Annex to chapter 4

1. Data for SDG 4

SDG 4 comprises 10 targets and a total of 11 indicators (six of which contain multiple subindicators). Of these indicators, two are tier I, five are tier II, and two are tier III for which data are not available, as the indicators are still in the process of methodological definition. In addition, one of the indicators (4.1.1) is labeled as "Tier III (a)/Tier II (b,c)" as it measures the "Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex" and indicator (4.5.1) is labeled as "Tier I/II/III depending on indices" given that it includes different types of parity indices for education indicators, including female/male, rural/urban, and bottom/top wealth quintiles, among others, whose classification based on the level of advancement in methodology setting and data availability varies from one to another.

The United Nations Statistics Division provides data sets for a total of 10 indicators: 4.1.1 - Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex; 4.2.1 - Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex; 4.2.2 - Participation rate in organized learning (one year before the official primary entry age), by sex; 4.3.1 - Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex; 4.4.1 - Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill; 4.5.1 - Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated; 4.6.1 - Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex; 4.a.1 - Proportion of schools with access to (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single-sex basic sanitation facilities; and (g) basic handwashing facilities (as per the WASH indicator definitions); 4.b.1 - Volume of official development assistance flows for scholarships by sector and type of study; and 4.c.1 - Proportion of teachers in: (a) pre-primary; (b)primary; (c) lower secondary; and (d) upper secondary education who have received at least the minimum organized teacher training (e.g. pedagogical training) pre-service or in-service required for teaching at the relevant level in a given country.

The data used in the analysis of SDG 4 was downloaded on 9 August 2018. After a country level data check following a major update of the Global SDG Indicators Database of the United Nations Statistics Division on 8 July 2019, the data series of 4.b.1 (Total official flows for scholarships, by recipient countries (millions of constant 2017 United States dollars)) is replaced with amended data.

We examine data availability in the Arab region and implement data substitution, when needed, based on the criterion of having to cover half or more of the total Arab region's population and at least the third of the Arab countries for an indicator/subindicator to be kept in the analysis. This leads us to omit five of the six series of 4.1.1, indicators 4.2.1, 4.3.1, 4.4.1 and 4.6.1, 43 of the 50 series of 4.5.1, 20 of the 21 series of 4.a.1, and two of the five series of 4.c.1.

The rest of the indicators/subindicators are subject to our data substitution scheme for the year 2017, considering the data spanning 2009–2017. Table 4.1 shows the number of substituted data points for each year, including those from Arab countries.

Table 4.1 Data substitution scheme for selected indicators and subindicators

Indicator or subindicator	Number of substituted data points (Arab)	Year
4.1.1 (Proportion of children at the end of lower secondary achieving at least a minimum proficiency level in mathematics (percentage))	79 (12)	2015
	2 (0)	2012
	6 (2)	2011
	6 (0)	2009
4.2.2 (Participation rate in organized learning (one year before the official primary entry age) (percentage))	77 (8)	2016
	44 (1)	2015
	6 (1)	2014
	5 (3)	2013
	7 (0)	2012
	3 (0)	2011
	4 (1)	2010
	1 (0)	2009
4.5.1 (Gender parity index for achievement in mathematics at the end of lower secondary)	79 (12)	2015
	2 (0)	2012
	6 (2)	2011
	6 (0)	2009
4.5.1 (Gender parity index of trained teachers in pre-primary education)	37 (5)	2016
	16 (2)	2015
	4 (0)	2014
	5 (1)	2013
	10 (1)	2012
	7 (0)	2011
	4 (0)	2010
	2 (2)	2009

