UIS INFORMATION BULLETIN NO. 10

United Nations
Educational, Scientific and
Cultural Organization

UNESCO INSTITUTE for STATISTICS

THE GLOBAL DEMAND FOR PRIMARY TEACHERS – 2012 UPDATE

PROJECTIONS TO REACH UNIVERSAL PRIMARY EDUCATION BY 2015

Quantifying the future need for more teachers is a first step towards informed planning and policymaking. The UNESCO Institute for Statistics (UIS) produces annual projections of the global demand for primary teachers needed to achieve universal primary education (UPE) by the target year of 2015. Data for 2010 show that a total of 1.7 million additional primary teaching positions will need to be created by 2015. This information bulletin also analyses teacher flows in sub-Saharan Africa.

INTRODUCTION

Teacher shortages remain a major obstacle for countries to achieve the goal of universal primary education (UPE). To quantify the scope of recruitment needs, the UNESCO Institute for Statistics (UIS) produces annual projections of the global demand for primary teachers needed to achieve the target by 2015.

These projections do not indicate what *will* happen but rather what governments *should* make happen in order to reach the target. Thus, the projections serve as a guide toward setting goals by indicating the level of resources required. Overall, countries in the developing world face the greatest challenges in meeting the demand for primary teachers.

This 2012 update of teacher projections is based on the most recent UIS data available and United Nations Population Division's most recent (2010) population estimations in order to quantify the global teacher gap. In addition, it includes a special analysis on teacher flows in sub-Saharan Africa.

These projections focus on two areas that influence the capacity of teaching workforces in the context of internationally agreed objectives. First, governments need to evaluate the need for new posts in order to commit to the goal of achieving UPE by 2015. These additional posts need to be created in order to accommodate the broadening of access to primary education between now and 2015. Second, governments need to assess the need to replace teachers who leave the primary teaching workforce (e.g. due to retirement, illness, another job, etc.) in relation to changes in the size of the primary school-age population.

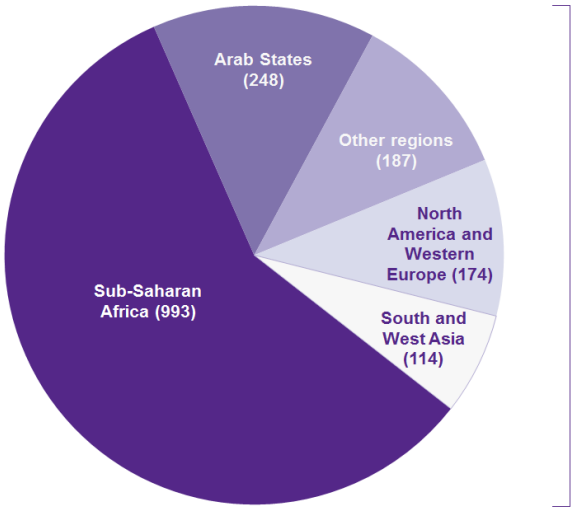
WHERE ARE PRIMARY TEACHERS NEEDED?

At the global level, 1.7 million additional teaching positions will need to be created to reach UPE by 2015.

Between 2010 and 2015, 114 countries will need to create a total of at least 1.7 million new teacher posts to ensure quality primary education for all children. **Figure 1** shows that almost six out of every ten additional teachers are needed in sub-Saharan Africa (993,000). Other regions in need of additional teaching posts include the Arab States (248,000 or 14% of the global demand), North America and Western Europe (174,000 or 10%) and South and West Asia (114,000 or 7%). Central and Eastern Europe (5%), Central Asia (1%), East Asia and the Pacific (4%), and Latin America and the Caribbean (1%) account for less than 11% of the global additional number of primary teaching posts needed to reach UPE by 2015.

September 2012

FIGURE 1. NUMBER OF ADDITIONAL PRIMARY TEACHING POSTS NEEDED TO REACH UPE, 2010 (IN THOUSANDS)



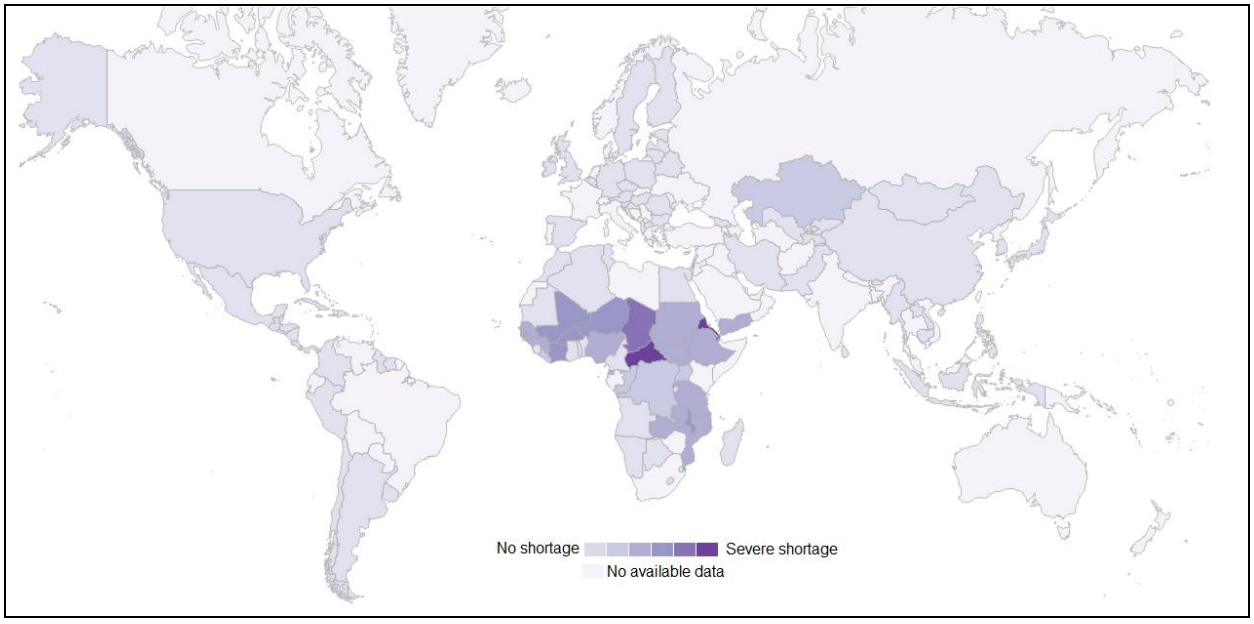
1.7 million new teaching posts are needed globally to achieve UPE

Source: UNESCO Institute for Statistics, Annex Table 2.

