has been challenged as much as South Africa in its attempt to overcome the overtly racial inequity in higher education after the end of apartheid in 1994. The ensuing government laid out a series of policies, guided by its new constitution, to achieve "race-blindness" in higher education. Not only was there a need to increase black students' access to higher education and to raise their proportion in institutions of higher education so as to reflect the

country's racial demography, but the institutions themselves, which had been established on purely racial grounds, had to be transformed through a series of mergers to achieve these goals. Another challenge that had to be addressed was to ensure that poor black students were not debarred from access to higher education. To that end, in 1999, the South African government established a National Students Financial Aid Scheme for providing funds to qualified, needy students. To a significant degree, racial inequity in access to higher education has been redressed. In 1990 black students represented only 32% of total university enrolment; in 2000 they represented 60%, and in 2010 that figure had increased to over 70%. A significant number of poor black students have benefited from this increased access to higher education (Machingambi, 2011).

In order to widen access to marginalised groups, some institutions in Africa, in selecting students for admission, have resorted to the use of more flexible entry requirements rather than solely relying on secondary school performance or merit-based assessment. The University of Cape Town in South Africa, for example, has developed a series of admission tests to identify students who may not meet the specified entry requirements but who may have the potential to succeed (Essack, 2012).

While higher education institutions have a responsibility to ensure equity in access, it must be acknowledged that inequity in higher education has its roots in the lower levels of education. It is essential to redress inequity at those levels and ensure quality education at both primary and secondary levels for equity measures at the level of higher education to be effective.

### **Equity in Success**

Making higher education accessible to a wider population on grounds of equity is a laudable effort, but it has little meaning if it does not result in the enrolled students successfully completing their education. Data on dropout or attrition rates and on successful completion or graduation rates in higher education in Africa are scarce. Few countries systematically record such data, and even fewer publish and make them available publicly. Generally, the dearth of reliable and up-to-date data on higher education at national and institutional levels in African countries is a matter of concern. It would be difficult for countries and institutions to formulate appropriate policies without such data.

A study by the Harvard University Anderson Research Group (HUARP, 2006), based on country studies and a survey of African graduate students, estimated that, on average, only about 50% of enrolled students in Sub-Saharan Africa graduate. A significant variation can

be expected between countries, between institutions within a country, and even between departments within an institution. For example, mathematics students reported very high attrition rates: 95% in Central African Republic, 85% in Madagascar, and 75% in Niger. Nigerian students, on the other hand, reported a relatively lower dropout rate of around 20% in their institutions.

There can be several reasons for the high dropout and/or low graduation rates. First, the under-prepared status of the students, especially those from rural areas and from poor-quality secondary schools, can be a determining factor. As enrolment and institutional massification increase, and as students from a wider range of socio-economic backgrounds and with different educational abilities are admitted into higher education, one can expect dropout rates to increase. Second, many students from poor socio-economic backgrounds, having enrolled in a programme, may find the tuition fees and living expenses unaffordable, especially if they do not receive any grant or scholarship. Third, language proficiency has a direct impact on performance. Almost all universities in Sub-Saharan Africa use a European language, which, in almost all cases, is not the students' mother tongue. Yet another reason is the frequent closure of campuses as a result of student unrest. Such closures are common occurrences in Africa, and they result in a loss of a semester or even a full academic year, causing disinterest among students.

Essack (2012) identifies a number of post-admission strategies that could be applied to ensure that equity in access for marginalised groups is translated into equity in success. These include the orientation of new entrants to facilitate their transition from secondary schools to the different culture of higher education, creating a receptive institutional environment that celebrates diversity in achievements, providing appropriate remedial programmes for students in need of them, adapting the curriculum and pedagogy specifically for slower learners, putting in place an adequate mentoring system which identifies students experiencing difficulties and allows timely intervention, and providing student counselling and welfare services.

A recent report on South Africa's graduate output (CHE, 2013) provides some alarming figures: only about 25% of students in face-to-face institutions graduate in the prescribed time for an undergraduate degree; only 35% of the total intake graduate in five years; and some 55% of the intake will never graduate. The report also found that the success and completion rates have remained racially skewed, with white students having much higher completion rates than black students, thus counteracting the expected results in ensuring equity in access. It therefore proposes that all degree and diploma programmes in South Africa,

which are currently of three- or four-year duration, be extended by one year, but that flexible provision be made to allow students who can complete a programme in a shorter time to do so. This recommendation is based on data showing that students from socially disadvantaged backgrounds who currently follow bridging or foundation courses on an extended degree programme offered at several universities do catch up and manage to perform well. Although the findings and conclusions of this report are specific to the situation in South Africa, they could well be relevant to other African countries.

