

TRENDS IN TERTIARY EDUCATION: SUB-SAHARAN AFRICA

Over the past four decades, access to tertiary education has expanded at an unprecedented rate, with women being the first to benefit in most parts of the world. This fact sheet explores the extent to which these global trends apply to sub-Saharan Africa. How are countries in the region coping with the rising demand for tertiary education? What challenges do they face in achieving gender equality for women in tertiary education? The latest data speak volumes.

Explosive growth in tertiary enrolment, yet comparatively low participation ratios

Enrolment in tertiary education grew faster in sub-Saharan Africa than any other region over the last four decades. While there were fewer than 200,000 tertiary students enrolled in the region in 1970, this number soared to over 4.5 million in 2008 – a more than 20-fold increase.

In effect, the gross enrolment ratio (GER) for tertiary education grew at an average rate of 8.6% for each year between 1970 and 2008 – compared to a global average of 4.6% over the same period. This rate exceeded the population growth of the relevant age group across the region.

Despite the rapid growth, only 6% of the tertiary education age cohort was enrolled in tertiary institutions in 2008, compared to the global average of 26%. However, the region has come a long way since 1970, when the GER was less than 1% (see **Figure 1**).

Today, there is significant variation among countries within the region. For example, in 2009 the tertiary GER exceeds the regional average in the following countries: Cameroon (9.0%), Cape Verde (14.9%), Côte d'Ivoire (8.4%), Ghana (6.2%), Guinea (9.2%), Mauritius (25.9%), Namibia (8.9%) and Senegal (8.0%). However, the ratio remains quite low in countries such as: Burkina Faso (3.4%), Burundi (2.7%), Central African Republic (2.5%), Chad (2.0%), Eritrea (2.0%), Ethiopia (3.6%), Madagascar (3.6%), Malawi (0.5%), Niger (1.4%) and Uganda (3.7%).