WHICH COUNTRIES FACE THE GREATEST CHALLENGES?

According to data from 2010, 114 out of 208 countries or territories (55%) need to further increase the size of their primary teaching workforces due to growing numbers of students, whereas 94 countries (45%) can either maintain their current workforce constant or even potentially reduce their size *(see Annex Tables 2 and 3).* **Figure 2** shows the distribution of demand across the world by size of the gap in primary teachers.

FIGURE 2. COUNTRIES FACING A TEACHER GAP TO MEET UPE BY 2015



Notes: Data are presented for 139 countries with available data for 2010. Values for remaining countries were imputed by the UIS in order to estimate regional and global teacher gaps.
Source: UNESCO Institute for Statistics, Annex Table 4.

Table 1 identifies the 29 countries with severe teacher gaps – which need to grow annually by at least 3.0% during the 2010 to 2015 period. Mainly located in sub-Saharan Africa, these countries will have to address the challenge of training and recruiting a sufficient number of teachers in order to meet the goal of UPE by 2015. In nine countries, the required annual growth of teaching stocks is especially high – exceeding 10%. This group of countries includes: Burkina Faso (14%), the Central African Republic (21%), Chad (16%), Côte d'Ivoire (12%), Djibouti (17%), Eritrea (24%), Malawi (14%), Mali (14%), and Niger (14%).

TABLE 1. COUNTRIES WITH SEVERE TEACHER GAPS, 2010

	Teacher gap
Region	**Average annual growth rate greater or equal to 3.0%**
Arab States	Djibouti, Palestine, Sudan (pre-secession), Yemen
Central Asia	Kazakhstan
Sub-Saharan Africa	Burkina Faso, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Liberia, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Uganda, United Republic of Tanzania, Zambia

Source: UNESCO Institute for Statistics, Annex Table 4.

TEACHER STOCKS AND FLOWS EXPLAINED

The number of teachers in the workforce is also referred to as the *stock* of teachers. In countries which need to expand the stock of teachers to meet UPE, but also in countries which aim to maintain or reduce the number of teachers, changes in stock are the result of how policymakers manage the *flows* of teachers into and out of the teaching workforce *(see **Figure 3**).*

The inflow reflects the number of newly recruited teachers entering the profession, typically upon the completion of a teacher-training programme. The inflow may be managed by raising or lowering the minimum qualification or training standards required to enter the teaching profession. In some countries, this has meant allowing para-teachers or volunteer teachers who are technically under-qualified. The inflow may also be managed by changing the incentives for teachers in relation to other labour market opportunities. Data on the number of teachers entering the profession each year are generally available but often not reported.

The outflow or number of teachers leaving the profession is also referred to as teacher attrition. There are many reasons for attrition, including retirement, change in professions, change in responsibilities or level of education, and illness or death. There are a range of policies which are related to retaining (or not) teachers, and they are often associated with the attractiveness of the teaching profession in relation to other occupations (e.g. working conditions, autonomy, remuneration, etc.). National attrition rates, where available, vary widely – from 2% to 20% annually. But most countries do not report rates as there are difficulties associated with compiling accurate information on changing teacher workforces.

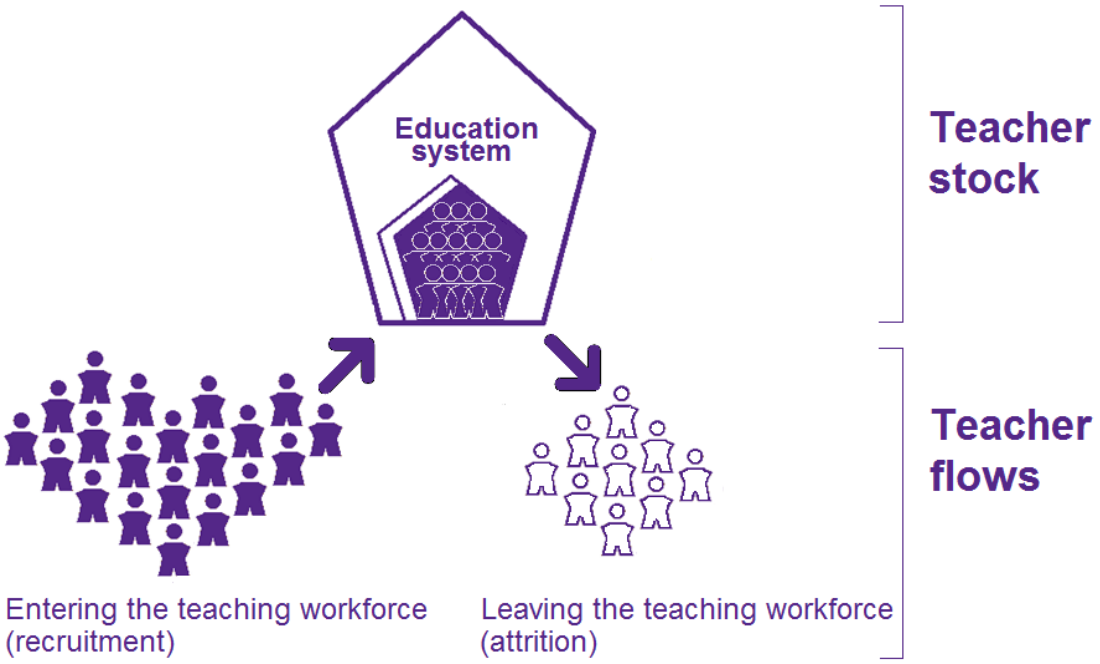
In order to expand the *stock* of the teaching workforce, the flow *in* should be greater than the flow *out*. Conversely, if a country faces an oversupply of teachers, it could decide, for example, not to fill vacancies left open by retiring teachers.

Whether they need to expand the stock of teachers or not, most countries will need to replace (in full or in part) those leaving the teaching workforce. The UIS projections are based on the assumption of a 5% attrition rate, or that one in every 20 teachers will leave the teaching workforce annually. This is equivalent to a primary teacher having – on average – a teaching career of 20 years. The global

number of primary teachers to be replaced by 2015 based on an attrition rate of 5% is 5.1 million teachers.

The 1.7 million new posts required to meet UPE plus the 5.1 million teacher replacements adds up to 6.8 million teachers that will need to be recruited over the period 2010-2015. For mostly more developed countries, replacing existing primary teachers is the main reason for recruitment (Annex Table 1).

