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Literacy Rates Continue to Rise from One Generation to the Next

The UNESCO Institute for Statistics (UIS) is the official source of internationally-comparable data on education and literacy used to monitor progress towards the Sustainable Development Goals.

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To celebrate International Literacy Day on 8 September, this fact sheet presents the latest available literacy data from the UNESCO Institute for Statistics (UIS) and an overview of national, regional and global trends over the past five decades.

The data show remarkable improvement among youth in terms of reading and writing skills and a steady reduction in gender gaps. 50 years ago, almost one-quarter of youth lacked basic literacy skills compared to less than 10% in 2016. However, 750 million adults – two-thirds of whom are women – remain illiterate (*see **Box 1** on methodological changes*).

Renewed efforts are therefore needed to reach the new literacy target of the Sustainable Development Goals (SDGs): “by 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy”. The data are available via the [UNESCO eAtlas of Literacy](http://on.unesco.org/literacy-map), which features interactive maps and charts that can be shared and downloaded at <http://on.unesco.org/literacy-map>.

Global literacy trends today

Although literacy has been high on the development agenda over the past decades, UIS data show that 750 million adults – two-thirds of whom are women – still lack basic reading and writing skills, according to the latest available data for 2016 (*see **Table 1***). 102 million of the illiterate population were between 15 and 24 years old. The global adult literacy rate was 86% in 2016, while the youth literacy rate was 91%.

According to UIS data, the majority of countries missed the Education for All (EFA) goal of reducing adult illiteracy rates by 50% between 2000 and 2015. At the global level, the adult and youth literacy rates are estimated to have grown by only 4% each over this period.



In line with the new monitoring framework, all regional data presented here refer to SDG regions.¹

Box 1. Methodological changes to improve the accuracy of literacy rates and numbers

The UIS has introduced several methodological changes to improve the accuracy of its literacy rates and numbers. One effect of these changes is an overall rise in adult literacy rates and a corresponding decrease in the illiterate population, which largely explains the apparent decrease in the global number of illiterate adults from 758 million reported last year for 2014 to 750 million reported this year for 2016.

In the past, data from the most recent year available were used for many countries, rather than projections for the reference year for the current release. Starting this year, the UIS is using estimated literacy rates produced with its Global Age-Specific Literacy Projections ([GALP](#)) model for all years when national data are missing. For example, for Brazil, China and India, data for 2013, 2010 and 2011, respectively, were used in the calculation of regional averages for 2014 published by the UIS in 2016. By contrast, regional averages for 2016 published in 2017 make use of projections for 2016 for all countries.

This change in methodology also allows the calculation of regional averages for each year, rather than each decade, and has thus resulted in the production of more recent and timely estimates for literacy.

In addition to this methodological change, the UIS has also received new or revised data for many countries. In some cases, this has resulted in very different estimates of the adult literacy rate than previously published. For example, new data for Bangladesh show an adult literacy rate of 73% in 2016 compared with 47% in 2011, resulting in a reduction of the estimated illiterate population for the country.

For the reasons outlined above, regional averages – including estimates of the illiterate population – are not comparable across data releases. Instead, the most recent time series published by the UIS should be used to examine changes in regional and global literacy rates and numbers between years. For example, in 2016 the UIS estimated that the global adult illiterate population was 758 million in the 2014 reference year, but this estimate for 2014 has now been revised downward to 755 million, based on the most recent national data and revised methodology.

¹ The SDG region Central and Southern Asia is presented in this fact sheet as two separate regions given the very different patterns of literacy in the two sub-regions. Data for the SDG region Oceania are not available.



Table 1. What are the latest literacy figures?

Global literacy rates and illiterate population by age groups, 2016

Indicator	Adults (aged 15 years and older)	Youth (aged 15-24 years)	Population aged 25-64 years	Elderly (aged 65 years and older)
Global literacy rate (%)				
Both sexes	86	91	86	78
Men	90	93	90	83
Women	83	90	82	73
Gender parity index	0.92	0.96	0.92	0.87
Global illiterate population (millions)				
Both sexes	750	102	507	141
Men	277	44	186	47
Women	473	58	321	94
Share of women (%)	63	57	63	67