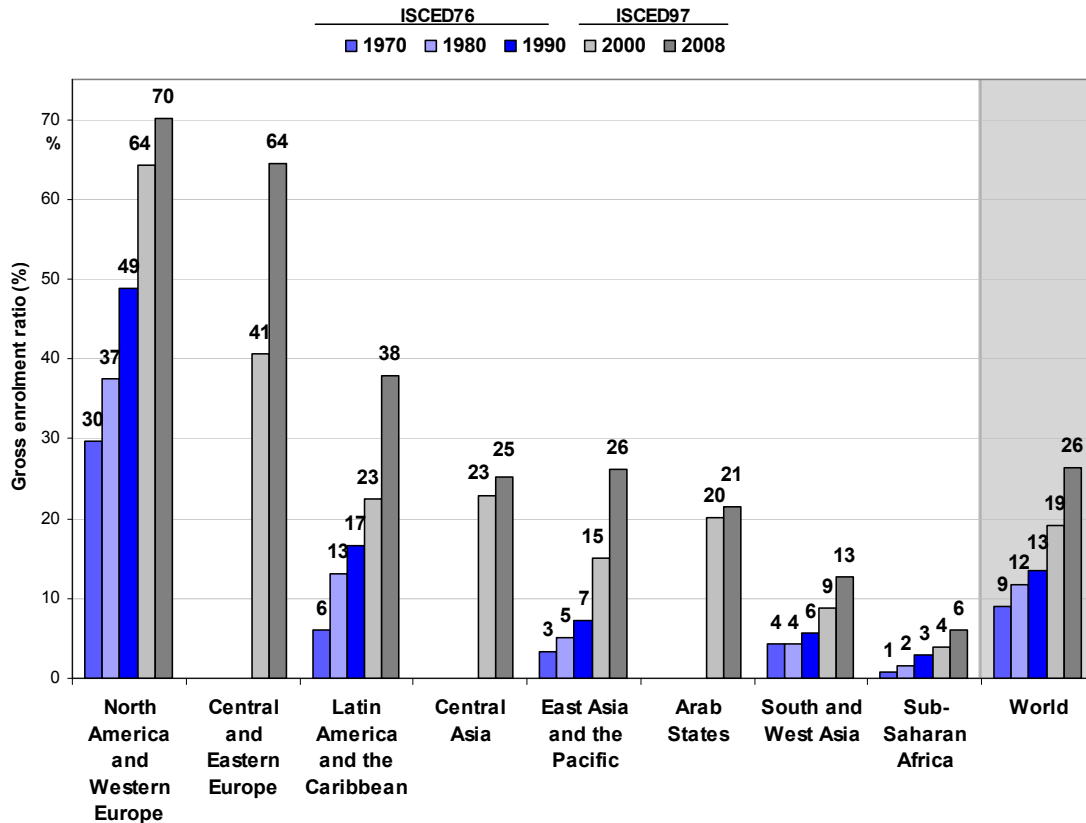
Growing pressure for further expansion

Despite rapid expansion over the past several decades, tertiary education systems in sub-Saharan Africa are not equipped to absorb the growing demand that has resulted from broader access to secondary education. For instance, in 1999, the region's GER for the upper secondary level was 19%, which was nearly five times as high as the ratio for tertiary education (4%). In 2008, the tertiary GER reached 6%, compared to 27% for upper secondary education. Globally, the GER for upper secondary education is just twice that of the tertiary level.

The large gaps between the two ratios – GERs for upper secondary and tertiary education – indicate that there will be many students completing upper secondary education who are eligible for higher education but do not have access to it. So policymakers across the region can expect further pressure to expand the tertiary education system in order to meet the rising demand.

Figure 1. What are the long-term trends for participation in tertiary education?

Tertiary gross enrolment ratios by region, 1970 to 2008



Notes: To maintain consistency across the time series, post-secondary non-tertiary (ISCED 4) students were included in certain countries. This may lead to an overestimate of the tertiary gross enrolment ratio, especially for Central Asia and to a slight degree for North America and Western Europe.

Data before 1998 are classified according to ISCED76. Some programmes classified as post-secondary non-tertiary education with ISCED97 were included in tertiary education using ISCED76. To provide consistent time series, tertiary enrolment data after 1998 include post-secondary non-tertiary education. This accounts for more than 100,000 students in Australia, Canada, Kazakhstan, Morocco and the United States. Therefore, enrolment presented here exceeds regional figures based on ISCED97 by approximately one percentage point.

Regions are ranked in decreasing order of gross enrolment ratio in 2008.

Source: UNESCO Institute for Statistics (GED 2009, Figure 3; GED 2010, Statistical Table 8).

Resource constraints pose a serious challenge

For many countries in the region, it is extremely difficult to secure adequate funding for tertiary education. In 2009, public spending per tertiary student ranged from PPP US\$766 in Central African Republic to PPP\$4,535 in Ethiopia.

Compounding the problem further, these countries have very limited options to acquire additional resources. Relative to lower levels of schooling, public spending on tertiary education is disproportionately high in many sub-Saharan African countries. For example, in 16 out of 19 countries reporting data in the region, public expenditure on a tertiary student amounts to 1 to 10 times that of a secondary student. In Burkina Faso, public expenditure per secondary student is up to 30% of gross domestic product (GDP) per capita, while public expenditure for a tertiary student is 10 times as high, at 307% of GDP per capita. The cost ratio is even higher in Ethiopia, Guinea and Madagascar, where public costs for a tertiary student are 13 to 72 times more than for a secondary student (643%, 102% and 132% versus 9%, 6% and 10% respectively).

Public expenditure per tertiary student relative to GDP is especially high in countries with low levels of participation in tertiary education. Burkina Faso, Burundi, Central African Republic, Chad, Ethiopia, Madagascar, Niger, Rwanda and Uganda have expenditure levels that exceed 100% of GDP per capita, even though their tertiary GERs are less than 5%. This suggests that public resources are highly concentrated in relatively few students. In the future, these unit costs may decrease due to the effect of economies of scale as more students enrol in domestic tertiary education institutions.

Women are still under-represented

Contrary to global trends, women remain disadvantaged in terms of access to tertiary education in sub-Saharan Africa, as well as South and West Asia. The tertiary GER in sub-Saharan Africa for women is 4.8%, compared to 7.3% for men.