FIGURE 3. TEACHER STOCKS AND FLOWS



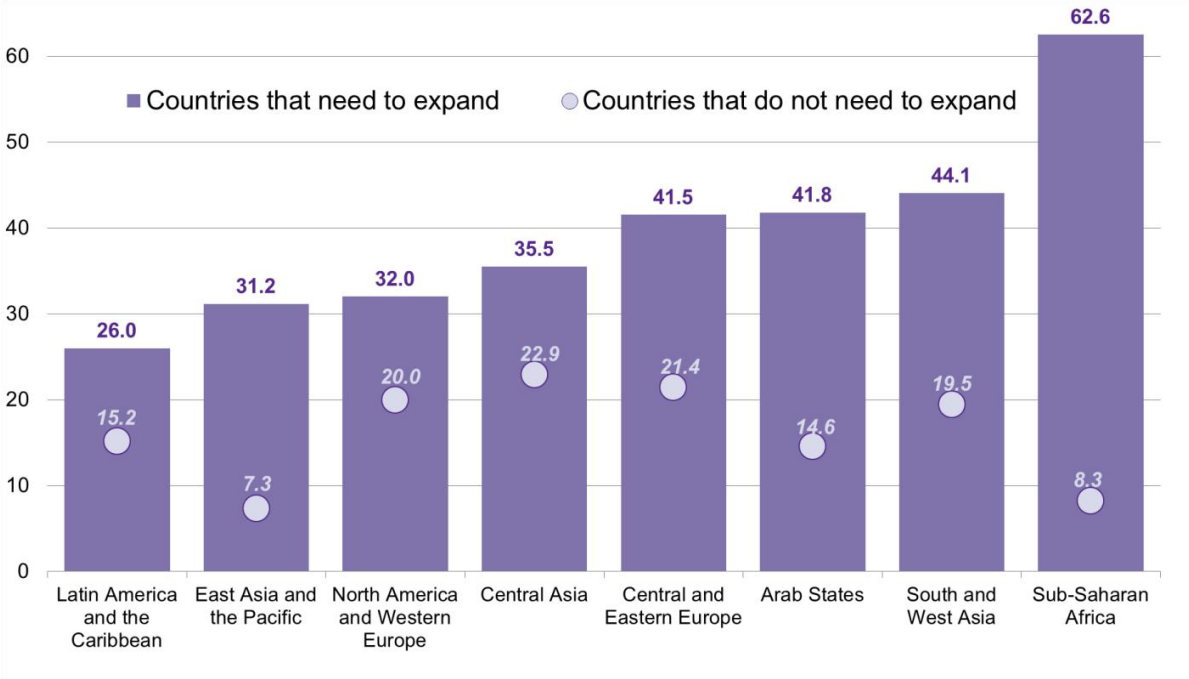
Sub-Saharan African countries will need to recruit a total of about 1.8 million primary teachers to achieve the goal of UPE plus maintain the current workforce (46% of total recruitment). In North America and Western Europe, 84% of the total recruitment is to replace teachers lost due to attrition (Annex Table 1).

In the 94 countries where teaching workforces are sufficient – where the size of the primary school-age population is expected to decrease – the need for recruitment is substantially lower. In total, those countries can reduce the teaching stock by 2 million, and not every teacher who leaves the profession will need to be replaced (Annex Table 3). These countries, which accounted for close to two-thirds of the world's teaching workforce (62%) in 2010, need to recruit only 2.2 million primary teachers to replace those outgoing.

How feasible is it for countries to recruit the additional teaching staff required? One way to assess this is by comparing the number of teachers who need to be recruited between 2010 and 2015 with the current number of teachers. **Figure 4** looks at countries which face recruitment pressure in order to expand their teaching stock as compared to countries that already have sufficient numbers of teachers.

Countries in sub-Saharan Africa with increasing primary enrolment will need to recruit the equivalent of 63% of their current teaching workforce within the period 2010-2015. In comparison, countries that are not faced with an increasing demand for teachers, such as those in Latin America and the Caribbean, need to recruit 15% of teachers relative to their current stock. Similarly, in the East Asia and the Pacific region, countries with a decreasing demand for teachers need to recruit 7% of teachers relative to their current stock.

FIGURE 4. RECRUITMENT NEEDS TO 2015 AS A PERCENTAGE OF THE CURRENT TEACHING WORKFORCE



Source: UNESCO Institute for Statistics, Annex Tables 2 and 3.

HOW MANY TEACHERS ARE NEEDED AT THE COUNTRY LEVEL?

Of the 139 countries reporting data for 2010, 3 would need to recruit more than 200,000 teachers in total by the year 2015. In Nigeria, more than one-half of the demand (212,100) is associated with the need to expand teaching workforces by creating new posts. In contrast, attrition is the main reason for recruitment in the United States (460,000) and the only reason for recruitment in China (247,100).

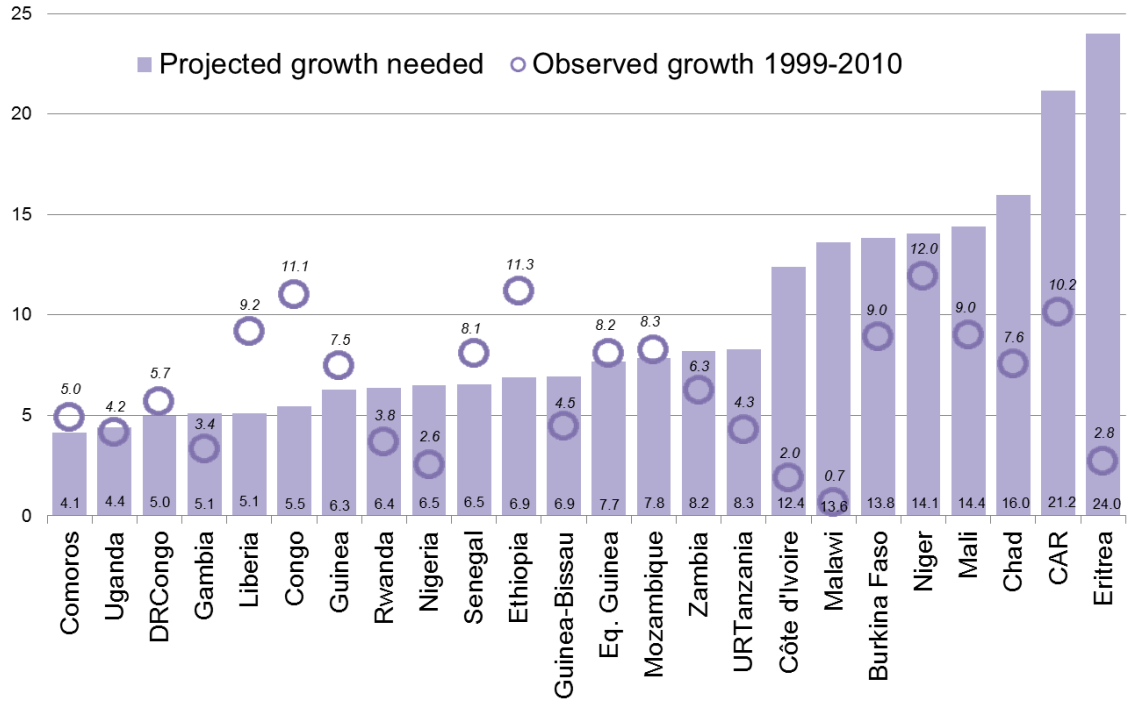
While these numbers seem large, the annual demand represents only a small proportion of potential teachers, which is reflected by the age cohorts entering the labour market[1] – for example, the annual teacher gap in Nigeria could be closed by recruiting the equivalent of 1.2% of the population aged 20 years, whereas that proportion would be 0.5% for the United States and 1% for China.