### **Consequences**

Massification has had negative consequences on almost all of the public higher education institutions in Africa, including physical infrastructure, staffing, educational quality, graduate employment, and student mobility.

#### *Physical Infrastructure*

Because of widespread shortages of public funds for expansion, the physical infrastructure at the institutions has not increased proportionately with increased enrolment. The available lecture rooms and theatres as well as laboratories, academic staff and administrative offices, and even sanitary facilities are grossly inadequate to meet the needs of the enlarged student and staff population. Libraries have also suffered. Most institutions have an acute shortage of books and periodicals.

Some laboratory equipment is non-functional and has not been replaced. Students' residences must now accommodate three or four times the number of students they were designed for. The situation has been compounded by lack of maintenance, resulting in a general degradation of the institutional physical infrastructure (Mohamedbhai, 2008).

#### *Staffing*

Most institutions have been unable to recruit additional academic staff to cope with the increased enrolment, either because of shortage of funds or unavailability of qualified candidates. The result has been that staff/student ratios have increased to 1:40 and in some specific departments even up to 1:100. Institutions have had to resort to part-time staff who are not always adequately qualified or experienced in teaching at the higher education level. The teaching load of full-time staff has inevitably increased and this, coupled with increased administrative responsibilities, has meant that they have little time to devote to research.

Exacerbating the problem is that the proportion of staff with a PhD is relatively low, which means that these staff members are not in a

position to promote postgraduate programmes or supervise research, both vital for Africa. Indeed, research output from higher education institutions in Africa is unacceptably low.

#### *Accreditation*

A direct consequence of the poor quality of educational provision resulting from massification has been the non-accreditation of university departments and programmes or non-registration of graduates by the relevant professional bodies. In 2010, Nigeria's National Universities Commission, the national higher education regulatory body, withdrew accreditation for several academic departments in more than 20 universities. The assessment criteria used by the commission include the number of academics with a PhD and the available infrastructure (UWN, 2010).

A year later in 2011, the Engineering Registration Board of Kenya refused to recognise the engineering degrees awarded by three of Kenya's leading public universities. The reasons given by the board were that the quality of the curricula was poor, the universities lacked qualified lecturers, and they lacked facilities to cope with the rising student numbers. Around the same time and for similar reasons, the Council of Legal Education of Kenya rejected the applications of law graduates from some public and private universities for admission to the Kenya School of Law, a key requirement to enable them to practice law (UWN, 2011).

#### *Graduate Unemployment*

With massification and increasing enrolment, the output of graduates from African higher education institutions has inevitably increased. It is generally believed that, in recent years, the higher graduation rate has also resulted in an increase in unemployment among graduates, especially graduates of public institutions. There are hardly any up-to-date studies on graduate unemployment in Sub-Saharan Africa. However, a study on graduate unemployment carried out in 2008 surveyed 23 countries in Sub-Saharan Africa and found that, in nine of those countries, graduate unemployment was less than 10%; in five of them it ranged between 10-20%; and in the other nine countries it was more than 20% (Mingat & Majgaard, 2008). Noteworthy was the fact that eight of the nine countries where unemployment was high were Francophone.

Graduate unemployment can be attributed to several reasons. They include the poor quality of educational provision; the mismatch between the educational curricula and the needs of the labour market; a lack of practical and "soft skills" which are much sought after by employers;



and the poor absorptive capacity of the private sector in Africa. Few institutions carry out tracer studies of their graduates or undertake employer surveys to determine their requirements, yet such studies can be highly influential in bringing about institutional reforms. With expected further increases in student enrolments and graduate outputs, graduate unemployment is a matter that deserves serious attention, not just by the institutions but also by policymakers.

#### *Private Higher Education*

Massification and the inability of public institutions to cope with the increasing demand for higher education led to the emergence of private institutions in Africa about two decades ago, and they have proliferated rapidly. The institutions vary significantly in nature: some are for-profit local institutions offering diploma and certificate courses and operating on commercial grounds; others are not-for-profit, mostly faith-based, local universities; and still others are foreign cross-border providers (Varghese, 2006). The latter range from course delivery through a local private college or organisation (but rarely a local public university) to, more recently, a physical presence in Africa through a branch or satellite campus.