Nevertheless, the region made significant progress towards gender parity in the 1990s. From 1970 to 1990, the GER for women barely improved, amounting to less than one-half of the ratio reported for men. This translated into an adjusted gender parity index (GPI)¹ that ranged from 0.45 and 0.50 over the three decades. Yet by 2000, women started to catch up, with an adjusted GPI of 0.68. Since then, the regional GPI has stagnated for tertiary education, which may reflect the shift in priority towards achieving the goal of universal primary education (UNESCO Institute for Statistics, GED 2010).

Women face significant barriers to tertiary education in countries with the lowest levels of national wealth. As shown in the bottom-left quadrant of **Figure 2**, seven countries with a GDP per capita of less than US\$1,000 have fairly low GPIs, ranging from 0.31 to 0.51. They include: Central Africa Republic (adjusted 0.43), Democratic Republic of the Congo (0.35), Ethiopia (0.31), Malawi (0.51) and Niger (0.34). The largest disparity is found in Chad, where the adjusted GPI is 0.17.

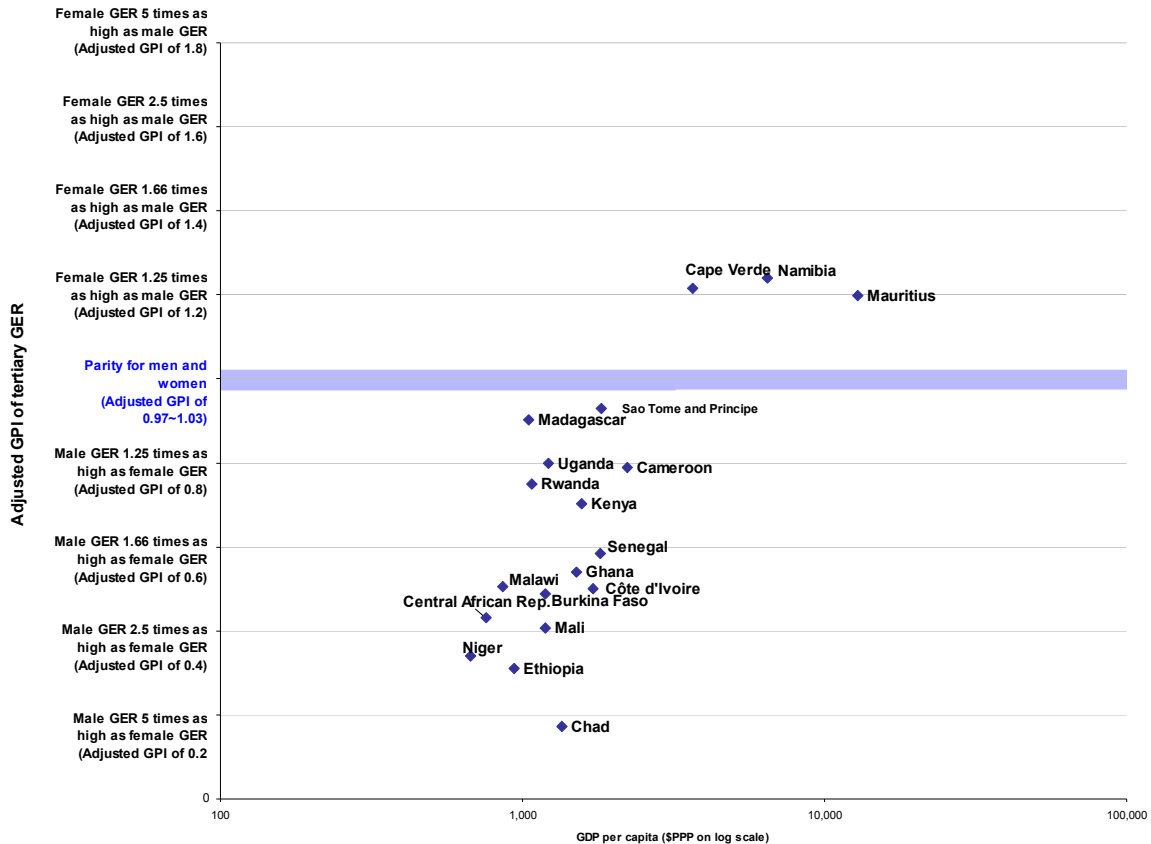
Even a slight rise in national wealth can correlate to fewer gender disparities. Sub-Saharan African countries with higher levels of wealth also report higher enrolment rates for women than men (see top-right quadrant of Figure 2). For example, the adjusted GPI is 1.21 in Cape Verde, 1.20 in Mauritius and 1.24 in Namibia.