Most sub-Saharan African countries need to expand their primary teaching workforces, with the exceptions of Botswana, Burundi, Cape Verde, Madagascar, Mauritius, Sao Tome and Principe, Sierra Leone, Swaziland, and Togo. For every year until 2015, an average of 192,000 teachers should be hired in sub-Saharan Africa to fill additional posts for UPE and also compensate for teachers leaving the teaching workforce.

Figure 5 illustrates the scope of the challenge facing sub-Saharan African countries with the most critical teacher needs and assesses whether the goal to achieve UPE is realistic based on projected and observed growth. The 24 countries presented in Figure 5 face severe teacher gaps. The growth in teacher stocks observed since 1999 suggests that at least 9 out of these 24 countries are on track to overcome severe teacher gaps. For example, Congo, Equatorial Guinea and Mozambique were able to recruit more teachers annually since 1999 than the projected annual growth needed to reach 2015 targets.

[1] The population of 20-year-olds is used here as proxy for the size of the population entering the labour force.

FIGURE 5. OBSERVED GROWTH IN THE NUMBER OF PRIMARY TEACHERS SINCE 1999 AND PROJECTED TEACHER NEEDS BY 2015 (IN PERCENTAGES)



Notes: Baseline data for Ethiopia are 2000; 2002 for Malawi; and 2005 for the Central African Republic. Most recent data for Comoros and Liberia are 2008; 2009 for Gambia; and 2011 for Côte d'Ivoire.
Sources: UNESCO Institute for Statistics, Annex Table 4 for the projected growth needed; UIS database for observed data.

TEACHER FLOWS IN SUB-SAHARAN AFRICA

In response to data needs for monitoring the progress towards the goals of the African Union's Second Decade for Education, the UIS launched a regional indicator programme in sub-Saharan Africa in 2011. The programme collected information on teachers in the public sector, specifically about their levels of initial training and recruitment (for more information, see www.uis.unesco.org). By collecting data on stocks and new teachers, the UIS is able to estimate teacher attrition, recruitment rates and effective growth rates of the teaching workforce.

When comparing the number of teachers, or stock, the absolute change is a result of flows in and out of the teaching workforce. Thus, between 2009 and 2010, the teaching stock in sub-Saharan Africa increased from 2.9 million to 3.1 million. However, it is important to understand that the size of the flows of teachers entering and leaving the education system can be very different and thus have different policy implications. For example, to arrive at the 0.2 million increase in stock in sub-Saharan Africa, the in- and out-flows could be 0.4 and 0.2 million teachers, or 1.4 and 1.2 million respectively – the latter suggesting very high rates of staff turnover.

High levels of outflows, or attrition, can represent an obstacle to student development and the provision of quality education and lead to the hiring of less experienced teachers (Rockoff, 2004; Rivkin et al., 2005) or unqualified teachers (Darling-Hammond, 2000). They create instability in schools and affect the capacity to plan and manage the education system. Moreover, high rates of teacher attrition may generate significant additional costs for education systems, through higher training costs and loss of teaching time due to delays in replacing vacant posts (International Task Force on Teachers for EFA, 2010).

Sub-Saharan African countries reporting data indicate that substantial proportions of teachers are leaving the public primary school sector, with annual attrition rates between 3% and 17%. The attrition rate of 5% used in the UIS global estimates of teacher demand could be considered moderate and implies that the average length of service of teachers is about 20 years. Countries reporting attrition rates below this level may have young teacher populations or limited alternative employment options. Conversely, working conditions, civil service status and other incentives may contribute to attracting and retaining teachers (UNESCO, 2010). This may be the case in Burundi, Cape Verde, Chad and Mali, where teacher attrition rates in the public sector were between 3% and 4%. However, as shown here, where observed attrition rates exist that are higher than the 5% standard used for global projections, they would be more appropriate for guiding teacher policies at the national level.

While annual teacher recruitment rates exceed 10% in two-thirds of countries reporting data – substantial proportions of these newly recruited teachers are required to replace teachers who have left. As illustrated in **Figure 6**, the inflow or recruitment of teachers can serve to replace teachers who have left teaching, as well as to expand the teacher stock.

For example, in Mali, one in three new teachers replaced a teacher and two in three new teachers increased the stock of teaching staff. In Angola, Cape Verde, Chad and Eritrea, more than 70% of new recruits were needed to compensate for attrition. The annual recruitment rates reached a high level of 22% in Angola, yet more than three-quarters of these new staff were needed to replace teachers who had left.

From the perspective of total recruitment, attrition levels above 5% may slow down efforts to maintain or expand national teaching workforces and place greater challenges on countries that need to create additional teaching posts required to achieve UPE. Attrition rates exceeded 10% in Angola, Malawi and Eritrea.

As for Malawi and the United Republic of Tanzania, about 3 in 5 new teachers compensated for teacher outflows. The effective growth rates of the workforce in the public sector were 8% and 5%, compared to recruitment rates of 18% and 12% respectively. According to the UIS projections, Burkina Faso, Chad and Niger need to realise an effective growth rate of at least 14% annually (for all types of institutions) in order to meet the demand for new school places in order to achieve UPE. While Burkina Faso and Niger have reached recruitment rates close to these levels, the effects of attrition reduce their effective growth rates to less than 10%. In Chad, the recruitment rate of 5% was only slightly higher than the attrition level, which led to an effective growth rate of the workforce of just 1%, far below the 16% increase needed to achieve UPE.

