

PROJECTING THE GLOBAL DEMAND FOR TEACHERS: MEETING THE GOAL OF UNIVERSAL PRIMARY EDUCATION BY 2015

How big is the teacher gap at the primary level of education?

It is obviously not possible to quantify the critical role that teachers play in education systems and societies at large. Every country must closely monitor the number of teachers entering and leaving the profession. To facilitate this process, the UIS has developed a series of projections to help governments better gauge their future needs for primary education teachers.

According to these new forecasts, a global total of 10.3 million teachers should be recruited between 2007 and 2015. However, this should be interpreted with caution because it groups together very diverse countries with very different needs – from Afghanistan, which must dramatically expand its education system, to France, where recruitment is solely linked to regular attrition trends. For policymaking and advocacy purposes, it is therefore recommended to focus specifically on those countries which simply do not have enough teachers to meet international and national education targets.

The world's countries are committed to reaching the goal of Universal Primary Education (UPE) by 2015. In order to achieve this, they need to ensure that sufficient school places are provided, enough teachers for quality instruction are employed and school systems function effectively. Many of the countries that are challenged to reach UPE are also facing population growth, which further increases the pressure to expand school systems and teaching forces.

Based on a set of key assumptions related to UPE, including education quality and efficiency (see the [Appendix](#)), the UIS has identified those countries that need to expand their teaching forces in order to be able to enrol all primary school-age children by 2015. This applies to approximately one-half of the world's countries, 96 out of 195, according to UIS figures (see [Table 1](#)). In total, these 96 countries will need at least 1.9 million more teachers in classrooms by 2015 than in 2007 in order to provide UPE of good quality.

Sub-Saharan Africa has by far the greatest need for additional teachers, as presented in [Figure 1](#). Three out of four countries (27 out of 45 countries) in the region face a significant teacher gap. In these 27 countries, 2.6 million teachers were employed in 2007. The number of primary teachers must grow to 3.7 million in the eight years remaining to fulfil the EFA commitment, indicating a gap of 1.2 million. For every two teachers teaching in 2007, there must be three in 2015. Budgets for teacher salaries will have to grow by 50%, relative to levels reported in 2007.

The Arab States, as well as South and West Asia, also face primary teacher gaps. The Arab States region will need 282,000 additional primary teachers in classrooms, while countries in South and West Asia will require 240,000. Yet, considering the current size of the teaching forces in these regions, the gaps are moderate in comparison to sub-Saharan Africa.