It is important to consider gender equality in light of the overall level of participation in tertiary education. Tertiary GERs remain quite low for most countries in the region. In short, countries must address gender inequalities as they seek to broaden access to tertiary education for all students, regardless of their sex.

¹ See Box 2 in the *Global Education Digest 2010* (page 17).

Figure 2. How does national wealth relate to gender parity in tertiary education?

Adjusted gender parity index for gross enrolment ratio for tertiary education and GDP per capita (PPP\$), 2009



Source: UNESCO Institute for Statistics Data Centre (February 2011); GDP per capita: World Bank.

Large numbers of students pursue tertiary education abroad

In 2008, about 223,000 students from sub-Saharan Africa were enrolled in tertiary education institutions outside of their home countries. They represented 7.5% of the total number of mobile students (3.0 million) around the world. Moreover, the number of mobile students from sub-Saharan Africa represented 4.9% of students enrolled in domestic tertiary institutions in their home countries, which was almost three times greater than the global average (1.9%).

In quite a number of countries, the outbound mobility ratio (i.e. the ratio of students studying abroad in relation to those enrolled in domestic tertiary institutions) was higher than 25%. These countries include: Botswana (49.9%), Cape Verde (40.6%), Comoros (100.8%), Lesotho (45.1%), Malawi (29.3%), Mauritius (29.5%), Namibia (42.5%), Sao Tome and Principe (90.1%) and Swaziland (53.9%). The lowest ratios for the region are found in the Democratic Republic of the Congo (1.3%), Ethiopia (1.5%) and South Africa (0.7%) (see *the Annex*).

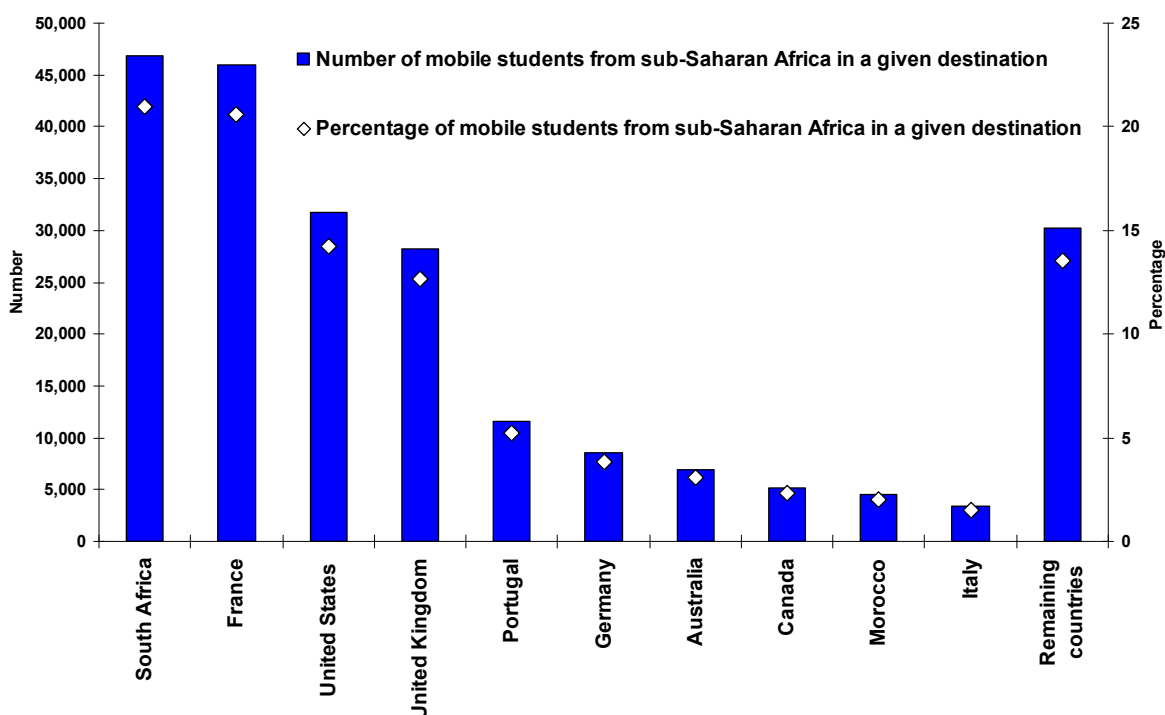
Diverse destinations for internationally mobile students from sub-Saharan Africa