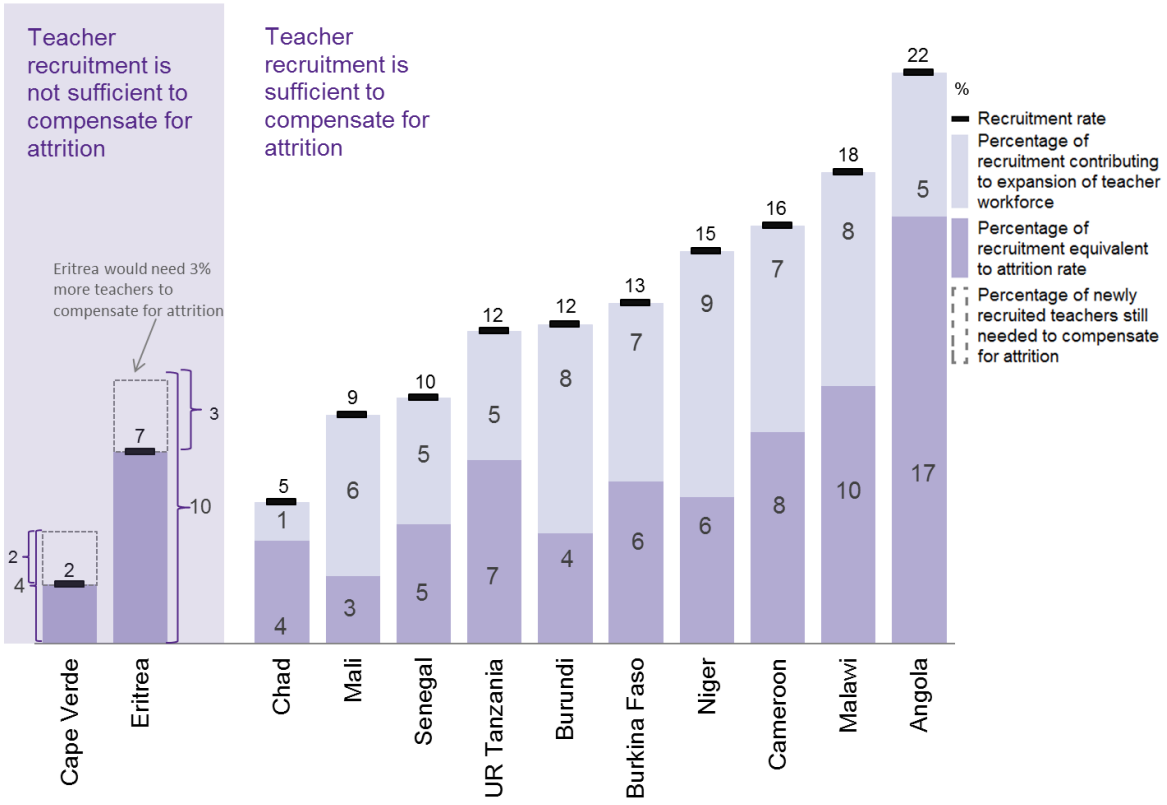
In Cape Verde and Eritrea, recruitment failed to keep pace with teacher outflows. Eritrea is of particular concern since this country will need to increase its stock of teachers by more than 24% each year until 2015 to meet UPE, but newly available data show in fact a 3% shortfall in teacher recruitment to compensate for attrition.

TEACHER QUANTITY AND QUALITY: A CHALLENGING TRADE-OFF

The pressure to hire many new teachers in order to meet UPE goals and to offset attrition rates can lead to the recruitment of less qualified teachers or even to lower national standards. What do data for sub-Saharan African countries show?

Angola and Malawi are among the countries with the highest levels of teacher attrition, and less than one-half of newly recruited teachers are qualified according to national standards. The minimum qualification in Angola is completion of an upper secondary (ISCED 3) programme and tertiary (ISCED 5) programme in Malawi (see **Figure 7**)**.** Where recruitment rates are high, such as in Angola and Malawi (22% and 18% respectively), it is difficult to hire sufficient numbers of trained teachers, especially at the tertiary level. Meeting the demand for the quantity of teachers may have been achieved at the cost of the preparedness of teachers. High numbers of untrained teachers have been recruited in Mali, where teacher training requires a secondary education qualification. Although the reported attrition rate is relatively low (3%), more than one-half of new teachers are untrained.

FIGURE 6. EFFECTIVE GROWTH, RECRUITMENT AND ATTRITION RATES FOR PRIMARY TEACHERS IN PUBLIC INSTITUTIONS, 2010



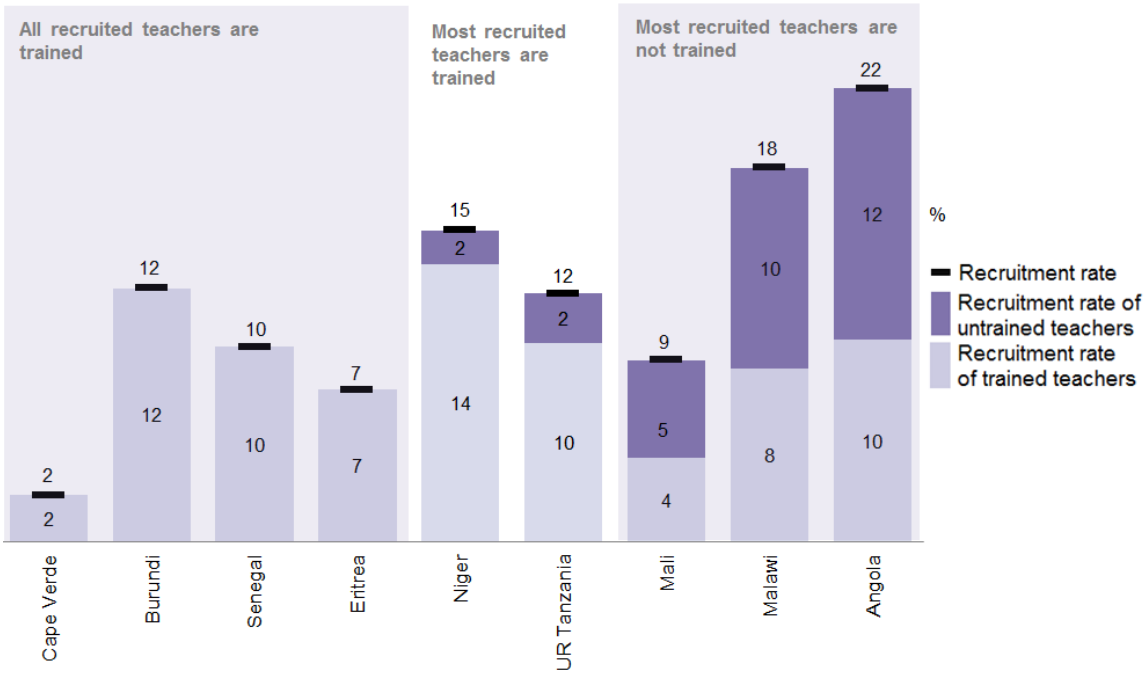
Source: UNESCO Institute for Statistics, Annex Table 5.