Source: *UNESCO Institute for Statistics, July 2017*

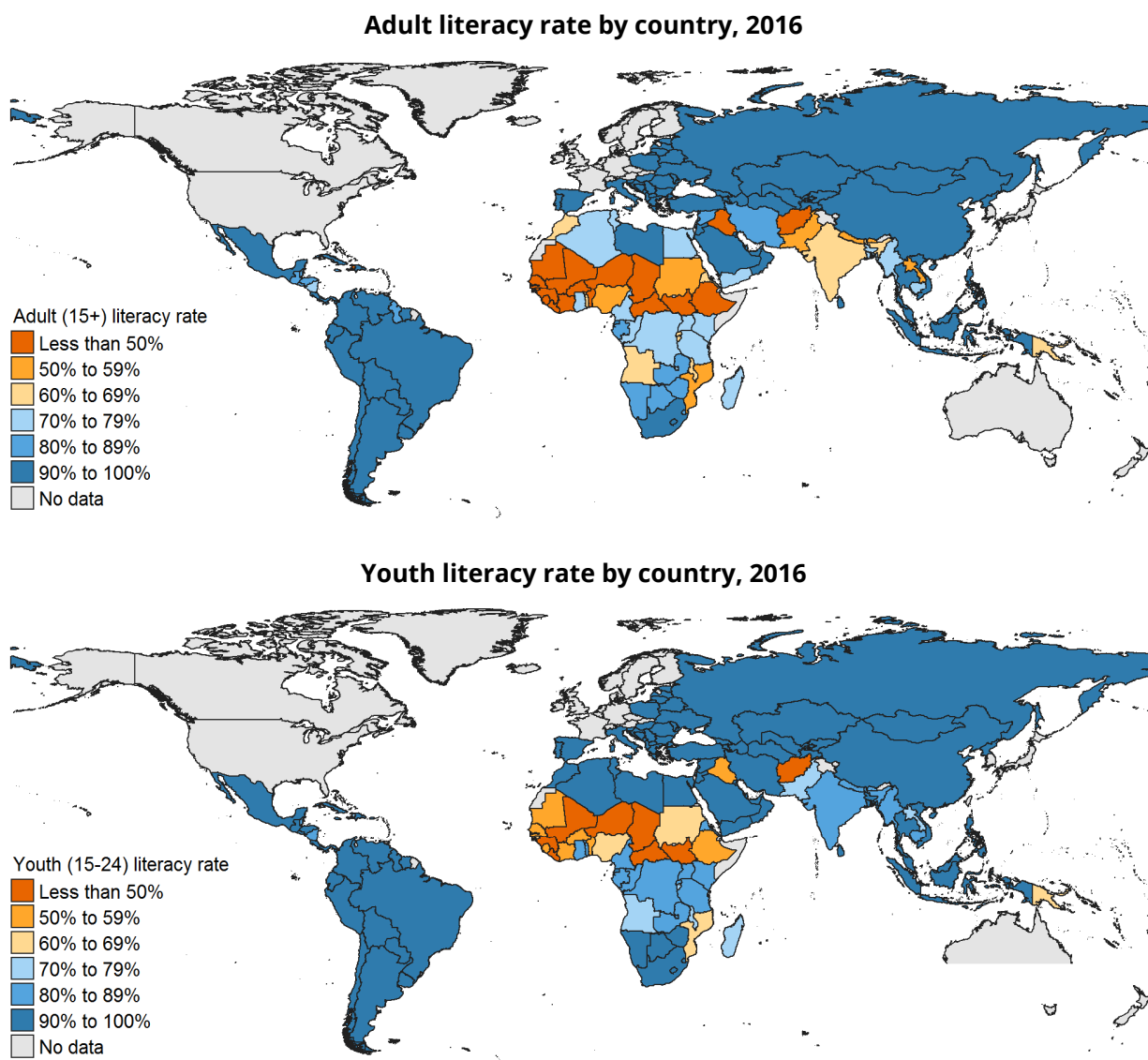
Regions with the largest illiterate populations and countries with the lowest literacy rates

Southern Asia is home to almost one-half of the global illiterate population (49%). In addition, 27% of all illiterate adults live in sub-Saharan Africa, 10% in Eastern and South-Eastern Asia, 9% in Northern Africa and Western Asia, and about 4% in Latin America and the Caribbean. Less than 2% of the global illiterate population live in the remaining regions combined (Central Asia, Europe and Northern America, and Oceania).

The lowest literacy rates are observed in sub-Saharan Africa and in Southern Asia (see **Figure 1**). Adult literacy rates are below 50% in the following 20 countries: Afghanistan, Benin, Burkina Faso, Central African Republic, Chad, Comoros, Côte d'Ivoire, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Iraq, Liberia, Mali, Mauritania, Niger, Senegal, Sierra Leone and South Sudan. Youth literacy rates, for the population aged 15 to 24 years, are generally higher than adult literacy rates, reflecting increased access to schooling among younger generations. Nevertheless, youth literacy rates remain low in several countries, most of them in sub-Saharan Africa, which suggests problems with low access to schooling, early school leaving or a poor quality of education.



Figure 1. Where are literacy rates lowest and highest in the world?