About one-quarter of internationally mobile students from sub-Saharan Africa studied in another country within the same region (55,000 out of 223,200) in 2008. South Africa alone hosted 21% of mobile students from countries within the region.

Despite this trend, nearly two-thirds (65.1%) of mobile students from the region studied in North America and Western Europe, as shown in **Figure 3**. Top destinations were: Australia (3.1%), Canada (2.3%), France (20.6%), Germany (3.8%), Italy (1.5%), Morocco (2.0%), Portugal (5.2%), the United States (14.2%) and the United Kingdom (12.7%).

Figure 3. Where do mobile students from sub-Saharan Africa go?

Top destinations of mobile students from sub-Saharan Africa, 2008



Source: UNESCO Institute for Statistics (GED 2010, Statistical Table10).

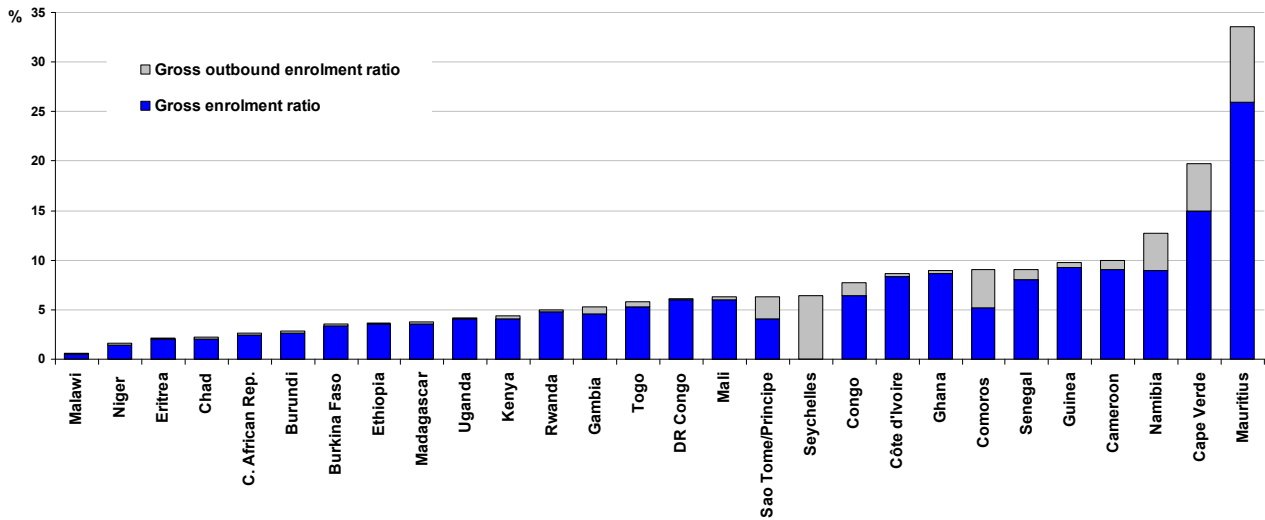
Expanding opportunities through domestic and foreign institutions

Depending on the capacities of domestic education systems, it might be more efficient for some countries to send their students to study abroad to obtain advanced skills in general or particular fields of education. In other words, cross-border education can be viewed as an option to compensate for limited opportunities at home.