By contrast, Niger and the United Republic of Tanzania have relatively moderate to high levels of attrition, at 6% and 7% respectively, but have succeeded in hiring relatively large proportions of qualified teachers (80% to 90%). The minimum qualification for teaching in both countries is completion of upper secondary education. Even if efforts to meet the demand for teachers to achieve UPE by 2015 are not yet sufficient, significant efforts are being made to hire qualified teachers and to increase the quantity of teachers without sacrificing quality.

In the cases of Cape Verde and Eritrea, the level of recruitment is not sufficient to compensate for the loss of teachers due to attrition. However, all new teachers meet national qualification standards – which are tertiary education (ISCED 5) in Cape Verde and post-secondary non-tertiary edcucation (ISCED 4) in Eritrea.

High attrition rates are not sustainable and efforts should be made by policymakers to reduce them through the development of country-specific strategies to attract and retain the best teachers. In order to reduce the loss of teachers and to improve the management and the quality of the teacher workforce, a special effort should be given to better understand the cause and the patterns of teacher attrition.

FIGURE 7. RECRUITMENT RATES FOR TRAINED AND UNTRAINED TEACHERS, 2010



Note: Sums may not add to total due to rounding.
Source: UNESCO Institute for Statistics, Annex Table 5.

WHAT METHODS ARE USED TO ESTIMATE THE GLOBAL DEMAND FOR PRIMARY TEACHERS?

The UIS has provided projections related to global teacher needs since 2006 in order to assist national and international policymakers to identify and evaluate the recruitment challenges and budgetary implications associated with achieving the UPE goal by 2015. Thus, these projections are intended to serve as a guide for countries to set realistic goals.

Although UIS projections help to quantify the global teacher demand to reach this target, comparing previously published figures can lead to errors in interpretation. For example, the year to year estimations of the total number of teachers needed tends to decrease over time due to the reduced time interval between each successive year and 2015. For example, should the average teaching career be five years, a teacher entering the workforce in 2004 would have to be replaced twice before 2015, only once if the teacher began working in 2009, and not at all if the teacher started in 2011. Therefore, the resulting number of teachers needed to replace those leaving the profession diminishes as the 2015 target year approaches. Moreover, population estimates are updated every two years which can also result in different projections. Based on education data for 2007, the UIS estimated the global demand for teachers to be 10.3 million *(see UIS Technical Paper No. 3).* Using education data for 2008, the figure was 9.1 million teachers *(see UIS Information Sheet No. 5),* and to 8.2 million teachers using data for 2009 *(see UIS Information Sheet No. 6).* Now, with 2010 education data and population estimations, the global demand is estimated at 6.8 million teachers.

The estimation process is divided into two steps. First, the number of teachers needed to maintain the current pupil-teacher ratio (or if higher than 40:1, improved to meet this benchmark) is calculated by applying this ratio to the projected primary school-age population for 2015. There is also an assumption of improved efficiency, based on a benchmark for grade repetition of 10%. The resulting projected figure works under the assumption that every teacher hired stays in the workforce for an indefinite period. Since this number does not account for teachers who leave the profession, the UIS factors in attrition as the second step of the estimation process.

A full description of the methodology used to estimate the demand for teachers can be found in the annex of UIS Technical Paper No. 3 www.uis.unesco.org/publications/teachers2009.

REFERENCES

Darling-Hammond, L. (2000). “Teacher Quality and Student Achievement: A Review of State Policy Evidence” Education Policy Analysis Archives, Vol. 8, No. 1.

International Task Force on Teachers for EFA (2010). “Teacher attrition in Sub-Saharan Africa: The neglected dimension of the teacher supply challenge” Accessed at www.unesdoc.unesco.org/images/0018/001881/188197e.pdf on 31 July 2012.

Rivkin, S., E. Hanushek, and J. Kain (2005). "Teachers, Schools, and Academic Achievement" Econometrica, Vol. 73, No. 2, 417-458.

Rockoff, J. (2004). “The Impact of Individual Teachers on Student Achievement: Evidence from Panel Data” American Economic Review Proceedings, Vol. 94, No. 2, 247-252.

UNESCO (2010). Methodological Guide for the Analysis of Teacher Issues, accessed at http://unesdoc.unesco.org/images/0019/001901/190129e.pdf on 31 July 2012.

UNESCO-UIS (2012). “Info Bulletin: School and Teaching Resources in Sub-Saharan Africa”, UIS Information Bulletin no. 9, accessed at http://www.uis.unesco.org/Education/Documents/ib9-regional-education-africa-2012-en-v5.pdf on 31 July 2012.

ANNEX. STATISTICAL TABLES

TABLE 1. REGIONAL FIGURES FOR ALL COUNTRIES, IN THOUSANDS

No. of countries	Region	Stock in 2010	Teachers needed in 2015	Total recruitment needed	of which:	
					New posts	Replacement for attrition
20	Arab States	1,954	2,170	725	248	477
21	Central and Eastern Europe	1,113	1,187	360	91	269
9	Central Asia	323	346	106	24	82
34	East Asia and the Pacific	10,399	8,971	1,026	62	964
42	Latin America and the Caribbean	3,046	2,881	580	10	570
28	North America and Western Europe	3,742	3,870	1,076	174	902
9	South and West Asia	4,853	4,756	1,106	114	992
45	Sub-Saharan Africa	3,103	4,062	1,824	993	830
208	World	28,532	28,242	6,801	1,717	5,085

TABLE 2. REGIONAL FIGURES FOR COUNTRIES WITH EXPANDING NEEDS, IN THOUSANDS

No. of countries	Region	Stock in 2010	Teachers needed in 2015	Total recruitment needed	of which:	
					New posts	Replacement for attrition
16	Arab States	1,615	1,863	675	248	427
14	Central and Eastern Europe	603	694	250	91	159
6	Central Asia	251	275	89	24	65
12	East Asia and the Pacific	1,102	1,164	344	62	282
12	Latin America and the Caribbean	1,083	1,093	282	10	272
15	North America and Western Europe	2,726	2,900	873	174	699
3	South and West Asia	654	768	288	114	175
36	Sub-Saharan Africa	2,887	3,881	1,806	993	813
114	World	10,922	12,639	4,608	1,717	2,891