4.5.1 (Gender parity index of trained teachers in primary education)	60 (9)	2016
	22 (3)	2015
	4 (0)	2014
	6 (1)	2013
	10 (0)	2012
	3 (0)	2011
	4 (0)	2010
	5 (1)	2009
4.5.1 (Language test parity index for students' achievement in mathematics at the end of lower secondary)	77 (12)	2015
	3 (0)	2012
	6 (2)	2011
	6 (0)	2009
4.5.1 (Gender parity index for students' participation rate in organized learning (one year before the official primary entry age))	77 (8)	2016
	41 (1)	2015
	6 (1)	2014
	6 (3)	2013
	7 (0)	2012
	3 (0)	2011
	4 (1)	2010
	1 (0)	2009
4.5.1 (Rural to urban parity index for students' achievement in mathematics at the end of lower secondary)	74 (12)	2015
	2 (0)	2012
	7 (2)	2011
	6 (0)	2009
4.5.1 (Low to high socio-economic parity status index for students' achievement in mathematics at the end of lower secondary)	78 (12)	2015
	1 (0)	2012
	6 (2)	2011

4.a.1 (Proportion of schools with access to electricity in the upper secondary (percentage))	68 (7)	2016
	8 (1)	2015
	2 (0)	2013
	3 (0)	2012
	4 (2)	2011
	18 (0)	2010
	3 (0)	2009
4.b.1 (Total official flows for scholarships, by recipient countries)	1 (0)	2015
	1 (0)	2013
	1 (0)	2012
	4 (1)	2010
4.c.1 (Proportion of teachers in pre-primary education who have received at least the minimum organized teacher training (e.g. pedagogical training) pre- service or in-service required for teaching at the relevant level in a given observation (percentage))	49 (8)	2016
	16 (2)	2015
	8 (0)	2014
	6 (1)	2013
	13 (1)	2012
	6 (0)	2011
	3 (0)	2010
	2 (1)	2009
4.c.1 (Proportion of teachers in primary education who have received at least the minimum organized teacher training... (percentage))	60 (9)	2016
	23 (3)	2015
	5 (0)	2014
	7 (1)	2013
	10 (0)	2012
	4 (0)	2011
	4 (0)	2010
	7 (1)	2009

4.c.1 (Proportion of teachers in upper secondary education who have received at least the minimum organized teacher training... (percentage))	26 (5)	2016
	13 (2)	2015
	6 (2)	2014
	4 (2)	2013
	9 (0)	2012
	1 (0)	2011
	4 (0)	2010
	6 (1)	2009

Of the seven remaining series of 4.5.1, five address students and two are related to teachers. Therefore, we visualize this indicator using two bar charts, since each chart allows us to analyse its series separately while representing them together: the first chart includes the five parity indices for students, which are on the same scale, range and unit, while the second includes the two parity indices for teachers which are also on the same scale, range and unit. We note that, one of the parity indices for students, "Language test parity index for students' achievement in mathematics at the end of lower secondary", is not clearly and sufficiently defined in the corresponding data set and metadata. No information is provided about it by the original source of the data (mostly the OECD) or the data compiler (UNESCO). Nevertheless, keeping in mind that the indicator/target that this series belongs to aims to measure inequality in education and referring to major available reports that tackle this issue, we assume that this series measures the ratio of the level of achievement in mathematics for students who study in a foreign language to that for students who study in their native language; as the latter group would be better off compared to the former. Accordingly, given that a parity index represents the ratio of the indicator's value for one group to that of the other, where the more disadvantaged group is placed in the numerator and where 1 indicates parity between the two groups, we therefore assume that this series is also on the same scale, range, and unit as the rest of the parity indices under indicator 4.5.1.

Similarly, we visualize and analyse the three remaining series if 4.c.1 separately but in the same bar chart since they are very similar and only address teachers in different education levels. This is also possible since they are on the same scale, range and unit, as well.

As for indicator 4.b.1 (Total official flows for scholarships, by recipient countries), the main data set provided by the United Nations Statistics Division only includes recipient countries/territories and omits the donor countries/territories that then take missing values which are considered as zeros when the series' regional and global aggregates are calculated using a total sum. Hence, we consider that 22 instead of 17 Arab countries are covered by data for this indicator, knowing that five of the GCC countries are donor countries whose missing data values in the original data set are equivalent to zeros.

This leaves us with 14 integral indicators/subindicators with which we can assess the position of the region by 2030, as noted in box 4.1.