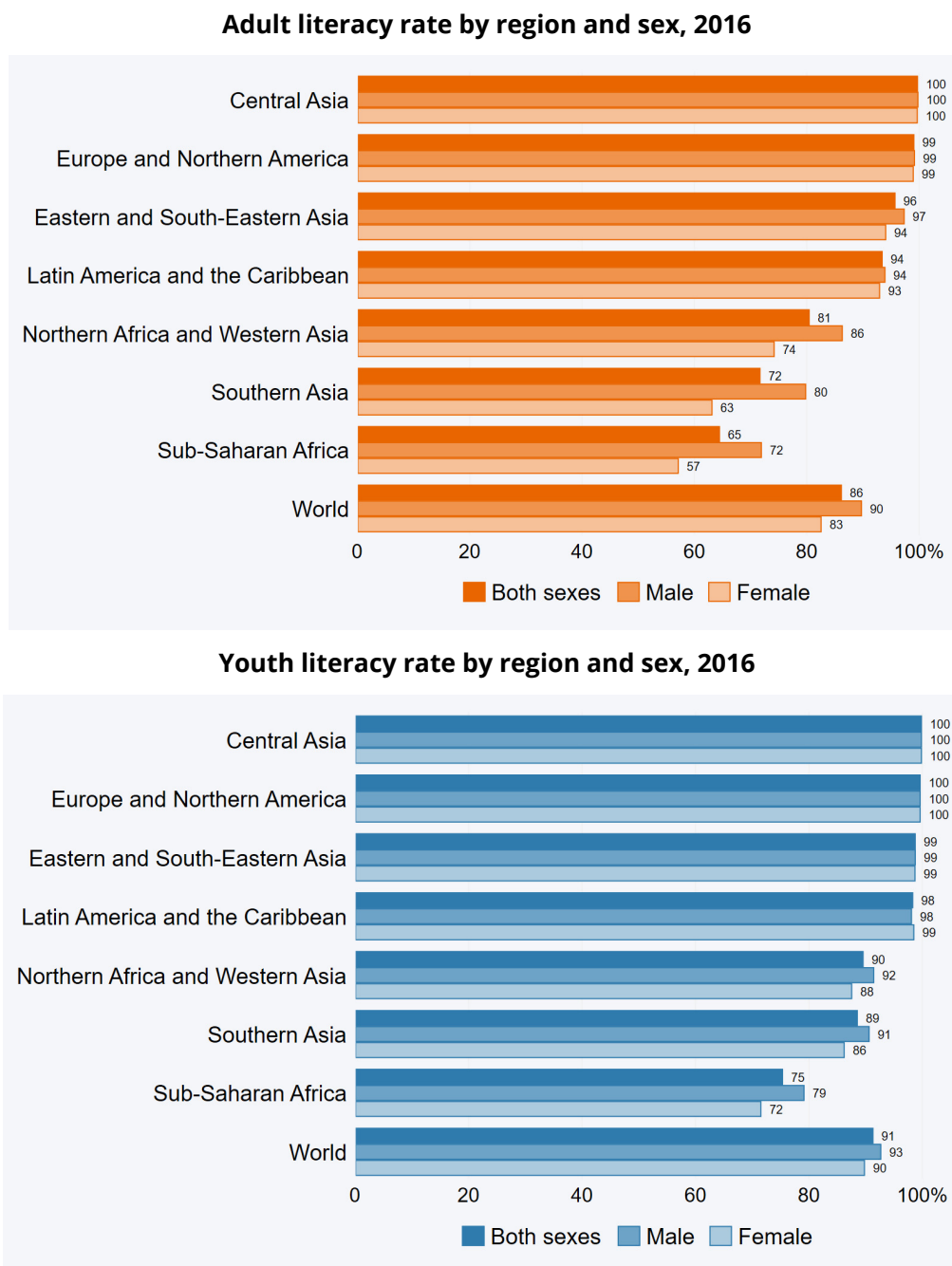


Source: *UNESCO Institute for Statistics, July 2017*

Adult literacy rates are at or near 100% in most countries in Central Asia, Europe and Northern America, and Eastern and South-Eastern Asia (see **Figure 2**). Youth literacy rates are highest in the same three regions and in Latin America and the Caribbean.



Figure 2. How do literacy rates for men and women compare across regions?



Source: *UNESCO Institute for Statistics, July 2017*



Gender gaps persist among adults but also youth

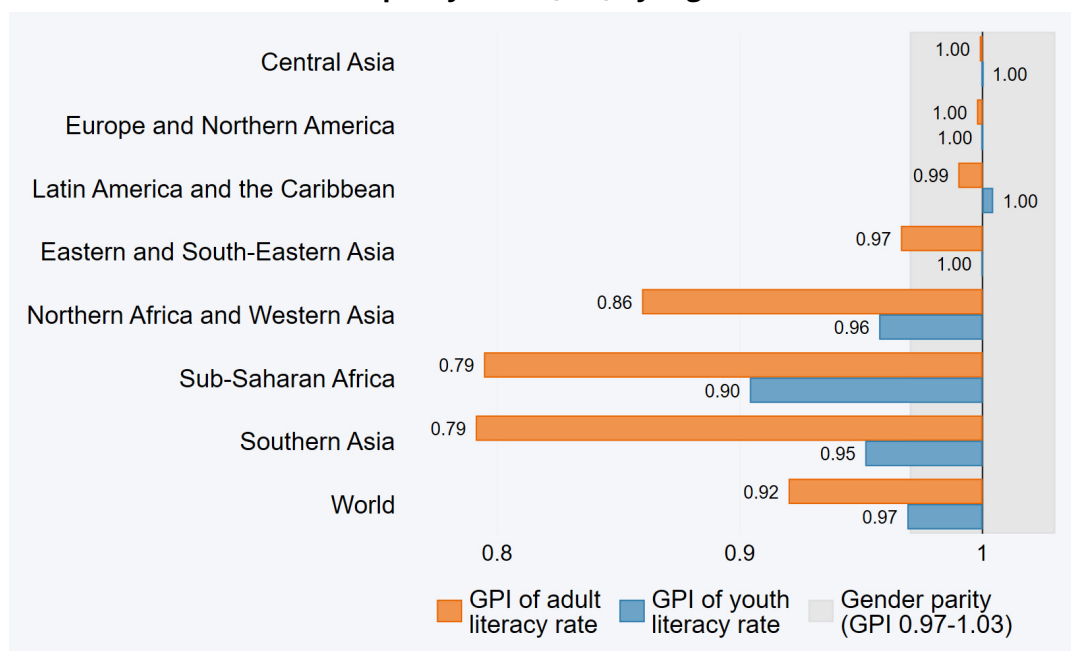
Figure 2 displays the male and female literacy rates in each region. In Central Asia, Europe and Northern America, Eastern and South-Eastern Asia, and Latin America and the Caribbean, there is no or little difference between male and female adult literacy rates. On the other hand, there are relatively large gender gaps to the detriment of women in Northern Africa and Western Asia, Southern Asia, and sub-Saharan Africa. Among youth, gender disparities in literacy skills are generally smaller and improving more quickly over time; this is discussed in more detail in the section on trends over the past decades.