In many cases, especially in those institutions that operate on a purely commercial basis, the quality of educational provision by private institutions is questionable. Figures vary from country to country and depend on the type of institutions and courses offered; but in many African countries, gender parity in private institutions is better than in public institutions. Currently, the number of private institutions in Africa, estimated to be about 468 in 2007 (World Bank, 2009), exceeds the number of public ones, but their student enrolment is lower.

**Table 4.** Public and Private Tertiary Student Enrolment in Selected African Countries

Country	Student Enrolment (2010–2012 figures)			
	Total	Public	Private	% Private
Cameroon	243,233	207,887	35,346	15%
Ghana	295,344	235,445	59,899	25%
Madagascar	85,548	69,349	21,199	25%
Mozambique	113,464	80,010	33,454	29%
Rwanda	73,674	37,902	35,772	49%
Senegal	92,106	62,106	30,000	33%

Source: UNESCO Institute for Statistics (2013)

Table 4 shows the proportion of private students in a few selected African countries. The range is roughly between 25–50%. However, with public universities having to charge tuition fees, with regulatory bodies set up to ensure the quality of private provision, and with the fact that most private institutions target specific market needs which facilitates graduate employment, private student enrolment is likely to increase significantly in the future.

#### *Student Mobility*

Massification in public higher education institutions has also resulted in excessive student mobility from Africa. A significant number of African students, more than in any other world region, study outside their own country. In 2008, some 223,000 students from Sub-Saharan Africa, representing 75% of the total of mobile students in the world, were enrolled in institutions in foreign countries. Globally, on average roughly 2% of locally enrolled tertiary students in any country study in a foreign country; in Sub-Saharan Africa that figure is nearly 5% (UIS, 2010). This situation has direct implications for the brain drain phenomenon, as almost 75% of the mobile students study outside Africa. Of the remaining 25% who study in Africa, the majority opt for one country—South Africa.

#### **Institutional Responses**

Public universities in Africa have devised several approaches and strategies to cope with the challenges of massification (Mohamedbhai, 2008), among them LMD reform, open and distance learning, decentralisation, ICT solutions, and changes in student residential facilities.

#### *LMD Reform*

As part of the LMD (Licence-Maitrise-Doctorat) reform, based on similar reforms in Europe under the Bologna Process, Francophone African universities have adopted the modularisation of courses and the use of two semesters in an academic year. Modularisation has helped students complete and compile modules as they progress in their courses, a measure that has improved their success rate. Semesterisation has reduced the burden on staff of holding all examinations at the end of the academic year, and staff now have the flexibility of deciding which modules to teach in each semester.

#### *Open and Distance Learning*

The use of open, distance, and e-learning has helped to reduce the number of direct contact hours required, thus liberating the use of

some lecture rooms. A large number of universities have established centres for distance learning to complement face-to-face teaching with distance or online learning, or even to increase enrolment in spite of the limitation of resources.

Kenyatta University in Kenya has created an Institute of Open, Distance, and e-Learning (IODEL), not only to promote blended learning for its full-time students, but also to significantly expand access through part-time programmes by creating open-learning satellite centres in different parts of the country.

#### *Decentralisation*

To meet the demands of increased enrolment, universities have also deployed a strategy of decentralisation or the delocalisation of their activities from the main campus. The University of Ghana, located in Legon off the city centre of Accra, has created a second campus in Accra, administered by a principal, and has moved a number of its programmes to that location. The University of Cheikh Anta Diop in Senegal rents space from schools and other institutions in the vicinity when the premises are not in use. The University of Eduardo Mondlane in Mozambique has scattered its faculties, schools, and services throughout the city of Maputo. Some are even located in other regions/provinces of the country. The University of Nairobi, Kenya, has six other campuses at distances varying from two to 24 km from the main campus in the city centre.

#### *ICT Solutions*

Many public universities are using information and communication technologies (ICT) in a myriad of ways for coping with massification. One approach is the inter-connection of several lecture rooms so that a lecture delivered in one can be simultaneously transmitted in the others by video-conferencing, as is being done at the University Cheikh Anta Diop in Senegal. At the University of Ghana, (LCD) live practicals are projected through close-circuit television so that they can be watched by a much larger group of students. Because of the large number of students, ICT has also been effectively used for: assessment of students and processing of examinations results; admission and registration of students for different programmes; use of a specially designed software in providing the optimal planning of lecture rooms to avoid clashes; and the automation of library services.