Box 4.1	Summary list of preserved and examined indicators/subindicators

- Indicator 4.1.1 – 1 series out of 6 - Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex
- Indicator 4.2.2 – Participation rate in organized learning (one year before the official primary entry age), by sex
- Indicator 4.5.1 – 7 series out of 50 - Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated
- Indicator 4.a.1 – 1 series out of 21 - Proportion of schools with access to (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) handwashing facilities (as per the WASH indicator definitions) single-sex basic sanitation facilities; and (g) basic handwashing facilities (as per the WASH indicator definitions)
- Indicator 4.b.1 – Volume of official development assistance flows for scholarships by sector and type of study
- Indicator 4.c.1 – 3 series out of 5 - Proportion of teachers in: (a) pre-primary; (b) primary; (c) lower secondary; and (d) upper secondary education who have received at least the minimum organized teacher training (e.g. pedagogical training) pre-service or in-service required for teaching at the relevant level in a given country

However, we lose the ability to determine the region's position on the rest of the targets, indicators and subindicators as noted in box 4.2, including those in table 4.3 on targets, indicators, tiers and data availability in Arab countries for SDG 4, but that do not have sufficient data.

Box 4.2	Summary list of omitted targets

- 4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
- 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
- 4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy
- 4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development

Annex 4.2 contains a graph for each of the evaluated series/indicators, showing the country level data values of the series/indicator for the years whose data points were used for every included country.

The global, regional and subregional aggregates of 4.b.1 are calculated using a total sum. The aggregates of all the other series and indicators are calculated using a weighted average. The method of aggregation, in general, as well as the weighting variables to be used for the weighted averages and the weighting variables' properties are all chosen based on what is advised by the corresponding SDG Indicators Metadata Repository of the United Nations Statistics Division or by the original source of the corresponding data that is referred to by this metadata. If none of these two references advise on the aggregation methods or weights, the decisions are made based on the most common scientific logic fitting the case and its feasibility (e.g. the availability of the needed data for the weighting variables). The year of the weighting variable data is the most commonly used year for the data of the respective series/indicator. The following weights were actually used for the indicators/series whose global, regional and subregional aggregates are weighted averages: Total enrolment in lower secondary education in 2014; Total school age population - one year before the official primary entry age in 2016; Total number of teachers in primary education in 2016; Total number of teachers in pre-primary education in 2016; Total GDP (current United States dollars) for the year 2016; and Total number of teachers in secondary general education in 2016. The data of all the weighting variables, except for total GDP, are taken from the database of the UNESCO Institute for Statistics, whereas the data on total GDP (current United States dollars) for the year 2016 is taken from the World Development Indicators DataBank. The chapter includes more details about the weighting variables, including which weight was used for which series or indicator.

For the remaining series of 4.1.1 and for four of the five parity indices for students that are remaining under 4.5.1, what we actually need as a weighting variable is the total number of students "at the end of lower secondary education". However, since no data were found on this specific variable, we use the total enrolment "in lower secondary education" as a weighting variable instead. The five series in question actually need data for the used weighting variable in 2015, but the data of this variable in 2015 is poor and has a weak overlap (in terms of data availability) with the data of the series that we need to evaluate, which could reduce our final data coverage significantly when computing the global, regional and subregional aggregates. Therefore, we use the data for total enrolment in lower secondary education in 2014, which is relatively richer, to calculate the weighting averages of each of these five series, as this makes us lose only three Arab countries instead of six. We are also sometimes obliged to make bigger compromises by replacing the weighting variable itself with a proxy one such as in the case of each of the remaining series of 4.a.1 (Proportion of schools with access to electricity in the upper secondary (percentage)) and the third remaining series of 4.c.1 (Proportion of teachers in upper secondary education who have received at least the minimum organized teacher training...(percentage)). For series of 4.a.1, we ideally need to weight by the total number of schools in upper secondary education, but no data were found for this variable, and no data were found for the total number of schools (in general). Therefore, we use "Total government expenditures on upper secondary education" in 2016 or "Total government expenditures on education" (in general) in 2016, as a proxy weighting variable. However, none of them could solve the issue since they both also have poor data availability (only covering 49 countries worldwide) and poor overlap with the data of the series that we need to evaluate. Even trying to use their data for another year or to substitute their data across years is not enough to solve this issue. Hence, we use "Total GDP (current United States dollars) for the year 2016" as a proxy weighting variable, since a country's total GDP is very representative of its government expenditures on education (in all its levels, including the upper secondary one) which – in turn – can considerably affect the proportion of schools with access to electricity in this country. This is also only one of the channels through which total GDP affects our indicator. Using "Total GDP (current United States dollars) for the year 2016" solved the issue as it preserved all the 11 Arab countries in the calculated global, regional and subregional aggregates, despite the weighting. As for the series of 4.c.1, we ideally need to weight by the total number of teachers in upper secondary education in 2016 (from the UNESCO database). Similarly, since the data coverage for this variable is poor and so is its overlap with the data of the series to be evaluated, we use the total number of teachers in secondary general education in 2016, which is richer in data, as a weighting variable instead. This allows us to preserve eight Arab countries (instead of seven Arab countries or fewer) out of 12, amounting to one third of the Arab countries and half the total Arab population.