The gender parity index (GPI), which is calculated by dividing the female by the male literacy rate, represents a different way of looking at the relative literacy skills of men and women. A GPI value below 1 means that the female literacy rate is below the male literacy rate, while values between 0.97 and 1.03 are generally interpreted to indicate gender parity. **Figure 3** shows that four regions have achieved gender parity among adults and youth with regard to literacy: Central Asia, Eastern and South-Eastern Asia, Europe and Northern America, and Latin America and the Caribbean.

Three regions – Northern Africa and Western Asia, Southern Asia and sub-Saharan Africa – are far from gender parity for the adult population. In Southern Asia and sub-Saharan Africa, GPI values of 0.79 for the adult literacy rate indicate that women aged 15 years and older are one-fifth less likely to be literate than men in the same age group. At the global level, women aged 15 years and older are nearly 8% less likely to be literate than men, and young women between 15 and 24 years are 3% less likely to be literate than young men.

Figure 3. Which regions have reached gender parity in adult and youth literacy?

Gender parity index (GPI) by region, 2016



Source: *UNESCO Institute for Statistics, July 2017*



Regional literacy trends

For the first time, the UIS has produced annual regional-level literacy estimates based on national data and UIS projections from 1990 to 2016. Eastern and South-Eastern Asia, Southern Asia, and Northern Africa and Western Asia have made the greatest progress in improving adult literacy over the past 26 years (see **Figure 4**). In Southern Asia, the adult literacy rate rose from 46% in 1990 to 72% in 2016. For the other regions, the change in adult literacy over the same period was as follows: Northern Africa and Western Asia from 64% to 81%, Eastern and South-Eastern Asia from 82% to 96%, sub-Saharan Africa from 52% to 65%, and Latin America and Caribbean from 85% to 94%.

The youth literacy rate increased the most in Southern Asia (from 59% in 1990 to 89% in 2016), Northern Africa and Western Asia (from 80% to 90%) and sub-Saharan Africa (from 65% to 75%). To a lesser extent, progress was also observed in all other regions for both adult and youth literacy.

Figure 4 also shows that female literacy rates – always lower than male literacy rates at the start of the period – generally grew faster than male literacy rates between 1990 and 2016 and gender gaps have therefore shrunk in all regions over the past 26 years.

Because of limited coverage in the UIS database, an examination of trends in observed adult and youth literacy is only possible for the period since 1990. For a longer perspective, it is possible to compare elderly literacy rates (for the population aged 65 years and older) in 2016 with youth literacy rates (for the population aged 15 to 24 years) in the same year. The comparison reveals trends in youth literacy over the past 50 years because the population 65 years and older today was 15 years and older in the mid-1960s. The literacy rate of those aged 65 and older can therefore be used as an estimate of the literacy rate of those aged 15 years and older five decades ago.²

A focus on youth is appropriate because increasing literacy skills over time can be most readily observed among this age group. Adult literacy rates change more slowly because most improvement in literacy occurs mainly through formal education at a young age. The literacy skills of the current elderly cohort may also have improved through participation in adult literacy programmes. However, such programmes rarely reach the entire population of illiterate adults, and previous studies have stressed their limited effect on national literacy figures.³ Literacy skills can also be lost over time due to a lack of practice, but the effect on aggregate literacy rates of an entire cohort is likely to be small. Another factor to consider is that the composition of today's elderly population in a country – those aged 15 years and older 50 years ago – has changed over the years because of mortality and migration. Overall, the analysis in this section may slightly underestimate progress over the past 50 years with regard to youth literacy, but the opposite is unlikely.