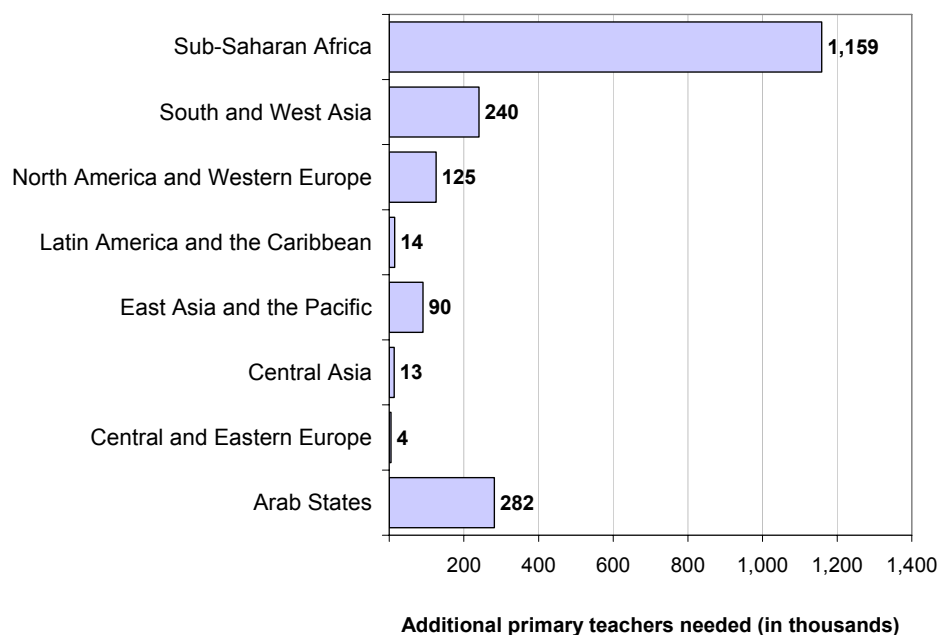
Table 1. The teacher gap

Current and projected teacher stock and increases needed by 2015, by region

Region	All countries		Countries that need to expand				
	Current teacher stock 2007 (in thousands)	Number of countries	Current teacher stock 2007 (in thousands)	Projected teacher stocks required to meet goal by 2015	Difference in teacher stocks (in thousands)	Number of countries with moderate or minor teacher gap	Number of countries with severe teacher gap
Arab States	1,959	20	1,503	1,785	282	11	4
Central and Eastern Europe	1,214	20	399	403	4	7	0
Central Asia	318	9	206	219	13	4	0
East Asia and the Pacific	9,961	29	1,032	1,122	90	10	4
Latin America and the Caribbean	2,905	39	435	450	14	11	0
North America and Western Europe	3,718	24	2,132	2,257	125	7	0
South and West Asia	4,949	9	925	1,165	240	1	2
Sub-Saharan Africa	2,822	45	2,573	3,732	1,159	8	27
World	27,847	195	9,205	11,133	1,928	59	37

Figure 1. Teacher shortages

Increase in teacher stocks needed by 2015, by region



The remaining regions account for a total teacher gap of below 200,000. However, it is important to note that regional averages can mask more extreme situations in individual countries. As shown in [Table 2](#), 10 countries outside of the sub-Saharan African region must dramatically expand their teaching forces.

Table 2. Countries with severe teacher gaps, by region

Arab States	Djibouti, Palestinian Autonomous Territories, Sudan and Yemen
East Asia and the Pacific	Cook Islands, Nauru, Papua New Guinea and Timor-Leste
South and West Asia	Afghanistan and Bangladesh
Sub-Saharan Africa	Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Kenya, Liberia, Malawi, Mali, Mozambique, Niger, Rwanda, Senegal, Somalia, Tanzania, Togo and Uganda

Which countries face the greatest challenges?

According to UIS figures, 37 countries are faced with severe primary teacher gaps (see *Table 2*). They need to expand the number of teachers in classrooms every year by 3% to 18% in order to meet the goal of UPE. This does not include the regular recruitment to compensate for attrition (due to teacher retirement, for example). Assuming 5% annual attrition, this group of countries would have to annually recruit the equivalent of 8% to 23% of their current teaching force.

More than two-thirds of the world's countries with severe teacher gaps are in sub-Saharan Africa. They include the Central African Republic, which needs to expand its teacher stock by 18.5% each year to achieve UPE (not attrition) by 2015, followed by Eritrea (15.9%), Chad (13.8%), Niger (12.5%) and Burkina Faso (12.0%).

In absolute numbers, Tanzania will need the most additional teachers (239,000) by 2015, followed by the Democratic Republic of the Congo (166,000), Uganda (95,000), Burkina Faso (81,000) and Kenya (80,000).

Ten countries have severe teaching gaps in the Arab States, East Asia and the Pacific, as well as South and West Asia. In order to reach UPE by 2015, primary teaching forces must expand by 11% every year in Djibouti, followed by Papua New Guinea (7.8%), Sudan (6.5%) and Timor-Leste (5.4%).