Figure 4 presents two ratios: the gross outbound enrolment ratio (i.e. mobile students from a given country in relation to its population of tertiary education age) and the tertiary GER (which reflects enrolment in domestic tertiary institutions). By comparing these two ratios, we gain a more comprehensive perspective on the total level of participation in tertiary education across the region.

Figure 4. What is the total level of tertiary education participation?

Gross outbound enrolment ratio and gross enrolment ratio for tertiary education, 2008



Source: UNESCO Institute for Statistics (GED 2010, Statistical Table10).

Generally speaking, countries with small populations tend to have the largest proportions of students abroad. For countries such as Botswana, Cape Verde, Lesotho, Malawi, Namibia and Swaziland, it might be more cost effective to take advantage of the extensive tertiary education opportunities available in South Africa or other countries, rather than offering these programmes through their domestic education systems.

In contrast, countries such as the Democratic Republic of the Congo, Ethiopia, Nigeria and South Africa – with large populations and relatively large tertiary education systems – have small proportions of mobile students. South Africa, which has one of the most extensive tertiary education systems in the region, has fewer than 6,000 students studying abroad, representing about 0.1% of its tertiary-age population. The same is true in Nigeria: about 26,000 (0.2% of its tertiary-age population) are studying abroad.

ANNEX

Selected indicators for tertiary education, 2009

Country or territory	Total tertiary enrolment		Gross enrolment ratio				Students from a given country studying abroad (outbound mobile students)		
	MF (000)	%F	MF	M	F	GPI	MF	Outbound mobility ratio	Gross outbound enrolment
Angola	...	...	...	...	...	...	4,405 ⁻¹	...	0.2 ⁻¹
Benin	...	...	...	...	...	...	3,560 ⁻¹	...	0.5 ⁻¹
Botswana	...	...	...	...	...	...	7,409 ⁻¹	...	3.4 ⁻¹
Burkina Faso	48	32	3.4	4.6	2.2	0.49	2,513 ⁻¹	6.0 ⁻¹	0.2 ⁻¹
Burundi	24	...	2.7	...	...	...	1,133 ⁻¹	5.2 ⁻¹	0.1 ⁻¹
Cameroon	174	44	9.0	10.1	8.0	0.79	18,041 ⁻¹	12.2 ⁻¹	1.0 ⁻¹
Cape Verde	8	56	14.9	13.1	16.7	1.27	2,701 ⁻¹	40.6 ⁻¹	4.8 ⁻¹
Central African Republic	10	31	2.5	3.5	1.5	0.43	873 ⁻¹	9.2 ⁻¹	0.2 ⁻¹