TABLE 3. REGIONAL FIGURES FOR COUNTRIES WITH DECREASING NEEDS, IN THOUSANDS

No. of countries	Region	Stock in 2010	Teachers needed in 2015	Total recruitment needed	of which:	
					New posts	Replacement for attrition
4	Arab States	339	307	49	-	49
7	Central and Eastern Europe	510	494	109	-	109
3	Central Asia	72	70	16	-	16
22	East Asia and the Pacific	9,297	7,807	682	-	682
30	Latin America and the Caribbean	1,963	1,788	298	-	298
13	North America and Western Europe	1,016	970	203	-	203
6	South and West Asia	4,198	3,987	817	-	817
9	Sub-Saharan Africa	216	181	18	-	18
94	World	17,610	15,603	2,193	-	2,193

TABLE 4. COUNTRY-LEVEL DATA

Country	Stock in 2010	Teachers needed in 2015	Average annual growth rate (%)	Total recruitment needed	of which:	
					New posts	Replacement for attrition
Albania	11,409	11,171	-0.42	2,590	-	2,590
Algeria	141,994	148,214	0.86	42,335	6,220	36,115
Andorra	453	519	2.74	185	66	120
Angola	93,379 **	98,850	1.15	29,357	5,471	23,886
Anguilla	112	118	1.08	35	6	29
Antigua and Barbuda	747	734	-0.34	241	-	241
Argentina	288,776 -2	251,666	-1.95	42,416	-	42,416
Aruba	586	466	-4.48	14	-	14
Austria	29,743	29,069	-0.46	6,694	-	6,694
Bahamas	2,402	2,111	-2.55	279	-	279
Barbados	1,742 *	1,314	-5.49	-	-	-
Belarus	23,907	26,403	2.01	8,717	2,496	6,221
Belgium	65,668 -1	67,614	0.49	18,524	1,946	16,578
Belize	2,367	2,017	-3.15	244	-	244
Benin	38,540	43,068	2.25	14,605	4,528	10,078
Bermuda	608	623	0.50	169	15	154
Bhutan	4,262	3,948	-1.52	720	-	720
Botswana	13,014 -1	12,277	-0.97	2,574	-	2,574
British Virgin Islands	242	249	0.56	68	7	61
Brunei Darussalam	3,896	3,752	-0.75	815	-	815
Bulgaria	14,885	16,073	1.55	5,026	1,188	3,838
Burkina Faso	42,870	81,959	13.84	53,213	39,089	14,123
Burundi	36,557	33,968	-1.46	7,490	-	7,490
Cambodia	46,905	45,348	-0.67	13,924	-	13,924
Cameroon	77,098	88,021	2.69	31,261	10,923	20,338
Cape Verde	3,009	2,613	-2.78	430	-	430
Cayman Islands	309 -2	334	1.13	104	25	79
Central African Republic	7,553	19,721	21.16	15,043	12,168	2,875
Chad	27,764	58,218	15.96	39,994	30,454	9,540
Chile	70,044 -1	63,981	-1.50	9,594	-	9,594
China	5,997,393	4,863,282	-4.11	247,075	-	247,075
China, Hong Kong S.A.R.	22,984	18,049	-4.72	293	-	293
China, Macao S.A.R.	1,577	1,719	1.74	550	142	408
Colombia	180,760	160,251	-2.38	26,779	-	26,779
Comoros	3,685 -2	4,896	4.14	2,212	1,211	1,001
Congo	14,347	18,713	5.46	8,366	4,366	4,000
Cook Islands	123	107	-2.78	13	-	13
Costa Rica	29,163	25,978	-2.29	3,779	-	3,779
Côte d'Ivoire	56,455 +1	90,109	12.40	51,729	33,654	18,076
Croatia	11,746	11,516	-0.39	2,683	-	2,683
Cuba	93,414	81,359	-2.73	11,910	-	11,910
Czech Republic	24,890 -1	27,555	1.71	9,103	2,665	6,439
Democratic Republic of the Congo	285,640	364,088	4.97	157,323	78,448	78,874
Djibouti	1,731 +1	3,192	16.53	2,062	1,461	601
Dominica	508	384	-5.47	-	-	-
Dominican Republic	51,615	50,690	-0.36	11,886	-	11,886
Egypt	380,111	405,816	1.32	103,243	25,705	77,538
El Salvador	31,077 -1	23,823	-4.33	950	-	950
Equatorial Guinea	3,131	4,536	7.70	2,318	1,405	913
Eritrea	7,535	22,081	23.99	17,577	14,546	3,032

Country	Stock in 2010	Teachers needed in 2015	Average annual growth rate (%)	Total recruitment needed	of which:	
					New posts	Replacement for attrition
Estonia	6,183 -1	6,976	2.03	2,402	793	1,610
Ethiopia	252,232	352,053	6.90	172,197	99,821	72,376
Fiji	3,939 -2	3,962	0.08	1,010	23	986
Finland	24,736	25,137	0.32	7,881	401	7,481
Gambia	6,436 -1	8,670	5.09	4,428	2,234	2,194
Georgia	35,443 *	35,156	-0.16	8,546	-	8,546
Germany	241,845	219,387	-1.93	35,714	-	35,714
Ghana	124,359 +1	128,746	0.87	36,022	4,387	31,636
Grenada	851	812	-0.93	170	-	170
Guatemala	95,194	93,779	-0.30	22,242	-	22,242
Guinea	34,451	46,745	6.29	22,062	12,294	9,767
Guinea-Bissau	5,371	7,507	6.92	3,678	2,136	1,542
Guyana	4,031	3,752	-1.42	700	-	700
Honduras	38,283 -2	34,746	-1.38	6,750	-	6,750
Hungary	37,108 -1	37,283	0.08	9,467	175	9,292
Indonesia	1,899,946	1,678,487	-2.45	186,926	-	186,926
Iran (Islamic Republic of)	277,991 -1	287,253	0.55	65,319	9,262	56,057
Ireland	32,043	33,727	1.03	9,862	1,684	8,177
Israel	60,155 -1	64,934	1.28	20,208	4,779	15,429
Jamaica	14,515	14,197	-0.44	3,279	-	3,279
Japan	399,424	372,423	-1.39	83,561	-	83,561
Kazakhstan	58,957	68,657	3.09	25,380	9,700	15,680
Kiribati	645 -2	520	-3.03	71	-	71
Kyrgyzstan	16,089	17,001	1.11	5,024	912	4,112
Lao People's Democratic Republic	31,782	25,315	-4.45	1,076	-	1,076
Latvia	9,566	10,688	2.24	3,623	1,122	2,501
Lebanon	32,649	28,356	-2.78	4,669	-	4,669
Lesotho	11,508	12,059	0.94	3,482	551	2,932
Liberia	22,253 -2	31,548	5.11	18,385	9,295	9,090
Liechtenstein	337	320	-1.06	65	-	65
Lithuania	9,531	9,475	-0.12	2,321	-	2,321
Luxembourg	2,992 -2	3,127	0.63	1,047	135	912
Madagascar	105,673	81,448	-5.07	-	-	-
Malawi	43,110 **	81,556	13.60	56,659	38,446	18,213
Maldives	3,602 +1	3,191	-2.98	342	-	342
Mali	40,052	78,516	14.41	51,809	38,464	13,346
Malta	1,748	1,606	-1.69	280	-	280
Mauritania	14,303	15,682	1.86	5,091	1,379	3,711
Mauritius	5,472	4,875	-2.28	710	-	710
Mexico	529,599	482,219	-1.86	80,193	-	80,193
Mongolia	9,060	8,614	-1.01	1,774	-	1,774
Montserrat	37 -1	36	-0.48	8	-	8
Morocco	150,367	141,391	-1.22	27,707	-	27,707
Mozambique	90,236	131,584	7.84	74,310	41,348	32,962
Myanmar	181,666	138,883	-5.23	-	-	-
Namibia	13,516 -1	13,981	0.56	3,882	465	3,417
Nicaragua	30,571	27,233	-2.29	3,964	-	3,964
Niger	44,710	86,320	14.06	60,721	41,610	19,111
Nigeria	574,078	786,161	6.49	375,479	212,083	163,396
Pakistan	463,674	525,737	2.54	184,032	62,063	121,969
Palestine	14,491	17,148	3.42	6,536	2,657	3,880
Panama	18,746	18,124	-0.67	4,002	-	4,002