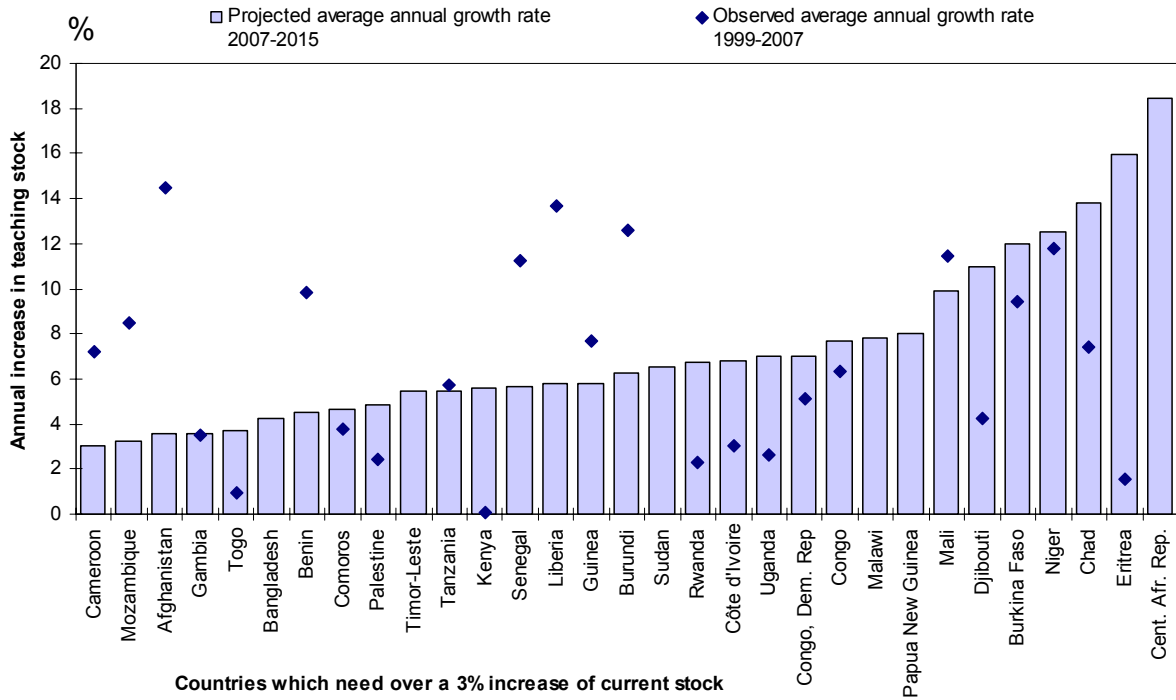
Can the gaps be filled?

Is it feasible for countries to bridge these severe gaps? One way to judge the challenges ahead is by considering progress that has been made since the EFA Summit in Dakar in 2000.

The good news is that several countries have been able to expand their teaching forces between 1999 and 2007 at an even higher rate than required to achieve the UPE goal. They include: Afghanistan, Benin, Burundi, Cameroon, Congo, Guinea, Liberia, Mozambique, Senegal and Tanzania.

However, most of the countries with severe gaps will fall short of the goal if current trends continue (see *Figure 2*). It is important to note that some of these countries have clearly made remarkable efforts to close the gap. Burkina Faso, Chad, Djibouti, Mali and Niger managed to expand their teaching forces by 5% to 12% annually since 1999. Yet, these rates are not enough to meet UPE by 2015. Furthermore, it will presumably become increasingly difficult to sustain this pace.

Figure 2. Comparison of projected and past annual growth rates in the expansion of teaching forces



Even more problematic is that a number of countries have clearly fallen behind in the aim to attain the UPE goal. Between 1999 and 2007, the expansion rates for primary teaching forces in Uganda, Côte d'Ivoire, Eritrea and Kenya were not even one-third of what is required to achieve UPE by 2015.

By looking at trends since Dakar, it becomes clear that it is possible for countries to dramatically expand their teaching forces over a relatively short period of time. However, little information is available on the training of these new teachers. Many countries that succeed in employing sufficient numbers of teachers by 2015 will most likely need to expand their training programmes to ensure quality education.