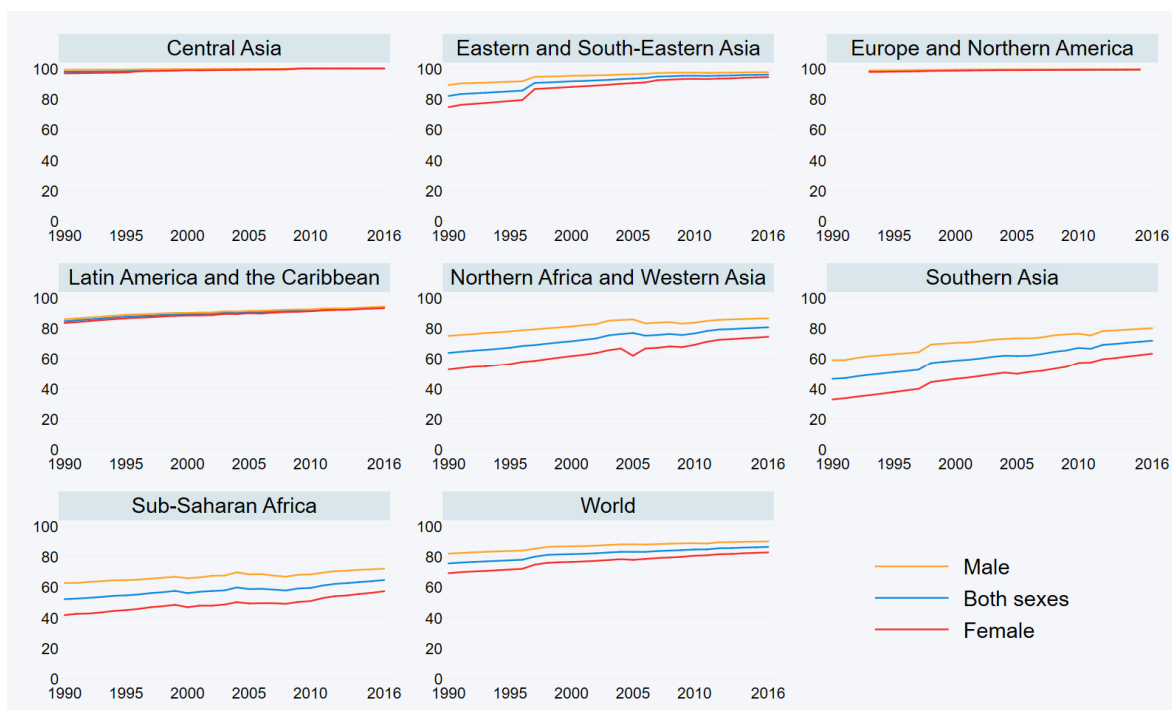
² It would be more precise to compare the literacy rate of those aged 65 to 74 years with the literacy rate of those aged 15 to 24 years, but due to data constraints the entire population aged 65 years and older was used in the analysis. 65- to 74-year-olds account for a large proportion of the entire population aged 65 years and older in all countries.

³ Hanemann, U. (2015). *The Evolution and Impact of Literacy Campaigns and Programmes, 2000-2014*. UIL Research Series: No. 1. Hamburg: UNESCO Institute for Lifelong Learning. Lind, A. (2008). *Literacy for All: Making a difference*. Paris: UNESCO-IIEP. <http://unesdoc.unesco.org/images/0015/001597/159785e.pdf>

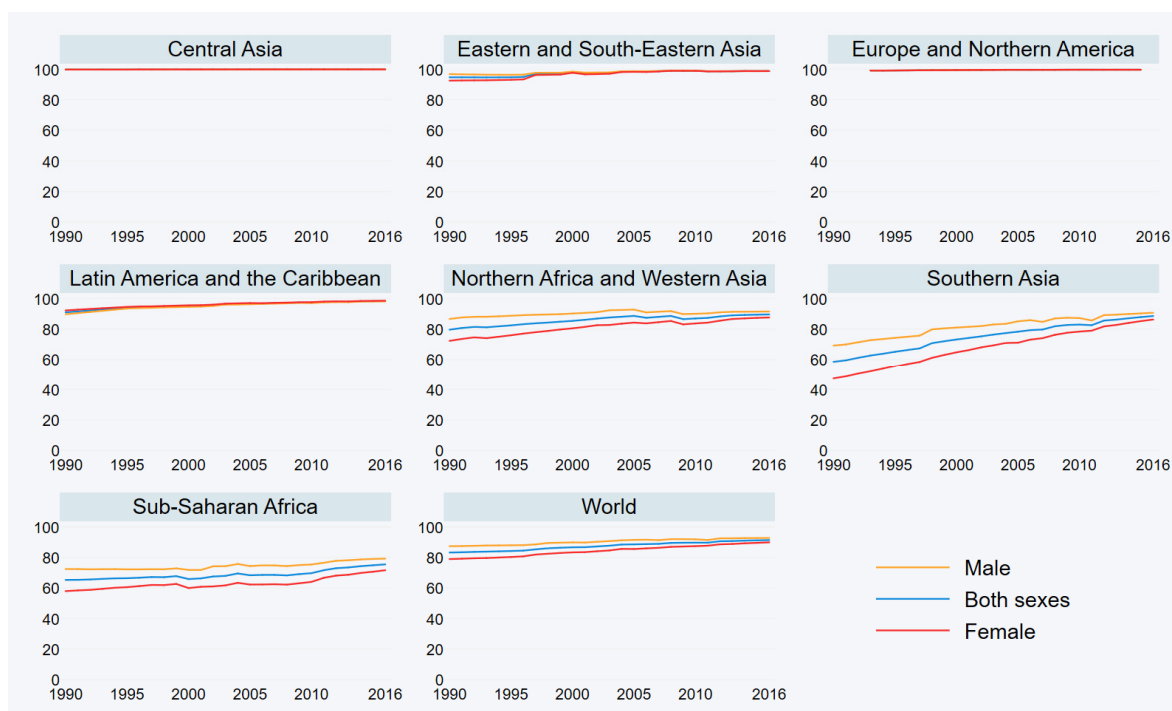


Figure 4. How have adult and youth literacy rates changed since 1990?

Adult literacy rate by region and sex, 1990-2016



Youth literacy rate by region and sex, 1990-2016



Source: *UNESCO Institute for Statistics, July 2017*



Young people in Africa and Asia are much more likely to be literate than 50 years ago

At the global level, progress over the past 50 years is evident because the youth literacy rate is 13 percentage points higher than the elderly literacy rate (see **Figure 5**). In 2016, 91% of 15- to 24-year-olds were reported to have basic literacy skills, compared with 78% of adults aged 65 years and older.