Finally, we note again that the weighting variables sometimes prevent us from evaluating the series/indicator using the full data that are available or provided to us, despite some efforts and compromises to mitigate this problem. A such, our final data coverage for the series/indicators is sometimes slightly undermined by the data availability of the weighting variable. This applies for the remaining series of 4.1.1 and for four of the five parity indices for students that are remaining under 4.5.1, where 11 Arab countries out of 14 are covered after weighting. The same applies for the two remaining parity indices for teachers under 4.5.1, where 10 Arab countries out of 11 are covered after weighting for the one on teachers in pre-primary education and 13 Arab countries out of 14 are covered after weighting for the one on teachers in primary education.

This also applies for the three remaining series of 4.c.1, where 10 Arab countries out of 13 are covered after weighting for the one on teachers in pre-primary education, 13 Arab countries out of 14 are covered after weighting for the one on teachers in primary education, and 8 Arab countries out of 12 are covered after weighting for thwwwwwwcountry-year graphs include all the Arab countries that have data for the evaluated series/indicator, regardless of the data availability of the weighting variable.

We calculate the world, regional and subregional aggregates for each indicator and include the target value – when available – to facilitate comparability. The aim of target 4.1 is to "ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes, by 2030", so for 4.1.1 we consider the target value as 100 per cent of children at the end of lower secondary achieving at least a minimum proficiency level in mathematics. The aim of target 4.2 is to "ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education, by 2030", so for 4.2.2 we consider the target value as a 100 per cent participation rate in organized learning (one year before the official primary entry age). The aim of target 4.5 is to "eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations, by 2030", so for 4.5.1 we set the target value as 1 for each of the seven parity indices (for students and for teachers). Finally, the aim of target 4.a is to "build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all", and for 4.a.1 the target value is set as 100 per cent of schools with access to electricity in the upper secondary education level. However, for 4.b.1 and 4.c.1, it is not possible to infer the official desired target values from the target definitions, and thus they are not shown.

Of the indicators that we can use, only three have available sex disaggregated data: 4.1.1, 4.2.2 and 4.c.1. We construct a female-to-male ratio for each of 4.2.2 (which comprises one series), the remaining series of 4.1.1, and the three remaining series of 4.c.1, and again we check for data availability. We use the same data substitution process on these ratios to get the optimal data availability in 2017 that is parallel to what we could get for their respective series in their aggregated forms (table 4.2).