There is hardly any information available about the use of the cell phones by institutions as a means of facilitating communication between staff and students to reduce the negative effects of large enrol-

ments, yet Africa has the highest growth rate in the use of mobile cellular phones in the world. Many universities, especially those in the United States, have made effective use of social media, such as Facebook, for improving teaching and learning and African universities could learn from their experience.

#### *Changes in Students' Residences*

Most public universities in Africa, the majority of which are residential, were not designed to accommodate large numbers of students. As a result of massification, they have had to take initiatives to improve the quality of life of the students, both in their residences and on campus. A major challenge has been the provision of residential facilities.

The University of Ghana's initiative is particularly interesting. It has given up part of its land for the development of private hostels, which are then rented to students. Other universities have assisted students in identifying suitable accommodation off campus and in negotiating suitable rentals on their behalf. However, as student numbers continue to grow, higher education institutions need to re-think their role and responsibility in the provision of students' residences.

#### **National and Continental Responses**

Several targeted national and continental responses have addressed the consequences of massification, among them quality assurance, cost sharing, creation of new institutions and open universities, and the promotion of research.

#### *Quality Assurance*

Ensuring quality is one of the most important responses to be targeted in Africa. It was, in fact, the felt need to regulate private higher education institutions that initially prompted the establishment of accreditation and quality assurance mechanisms at the national level. However, in view of the deterioration of quality in public institutions, these, too, were soon placed under the purview of quality assurance agencies.

The first quality assurance agency was set up in 1962. In 2012, 21 African countries had established quality assurance agencies, and nearly a dozen other countries were finalising their establishment (Shabani, 2013). All the agencies now make no distinction between private and public institutions in their approach to ensuring quality.

A 2007 World Bank report (Materu, 2007) identified several challenges faced by national quality assurance agencies. These include: (a) a dearth of adequately trained professional staff at the agencies and in the institutions to undertake the institutional reviews, and (b) a lack of

funds. Capacity building and funding are therefore the main issues that need to be addressed in promoting quality assurance.

Two continental initiatives have also been undertaken to address quality issues in higher education in Africa. First, the African Quality Assurance Network (AfriQAN) was established in 2009, located at the secretariat of the Association of African Universities in Accra, Ghana. AfriQAN facilitates collaboration among existing national quality assurance agencies and helps countries to establish such agencies. Second, the African Union Commission has developed an African Quality Rating Mechanism to assist higher education institutions in improving their quality, making them globally competitive and locally relevant. A pilot run was implemented in 2010; and based on the outcome, the rating mechanism will be amended and extended to cover a much wider range of African institutions.

#### *Cost Sharing*

Because of their inability to continue providing increased public funding to higher education institutions, especially with increasing enrolments, several African governments have introduced cost-sharing measures by charging their students tuition fees.

It was estimated that, in 2009, at least 26 countries in Africa were charging tuition or other fees from students. As the World Bank (2010) study clarifies, the introduction of such fees on equity grounds has been accompanied by financial aid programmes or student loan schemes for needy students. In 2009, at least 13 African countries, mostly Anglophone ones, had introduced student loan schemes. However, these schemes have proved to be less effective and have been difficult to sustain for several reasons, including the low interest rates, which makes them attractive to students but financially unsustainable; significant attrition rates among graduates; very long periods of repayment resulting from high graduate unemployment that prevents graduates from beginning to repay their loans; and the inability to legally enforce debt collection.

#### *New Institutions*

In order to decentralise university education from the urban areas and reduce the pressure of intake on existing universities, a growing number of African governments have established new universities. These new institutions have often been set up in different regions of the country, quite frequently on the basis of political or ethnic considerations. This has happened in the Democratic Republic of Congo, Ethiopia, Ghana, Kenya, and Zimbabwe, to name a few. The new uni-

versities are either upgraded branch campuses of existing universities, converted technical colleges or polytechnics, or institutions established from scratch.

In some countries, the new universities have appeared at an alarming rate. In Ethiopia, for example, the number of public universities increased from nine in 2004 to 32 in 2012; in the Democratic Republic of Congo, from a handful only a few years ago to 36 now.

Despite the obvious good intentions motivating such actions, the haste has created undeniable problems. In addition to other resources, the newly established universities require qualified staff for teaching, and that is the major challenge. In Ethiopia, Addis Ababa University, the oldest institution, has been charged with the mammoth task of training the staff for the emerging universities. Moreover, the lack of resources can seriously jeopardise the quality of educational provision in the new universities. Also, the upgrading of existing technical colleges and polytechnics, vital for Africa's development, is often done without planning to replace them, a development that can negatively impact the differentiation needed in tertiary education in a country because it leads to a serious skills gap.