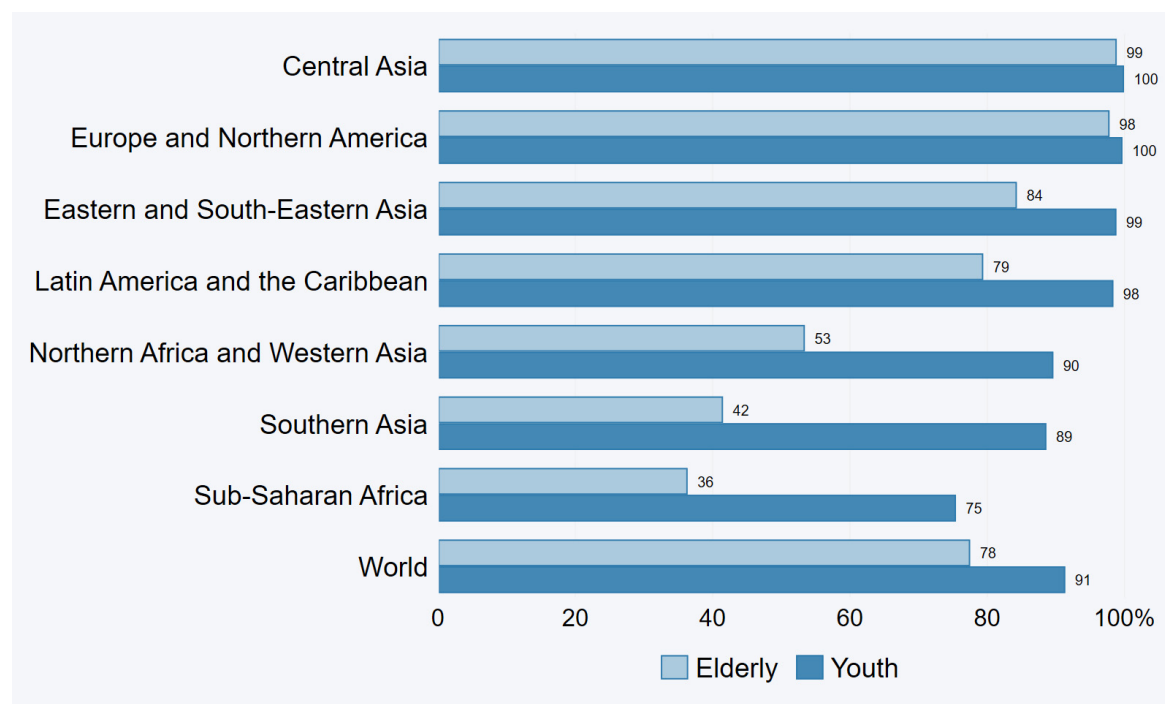
From a regional perspective, the largest progress in literacy was seen in Southern Asia, followed by sub-Saharan African and Northern Africa and Western Asia, with differences between youth and elderly literacy rates amounting to 47, 39 and 36 percentage points, respectively.

In Southern Asia and sub-Saharan Africa, over twice as many individuals have basic literacy skills among the younger cohort (89% and 75%, respectively) compared with their elderly counterparts (42% and 36%, respectively). In these regions, Bhutan and Nepal in Southern Asia, and Eritrea and Togo in sub-Saharan Africa, had the biggest increases in youth literacy over the past 50 years. The elderly literacy rate is very low in these countries with around one-seventh of youth in Bhutan (15%) and one-fifth in Eritrea, Nepal and Togo (20%-21%), being able to read and write 50 years ago. These countries were able to make tremendous progress over the years to reach youth literacy rates of 80%-90% in 2016.

In Central Asia and in Europe and Northern America, the difference between the two literacy rates is small because most young adults were already literate 50 years ago, and both the youth and elderly literacy rates are at or close to 100% today.

Figure 5. How do elderly and youth literacy rates compare?

Elderly and youth literacy rate by region, 2016



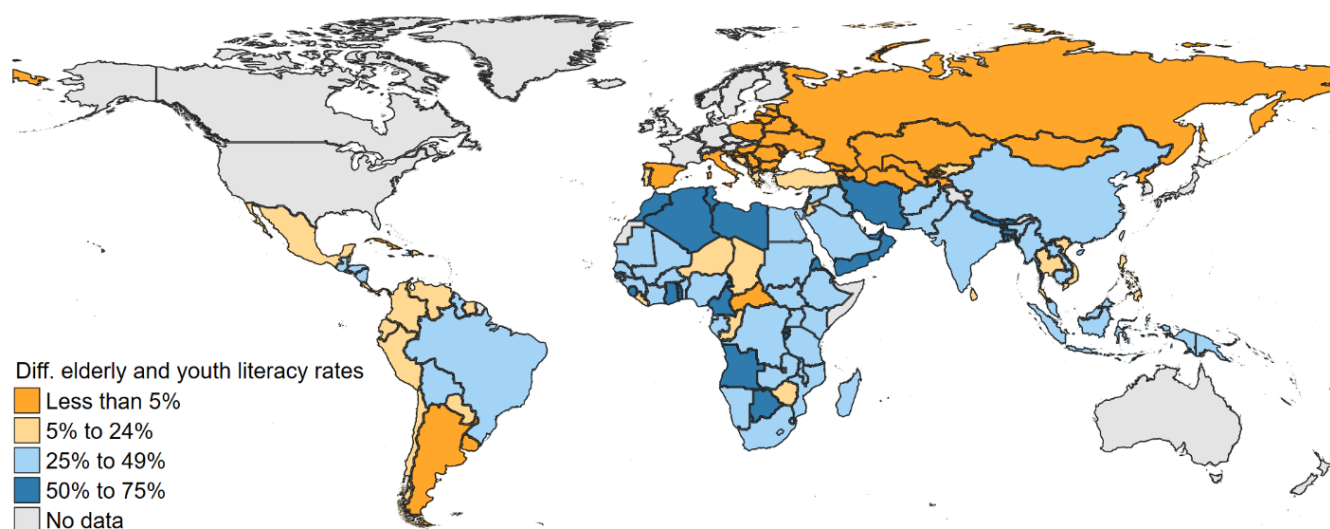
Source: *UNESCO Institute for Statistics, July 2017*