Turning from the 37 countries that face severe teacher gaps, a more positive perspective emerges when considering the 59 countries that are experiencing minor or moderate shortfalls in the primary teacher stock. This group should be able to bridge the gaps. To do so, the respective numbers of teachers need to increase annually by less than 3%, which is in general less than growth rates since 1999. Moreover, most countries with moderate gaps managed to expand their teaching forces even faster than would have been expected since 1999. If the political will and international commitment continue, two-thirds of these countries should not face major problems in expanding their teaching forces to ensure that there are enough teachers in classrooms to achieve UPE by 2015.

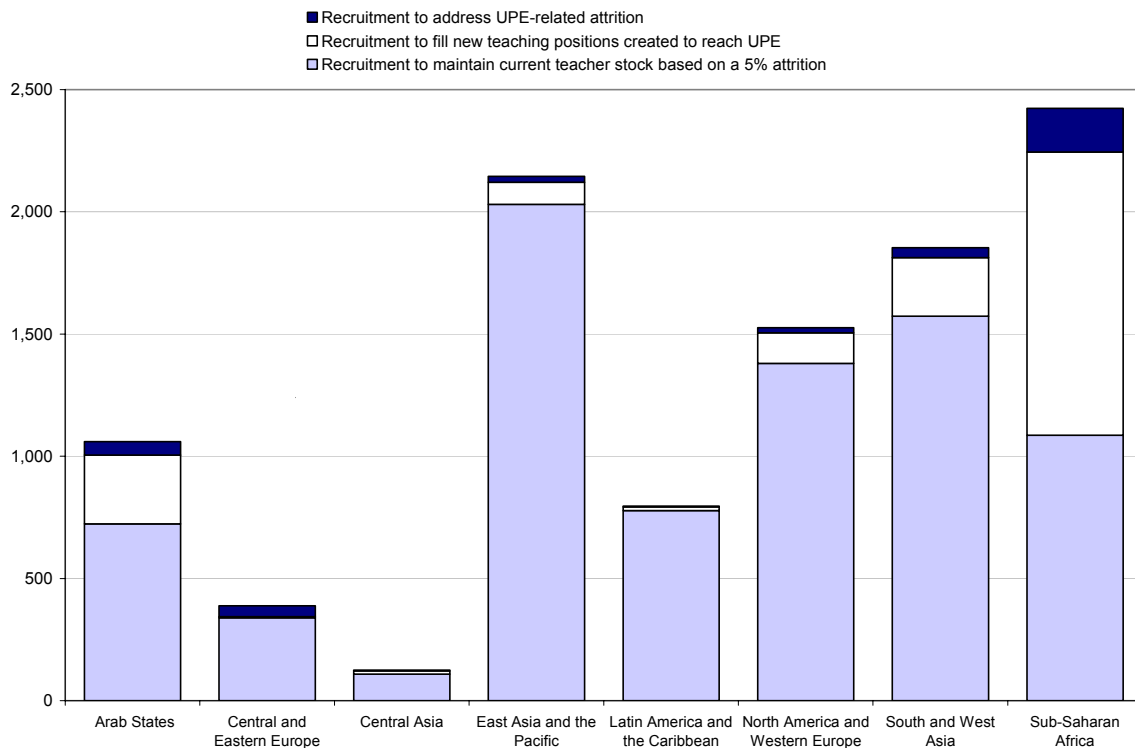
How many teachers need to be recruited between 2007 and 2015 to meet the needs of UPE and to compensate for attrition?

The number of teachers needed in classrooms by 2015 is referred to as the "stock" of teachers. But when planning to expand or maintain teacher stocks, policymakers must also consider the number of teachers leaving the profession. Teachers retire, change professions, switch education levels or leave the classroom to assume administrative duties. To fully evaluate future needs for teachers and the challenges to mobilize sufficient numbers of motivated and trained recruits, policymakers must examine the projected flows in and out of the profession.