Chad	20	15	2.0	3.4	0.6	0.17	2,670 ⁻²	...	0.3 ⁻²
Comoros	3 [*]	...	5.2	...	...	...	2,608 ⁻¹	...	3.8 ⁻¹
Congo	23	17	6.4	10.6	2.2	0.21	4,654 ⁻¹	...	1.3 ⁻¹
Côte d'Ivoire	157 ⁻²	33 ⁻²	8.4 ⁻²	11.1 ⁻²	5.6 ⁻²	0.50 ⁻²	5,742 ⁻¹	...	0.3 ⁻¹
Democratic Republic of the C	380	...	6.0	...	...	...	4,054 ⁻¹	1.3 ⁻¹	0.1 ⁻¹
Equatorial Guinea	...	...	...	...	...	...	1,056 ⁻¹	...	1.9 ⁻¹
Eritrea	10	25	2.0	3.0	1.0	0.32	847 ⁻¹	...	0.2 ⁻¹
Ethiopia	265 ⁻¹	24 ⁻¹	3.6 ⁻¹	5.5 ⁻¹	1.7 ⁻¹	0.31 ⁻¹	4,029 ⁻¹	1.5 ⁻¹	0.1 ⁻¹
Gabon	...	...	...	...	...	...	4,859 ⁻¹	...	3.5 ⁻¹
Gambia	6 ⁻¹	...	4.6 ⁻¹	...	...	...	983 ⁻¹	15.1 ⁻¹	0.7 ⁻¹
Ghana	203	37	8.6	10.6	6.6	0.62	7,571 ⁻¹	...	0.3 ⁻¹
Guinea	80 ⁻¹	24 ⁻¹	9.2 ⁻¹	13.7 ⁻¹	4.6 ⁻¹	0.34 ⁻¹	4,375 ⁻¹	5.5 ⁻¹	0.5 ⁻¹
Guinea-Bissau	...	...	...	...	...	...	607 ⁻¹	...	0.4 ⁻¹
Kenya	168	41	4.1	4.8	3.3	0.70	13,042 ⁻¹	...	0.3 ⁻¹
Lesotho	...	...	...	...	...	...	4,314 ⁻¹	...	1.8 ⁻¹
Liberia	...	...	...	...	...	...	635 ⁻¹	...	0.2 ⁻¹
Madagascar	68	48	3.6	3.8	3.4	0.90	4,078 ⁻¹	6.6 ⁻¹	0.2 ⁻¹
Malawi	6 ⁻²	34 ⁻²	0.5 ⁻²	0.7 ⁻²	0.3 ⁻²	0.51 ⁻²	1,997 ⁻¹	...	0.1 ⁻¹
Mali	77	29	6.0	8.5	3.5	0.41	3,268 ⁻¹	4.8 ⁻¹	0.3 ⁻¹
Mauritius	26 ^{**,-1}	55 ⁻¹	25.9 ⁻¹	23.1 ⁻¹	28.8 ⁻¹	1.25 ⁻¹	7,556 ⁻¹	29.5 ^{**,-1}	7.7 ⁻¹
Mozambique	...	...	...	...	...	...	1,788 ⁻¹	...	0.1 ⁻¹
Namibia	20 ⁻¹	57 ⁻¹	8.9 ⁻¹	7.7 ⁻¹	10.2 ⁻¹	1.32 ⁻¹	8,375 ⁻¹	42.5 ⁻¹	3.8 ⁻¹
Niger	16	29	1.4	2.2	0.7	0.34	2,088 ^{**,-1}	16.3 ^{**,-1}	0.2 ^{**,-1}
Nigeria	...	...	...	...	...	...	26,364 ⁻¹	...	0.2 ⁻¹
Rwanda	55	44	4.8	5.5	4.1	0.75	1,969 ⁻¹	4.4 ⁻¹	0.2 ⁻¹
Sao Tome and Principe	1	48	4.1	4.2	3.9	0.93	386 ⁻¹	a ⁻¹	2.2 ⁻¹
Senegal	94	37	8.0	10.2	5.9	0.58	11,697 ⁻¹	12.8 ⁻¹	1.0 ⁻¹
Seychelles	...	...	...	...	...	...	465 ⁻¹	...	6.5 ⁻¹
Sierra Leone	...	...	...	...	...	...	736 ⁻¹	...	0.1 ⁻¹
Somalia	...	...	...	...	...	...	1,353 ^{**,-1}	...	0.2 ^{**,-1}
South Africa	...	...	...	...	...	...	5,411 ⁻¹	0.7 ⁻¹	0.1 ⁻¹
Swaziland	...	...	...	...	...	...	3,664 ⁻¹	...	2.6 ⁻¹
Togo	33 ⁻²	...	5.3 ⁻²	...	...	...	3,023 ⁻¹	...	0.5 ⁻¹
Uganda	124	44	4.1	4.5	3.6	0.80	2,792 ⁻¹	2.6 ⁻¹	0.1 ⁻¹
United Republic of Tanzania	...	...	...	...	...	...	4,505 ⁻¹	...	0.1 ⁻¹
Zambia	...	...	...	...	...	...	4,983 ⁻¹	...	0.4 ⁻¹
Zimbabwe	...	...	...	...	...	...	23,606 ⁻¹	...	1.5 ⁻¹

Symbols:

- ... No data available
- * National estimation
- ** UIS estimation
- . Not applicable
- 1 Reference year 2008
- 2 Reference year 2007