Figure 6 displays the magnitude of the progress made by countries over the last 50 years. Countries with a very large difference between the literacy rates of youth and elderly cohorts generally had very low levels of youth literacy 50 years ago. They have managed to widely expand the share of the population that is able to read and write. The biggest differences between both rates – and thus the biggest improvements in youth literacy – are observed in Algeria and Bhutan. They went from very low youth literacy 50 years ago (current elderly rate of 20% and 15%, respectively) to a significantly higher share of youth with basic literacy skills (94% and 87%, respectively) in 2016, mainly due to increased access to primary schooling. For reference, in 2015 the primary out-of-school rates in Algeria and Bhutan were 1.2% and 11.0%, respectively.

Figure 6. Which countries made the greatest progress in youth literacy?

Difference between elderly literacy rate and youth literacy rate by country, 2016



Source: *UNESCO Institute for Statistics, July 2017*

Literacy skills improved more among women than men

Table 2 shows the difference between the elderly and youth literacy rate by region and sex. Among women, the youth literacy rate is 17 percentage points higher than the elderly literacy rate, compared with 9 points difference between younger and older men. Women thus made more progress than men since the 1960s. Globally, almost 90% of women aged 15 to 24 years had basic literacy skills in 2016, compared with only 73% of women from the older cohort. Improvements in female youth literacy are significantly greater than for men in all regions of the world, except in Central Asia and Europe and Northern America, where there was hardly any gender gap in youth literacy 50 years ago.



Table 2. How does male and female progress compare across regions?

Youth literacy rate and difference with elderly literacy rate by region and sex, 2016

Region	Youth literacy rate (%)			Difference with elderly literacy rate (%)		
	MF	M	F	MF	M	F
Sub-Saharan Africa	75.4	79.2	71.6	39.1	30.0	45.8
Southern Asia	88.6	90.7	86.3	47.1	34.1	59.0
Northern Africa and Western Asia	89.6	91.5	87.6	36.2	25.7	44.4
Latin America and the Caribbean	98.4	98.2	98.6	18.9	16.2	21.1
Eastern and South-Eastern Asia	98.8	98.8	98.8	14.5	7.4	20.5
Europe and Northern America ¹	99.7	99.7	99.7	1.9	1.4	2.2
Central Asia	99.9	99.9	99.9	1.1	0.6	1.4
World	91.4	92.8	89.9	13.8	9.3	17.3

Note: ¹Data for 2015

Source: *UNESCO Institute for Statistics, July 2017*

Southern Asia and sub-Saharan Africa are the regions where women progressed the most. Only around one-fourth of young women were able to read and write five decades ago in both regions (the current elderly literacy rates are 27% and 26%, respectively), whereas young women fared significantly better in 2016, with 86% and 72% of them being literate, respectively. In Northern Africa and Western Asia, a substantially larger share of young women (88%) is also literate compared to 50 years ago (43%).

As shown in Figure 3, gender parity in youth literacy is close to achievement from a global perspective, with a GPI of 0.97 in 2016. This compares to a GPI for the elderly literacy rate of 0.87 in the same year. However, this global success conceals disparities across and within regions. Gender parity among youth has been reached in four of seven regions, with the exception of Southern Asia (GPI of 0.95) and Northern Africa and Western Asia (GPI of 0.96), which are close to gender parity, and sub-Saharan Africa (GPI of 0.90). Central Asia and Europe and Northern America have maintained gender parity in youth literacy for the past 50 years, and Latin America and the Caribbean was close to gender parity (0.95) amongst youth 50 years ago.

The other regions made remarkable progress. For example, in Southern Asia less than one-half as many women as men were literate 50 years ago and about two-thirds in Northern Africa and Western Asia (GPI of 0.48 and 0.66, respectively, for the elderly literacy rate), yet they were both close to gender parity (GPI of 0.95 and 0.96, respectively) for the youth literacy rate in 2016.

Although still far from the goal of gender parity, there was also much progress in sub-Saharan Africa: the gender parity index for the youth literacy rate is 0.90, compared to only 0.53 for the elderly literacy rate, indicating that women of the youngest cohort are around 10% less likely to be literate than men, compared to a gap of almost 50% in the older cohort. The literacy gap between young men and women is narrowing in sub-Saharan African, but continued efforts are needed.