Country	Stock in 2010	Teachers needed in 2015	Average annual growth rate (%)	Total recruitment needed	of which:	
					New posts	Replacement for attrition
Peru	191,177	180,350	-1.16	35,872	-	35,872
Philippines	435,385 -1	435,798	0.02	131,080	413	130,667
Poland	238,741 -1	221,721	-1.23	43,970	-	43,970
Republic of Korea	158,056	131,391	-3.63	10,084	-	10,084
Romania	52,272	53,031	0.29	13,903	759	13,144
Rwanda	35,583	48,444	6.37	22,964	12,861	10,103
Saint Kitts and Nevis	443	473	1.32	144	30	114
Saint Lucia	1,051	1,117	1.23	336	66	269
Saint Vincent and the Grenadines	887	798	-2.08	124	-	124
Samoa	1,021	875	-3.04	94	-	94
San Marino	244	259	1.16	77	15	62
Sao Tome and Principe	1,297 **	1,105	-3.15	113	-	113
Senegal	50,369	69,132	6.54	33,113	18,763	14,350
Seychelles	691	697	0.17	179	6	173
Sierra Leone	38,125 +1	36,155	-1.32	6,837	-	6,837
Slovenia	6,243 -1	6,622	0.99	1,970	379	1,592
Spain	219,409	240,257	1.83	77,748	20,848	56,899
Sri Lanka	71,957	78,515	1.76	25,191	6,558	18,634
Sudan (pre-secession)	123,633 -1	192,382	7.65	104,761	68,749	36,011
Suriname	4,620 -1	4,158	-1.74	727	-	727
Swaziland	7,462	6,992	-1.29	1,348	-	1,348
Sweden	60,396	67,324	2.20	22,704	6,928	15,777
Tajikistan	27,087	26,470	-0.46	6,092	-	6,092
TFYR of Macedonia	6,949	7,118	0.48	1,923	169	1,754
Timor-Leste	7,622	7,469	-0.41	1,737	-	1,737
Togo	31,712	30,435	-0.82	6,522	-	6,522
Trinidad and Tobago	7,447 *	7,571	0.33	1,998	124	1,874
Tunisia	60,374 -1	59,918	-0.13	14,675	-	14,675
Uganda	172,403	213,713	4.39	88,365	41,310	47,054
United Kingdom	245,879 -1	243,828	-0.14	59,588	-	59,588
United Republic of Tanzania	165,856	247,056	8.30	130,139	81,200	48,939
United States of America	1,794,812	1,913,874	1.29	579,518	119,062	460,456
Uruguay	24,931 -1	21,608	-2.36	3,145	-	3,145
Uzbekistan	110,962	115,380	0.78	32,597	4,418	28,179
Vanuatu	1,931	1,904	-0.29	453	-	453
Yemen	111,227	149,843	6.14	70,054	38,616	31,439
Zambia	49,987 **	74,148	8.21	38,884	24,161	14,723

Notes: **UIS estimation
*National estimation
+/-n data refer to the school year n years after/before the reference year.

TABLE 5. TEACHER STOCK, RECRUITMENT AND ATTRITION RATES IN SUB-SAHARAN AFRICA, 2009-2010

Country	Absolute numbers			Rates (%)			
	Teachers	Teachers leaving	Newly recruited teachers	Attrition	Recruitment	Effective growth of teacher workforce	Newly recruited teachers to compensate for attrition
	2009	2009-2010	2010	2009-2010	2009-2010	2009-2010	2010
Angola	86,711	14,440	19,291	16.7	22.2	5.5	74.9
Burkina Faso	35,056 +1	2,225 +1	4,645 +1	6.3 +1	13.3 +1	6.9 +1	47.9 +1
Burundi	33,131	1,433	4,122	4.3	12.4	8.1	34.8
Cameroon	38,546	3,177	6,275	8.2	16.3	8.0	50.6
Cape Verde	3,059	133	70	4.3	2.3	-2.0	100.0
Chad	24,097	973	1,322	4.0	5.5	1.4	73.6
Eritrea	7,098	728	530	10.3	7.5	-3.0	100.0
Malawi	38,331 **	3,857 **	7,034 **	10.1 **	18.4 **	8.3 **	54.8 **
Mali	18,700	493	1,665	2.6	8.9	6.3	29.6
Niger	42,929 +1	2,452 +1	6,562 +1	5.7 +1	15.3 +1	9.6 +1	37.4 +1
Senegal	40,925	1,902	3,914	4.6	9.6	4.9	48.6
UR Tanzania	151,476	10,836	18,441	7.2	12.2	5.0	58.8

Notes: **UIS estimation
+/-n data refer to the school year n years after/before the reference year.