According to UIS estimates provided in **Figure 3**, 1.3 million teachers will need to be recruited every year between 2007 and 2015 amounting to a global total of 10.3 million over the eight-year period. These figures are based on the needs associated with attrition and UPE-related expansion in countries that have not yet achieved the goal and those that have. Recruitment needs in the latter are solely linked to attrition.

The global figures will inevitably decrease over time as they have been calculated for a specific period (the years remaining until 2015). For example, the global figure of 10.3 million recruits is projected to fall to 9.1 million beginning in 2008 and down to 6.7 million in 2010, when only five years will remain to the target year of 2015. Given the limitation in this figure, the UIS suggests focusing more specifically on expansion rates and changes in stock needed for planning and advocacy purposes.

Figure 3. Total number of primary teachers that need to be recruited for UPE and attrition between 2007 and 2015, by region



How much of the projected need for teacher recruitment is attributed to meeting the goal of UPE?

Of the 10.3 million teachers needed, 8.1 million will be deployed to maintain the current capacity of education systems (i.e. compensate for attrition). About 2.2 million recruits will be needed to expand education systems in order to achieve UPE. In other words, one in five teachers that need to be hired by 2015 will be part of global efforts towards Education for All. This reflects the massive investment which is required by governments.

This perspective highlights the dramatic burden for sub-Saharan Africa. The region needs to recruit and train about 1.1 million teachers to maintain the current situation in the classroom, which already falls short in terms of education quality. But to attain UPE, these countries must recruit an additional 1.3 million teachers, bringing the total to 2.4 million. In short, they will need to recruit almost as many teachers in just eight years as are currently teaching in classrooms across the region.

Appendix

The underlying assumptions in the UIS projections

The UIS figures for teacher demand are not to be understood as a forecast or a projection of what will happen. Instead, it uses standard scenarios to project what needs to be achieved: the efforts required from individual countries to train and deploy enough teachers in order to meet the UPE goal by 2015.

The scenario presented here rests on the conviction that progress towards UPE cannot be achieved by simply increasing resources. It must be accompanied by policy measures specifically targeting efficiency and quality. The model used is based on five main assumptions:

- i) countries reach UPE, i.e. net enrolment rates of 100%;
- ii) systems increase efficiency by reducing repetition, i.e. repetition rates fall by one-half and do not exceed 10%, and consequently, gross enrolment rates are between 100% and 110%;
- iii) schools maintain or improve minimum standards for pupil-teacher ratios to ensure minimum quality standards, i.e. countries with pupil-teacher ratios above 40 to 1 recruit sufficient teachers to reach this standard;
- iv) countries experience population growth as projected by the UN Population Division; and
- v) all other indicators are unchanged between 2007 and 2015.

As a consequence of these assumptions, not all countries that still fall short of UPE in 2007 need to expand their teaching forces. They could achieve UPE by improved system efficiency without the costly expansion of the number of teachers.

Comparisons to previous UIS projections

Caution is required when comparing the updated UIS estimates on teacher gaps with those from 2006, which projected that 18 million teachers would need to be recruited to achieve UPE and to compensate for teacher attrition between 2004 and 2015. The updated figures project that 10.3 million teachers are needed for the period between 2007 and 2015.

The change in the number is mainly due to two factors. First, more recent evidence has led to a revised assumption of annual teacher attrition (from 6.5% to 5%) which accounts for a difference of 3.3 million in the global number of teachers. Second, there is a shorter time period to reach the target date of 2015 (from 2004-2015 to 2007-2015). This accounts for an estimated 3 million (at 5% attrition) to 4.2 million (at 6.5% attrition) of the difference.

To download the full report on "Projecting the Global Demand for Teachers: Meeting the Goal of Universal Primary Education by 2015", please see UIS Technical Paper No. 3 at: www.uis.unesco.org/publications/teachers2009. To access the UIS online Data Centre, please visit: <http://stats.uis.unesco.org>