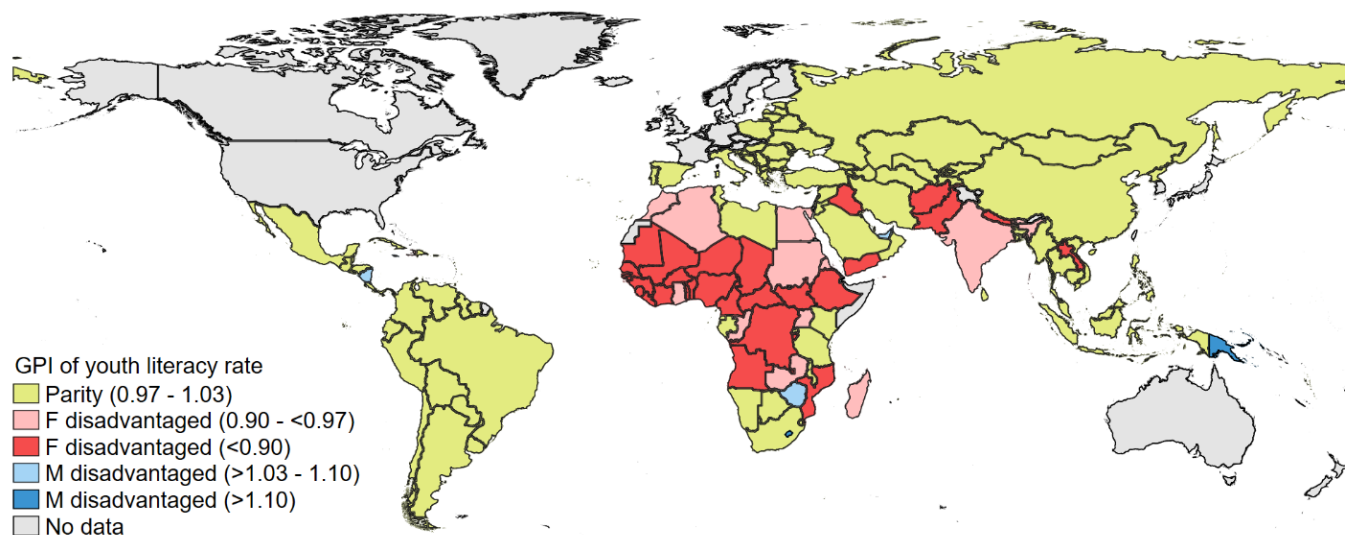
Gender disparity persists in some countries despite progress

Figure 7 shows the GPI for the youth literacy rate at the country level. Out of 163 countries with available data, 113 or 69% have achieved gender parity in 2016. Among those, 46 countries were already at gender parity 50 years ago, and 66 countries managed to close the gap between young males and females over the past decades.⁴ Countries that have made the greatest progress include: Algeria, Cabo Verde, Cambodia, Malawi, Oman, Rwanda and Uganda. In these countries, the female elderly literacy rate is less than one-third the male elderly literacy rate, but among 15- to 24-year-olds gender parity has been achieved or almost achieved.

Another 14 countries – located in Northern Africa and Western Asia, Southern Asia, sub-Saharan Africa, and Latin America and the Caribbean – are close to achieving gender parity among youth. In Bhutan and Comoros, male literacy rates among the oldest cohort are six times as high as female literacy rates (the GPI of the elderly literacy rate is 0.16 and 0.14, respectively), but women aged 15 to 24 years are nearly as likely to be literate as their male counterparts (GPI of 0.93 and 0.94, respectively).

Figure 7. Which countries have achieved gender parity in youth literacy?

Gender parity index of youth literacy rate by country, 2016



Source: *UNESCO Institute for Statistics, July 2017*

⁴ The GPI value for the elderly literacy rate is missing for one country, so no conclusion can be made on its progress.



Despite the progress, gender disparity in youth literacy remains persistent in almost one in five countries. In 44 countries, mainly located in Northern Africa and Western Asia, Southern Asia and sub-Saharan Africa, young women are still less likely than men to have basic reading and writing skills. One of the few exceptions is Lesotho, where there is a large disparity at the expense of young men. Nevertheless, tangible progress occurred in all countries, and although disparities still exist, they are not as large as they were 50 years ago. For example, in Sierra Leone, Guinea-Bissau and the Gambia, the GPI of the elderly literacy rate is 0.06, 0.08 and 0.09, respectively, while among youth the GPI has reached 0.79, 0.70 and 0.85, respectively.

The momentum of progress must be maintained and continuing efforts pursued in all countries to ensure that everyone, regardless of age and sex, acquires reading and writing skills, as called for in the new global education agenda. The data in this fact sheet underscore the need for strengthened investment in literacy and numeracy programmes around the world if the new SDG literacy goal is to be met by 2030.

Explore the data

Produced by the UIS, the [UNESCO eAtlas on Literacy](http://on.unesco.org/literacy-map) presents more than 50 interactive maps and charts on a range of issues – from youth literacy rates and numbers to gender disparities at the global, regional and country levels. With just a couple of clicks, you can drill down into the data and explore trends across countries, regions and over time. All of the data can be downloaded and the interactive maps and charts can be directly embedded in your website, blog or presentation.

The eAtlas is available in English, French and Spanish at: <http://on.unesco.org/literacy-map>