#### *Open Universities*

To quickly increase tertiary enrolment and especially to provide learning opportunities to those who cannot follow full-time programmes, several African countries have set up open and distance learning universities. The oldest in Africa is, of course, the University of South Africa (UNISA), which reaches out to the whole of the continent. Nigeria in the 1980s, and Tanzania and Zimbabwe in the 1990s, followed suit. At the beginning of the 21st century, Zambia and Sudan established their open own universities. The most recent institution is the Open University of Mauritius. Mauritius, a small island nation with a population of around 1.3 million and the highest tertiary enrolment in the whole of Africa, set up its open university in 2012. The vision of this university is to reach out, not only to learners in Mauritius, but also worldwide. It is noteworthy that no open university has yet been set up in any Franco-phone African country, although one is planned for Senegal. This is an area worthy of development.

While open universities indeed increase access, they are also known to have a high rate of attrition and a low completion or success rate. Also, they require good technical back-up and well-trained programme developers, both of which are in short supply in Africa. Moreover, they need to provide well-resourced learning centres in different regions of the country, often in different countries. These, too, are not easily estab-

lished in the African context. All of these elements can have an impact on the quality of the programmes offered by the open universities.

### Research

Conscious of the lack of postgraduate studies and high quality research in Africa and of the resource constraints facing African universities, the African Union Commission has launched the Pan African University, a network of five existing institutions in the five regions of Africa, each one having expertise in an identified area. Each node of the network will then network with other institutions specialising in the identified area, thus sharing resources and building research capacity. The World Bank, in collaboration with the Association of African Universities, has launched an initiative of creating centres of excellence in Africa, with objectives similar to those of the Pan African University. The idea behind this initiative is to initially strengthen about 15 higher education institutions in West and Central Africa and empower them to create centres of excellence for training and research in areas relevant to Africa's development. Both initiatives are in their formative stages and are initially dependent on external funding support. It is important to make provision for their long-term sustainability.

### Conclusions

With the exception of those in Sub-Saharan Africa, countries in all regions of the world have undergone massification in their higher education system. However, Trow's (2000) interpretation of massification at national level, established in the 1970s, may no longer be appropriate. A better criterion for massification might be that a country has reached a tertiary enrolment of 60% or above.

The tertiary education enrolment in African countries is unacceptably low and needs to be significantly increased to enable the maintenance of the continent's development trajectory. Paradoxically, almost all higher education institutions in Africa have experienced massive increases in student enrolment, or "institutional" massification, well beyond their carrying capacity. A crude and simple criterion that could be used for determining institutional massification is that the average annual increase in enrolment over the previous decade has been around 15-25%. It is important for institutions to meet the minimum accreditation standards related to their carrying capacity to ensure that they are not adversely affected by massification. The problem here is that most institutions do not keep good records of their institutional statistics. This situation must be urgently rectified as policy formulation and reform can only be guided by accurate institutional data.

There is every indication that the output from the secondary school sector will continue to increase, at least over the next decade or so. As a result, higher education institutions will be expected to provide access to a greater number of secondary school leavers. To cope with this situation, institutions must be guided by some fundamental principles:

1. While making provision for greater access, they must ensure equity, in particular gender parity, which is a matter of concern for Africa.
2. They must take all necessary measures for the adequate success of all the enrolled students, especially those who experience difficulties in adapting to the higher education environment.
3. They must never compromise on quality.
4. They must ensure that their teaching and research are relevant to their respective country's needs.

With the number of public universities rapidly increasing in most African countries, and with the expected greater enrolment in private institutions and wider use of open and distance learning, it is possible that existing public universities will, in the future, be under less pressure for enrolment than they have been so far. However, governments have a responsibility to provide adequate resources to the new public institutions to ensure that they are of quality and are not regarded as second-grade institutions in comparison to existing universities. They should especially not deplete the human resources of existing public institutions to reinforce the new ones, as has happened in a few instances. The strategy of upgrading existing polytechnics, whose graduates are much needed for industrial development, to university status needs to be carefully assessed to prevent a shortage of vital technical skills in the future. Governments should also, while encouraging the development of the private tertiary sector, ensure that the private institutions are properly regulated and quality controlled. There is an ongoing need at the national level to continuously monitor the development of the higher education sector, including the status of graduate employment, so that appropriate and timely correctional measures can be taken.

Challenges resulting from massification in institutions in one African country are not dissimilar from those in other African countries. There is therefore a need for greater regional collaboration among African institutions in order to share their experiences as well as their resources.

### References

- Altbach, P. (2010, Fall). Access means inequality. *International Higher Education*, 61, 3-5.
- CHE (Council on Higher Education ). (2013). *A proposal for under-*

- graduate curriculum reform in South Africa: The case for a flexible curriculum structure.* CHE Discussion document, Pretoria, South Africa.
- Essack, S. (2012). Translating equitable access into retention and success in African higher education: The role and responsibility of individual institutions. *Journal of Higher Education in Africa*, 10(2), 47-62.
- HUARP. Harvard University Anderson Research Group. (2006). *Higher education in Sub-Saharan Africa*. Retrieved on September 18, 2013, from <http://ent.arp.harvard.edu/AfricaHigherEducation/Data.html#data>.
- Machingambi, S. (2011). Is access to higher education a sufficient condition for social equity in South Africa? A critical analysis. *Journal of Social Sciences*, 28(1), 13-20.
- Materu, P. (2007). *Higher education quality assurance in Sub-Saharan Africa*. World Bank Working Paper No. 124. Washington DC: World Bank.
- Mingat, A., & Majgaard, K. (2008). *A cross-country study of education in Sub-Saharan Africa*. Washington DC: World Bank.
- Mohamedbhai, G. (2008). *The effects of massification on higher education in Africa*. Accra, Ghana: Association of African Universities.
- Mohamedbhai, G. (2010). Preface. In P. G. Altbach (Ed.). *Leadership for world-class universities: Challenges for developing countries*. New York: Routledge.
- Mohamedbhai, G. (2011). Higher education in Africa: The challenges ahead. *Higher Education Forum*, 8, 23-36. Hiroshima, Japan: Hiroshima University, Research Institute for Higher Education.
- Mumene, I. (2013). New higher education reforms in Kenya. *International Higher Education*, 73, 14-16.
- Quintero-Re, L. (2011). The impact of demand-absorbing universities in Mexico's higher education system. *Reflecting Education*, 7(1), 55-66.
- Shabani, J. (2013). Quality regimes in Africa: Reality and aspirations. *International Higher Education*, 73, 16-18.
- TEC (Tertiary Education Commission, Mauritius). (2013). *Participation in tertiary education*, 2012. Mauritius: TEC.
- Trow, M. (2000). *From mass higher education to universal access: The American advantage*. Research and Occasional Paper Series. UC-Berkeley, Center for Studies in Higher Education.
- UNESCO. (1998). *World declaration on higher education for the twenty-first century: Vision and action*. Retrieved on September 9, 2013, from [http://www.unesco.org/education/educprog/wche/declaration\\_eng.htm..](http://www.unesco.org/education/educprog/wche/declaration_eng.htm..)
- UNESCO. (2009). *Communiqué of World Conference on higher education*. Retrieved on September 9, 2013, from [http://www.unesco.org/fileadmin/MULTIMEDIA/HQ/ED/ED/pdf/WCHE\\_2009/FINAL%20COMMUNIQUE%20WCHE%202009.pdf](http://www.unesco.org/fileadmin/MULTIMEDIA/HQ/ED/ED/pdf/WCHE_2009/FINAL%20COMMUNIQUE%20WCHE%202009.pdf).
- UNESCO Institute for Statistics (UIS). (2010). *Trends in tertiary education: Sub-Saharan Africa*. Fact Sheet No. 10. Montreal, Canada: UIS.
- University World News (UWN). (2010, October). Nigeria: Universities hit by accreditation crisis. *University World News*, 65.
- University World News (UWN). (2011, July). Kenya: Professional bodies reject degrees. *University World News*, 179.
- Varghese, N. V. (Ed.). (2006). *Growth and expansion of higher education in Africa*. International Institute for Education Planning. Paris: UNESCO.
- Wooldridge, A. (2005, September 8). The brains business: Special Report. *The Economist*. Retrieved on September 11, 2013, from <http://www.economist.com/displaystory.cfm>.
- World Bank. (2009). *Accelerating catch up*. Washington, DC: World Bank.
- World Bank. (2010). *Financing higher education in Africa*. Washington, DC: World Bank.