Table 4.2 Data substitution scheme for female-to-male ratios of selected indicators and subindicators

Indicator or subindicator	Number of substituted data points (Arab)	Year
4.1.1 (Proportion of children at the end of lower secondary achieving at least a minimum proficiency level in mathematics (percentage))	79 (12)	2015
	2 (0)	2012
	6 (2)	2011
	6 (0)	2009
4.2.2 (Participation rate in organized learning (one year before the official primary entry age) (percentage))	77 (8)	2016
	41 (1)	2015
	6 (1)	2014
	6 (3)	2013
	7 (0)	2012
	3 (0)	2011
	4 (1)	2010
	1 (0)	2009

4.c.1 (Proportion of teachers in pre-primary education who have received at least the minimum organized teacher training (e.g. pedagogical training) pre- service or in-service required for teaching at the relevant level in a given observation (percentage))	37 (5)	2016
	16 (2)	2015
	4 (0)	2014
	5 (1)	2013
	10 (1)	2012
	7 (0)	2011
	4 (0)	2010
	2 (2)	2009
4.c.1 (Proportion of teachers in primary education who have received at least the minimum organized teacher training... (percentage))	60 (9)	2016
	22 (3)	2015
	4 (0)	2014
	6 (1)	2013
	10 (0)	2012
	3 (0)	2011
	4 (0)	2010
	5 (1)	2009
4.c.1 (Proportion of teachers in upper secondary education who have received at least the minimum organized teacher training... (percentage))	24 (5)	2016
	14 (2)	2015
	7 (2)	2014
	4 (2)	2013
	9 (0)	2012
	1 (0)	2011
	3 (0)	2010
	6 (1)	2009

Concerning the first preserved series of 4.c.1 (Proportion of teachers in preprimary education who have received at least the minimum organized teacher training...), we note that the original data set provided by the United Nations Statistics Division assigns a zero for the male values of each of Saudi Arabia and the Syrian Arab Republic over the different years, while the respective female and aggregated values are economically significant, with some being 100 per cent. By referring to the original source of the data (UNESCO), we realize that these zeros should rather be substituted by missing values as they are replaced by the original source with "a" or "n", indicating a "non-applicable category or a negligible or null number". We therefore consider these zeros as missing values and thus lose the Syrian Arab Republic and Saudi Arabia from the observations which have a female-to-male ratio for the series in question.

We also note that the female-to-male ratio corresponding to indicator 4.2.2 has one value that is equal to 431.8 per cent and that pertains to Niue, being the only value which exceeds 200 per cent. As this can bias our results and lead to overestimating the average female-to-male ratios for the World and Oceania, we replace this value with the ceiling of 200. Based on the same rationale, we also cap the ratios of the first two preserved series of 4.c.1 to 200 by replacing values greater than 200 per cent (632.5 per cent for Anguilla and the 221 per cent for Kyrgyzstan) with the ceiling value.

We calculate the global, regional and subregional aggregates for each of the above-mentioned five ratios, following the same calculation methods used for the respective series/indicators in their aggregated forms (i.e. total sum or weighted average). When a weighted average is used and the data availability of the weighting variable undermines the data coverage of the of series/indicator in its aggregated form, the data coverage of sex disaggregated ratio of this series/indicator is undermined in the exact same way by the data availability of the weighting variable.

Table 4.3 Targets, indicators, tiers and data availability for Arab countries – SDG 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all)

Target	Indicator	Number of subindicators	Tier	Data availability*
4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	4.1.1 Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex	1 chosen out of 6	Tier III (a)/ Tier II (b,c)	14
4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education	4.2.1 Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex	(Dropped) 1	Tier III	x
	4.2.2 Participation rate in organized learning (one year before the official primary entry age), by sex	1 chosen out of 1	Tier I	15
4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex	(Dropped) 1	Tier II	x
4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	4.4.1 Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill	(Dropped) 9	Tier II	x

4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations	4.5.1 Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated	7 chosen out of 50	Tier I/II/III depending on indices	14, 14, 15, 14, 14, 11, 14
4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy	4.6.1 Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex	(Dropped) 2	Tier II	x
4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development	4.7.1 Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment	(No data)	Tier III	x
4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all	4.a.1 Proportion of schools with access to (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single-sex basic sanitation facilities; and (g) basic handwashing facilities (as per the WASH indicator definitions)	1 chosen out of 21	Tier II	11
4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries	4.b.1 Volume of official development assistance flows for scholarships by sector and type of study	1 chosen out of 1	Tier I	22

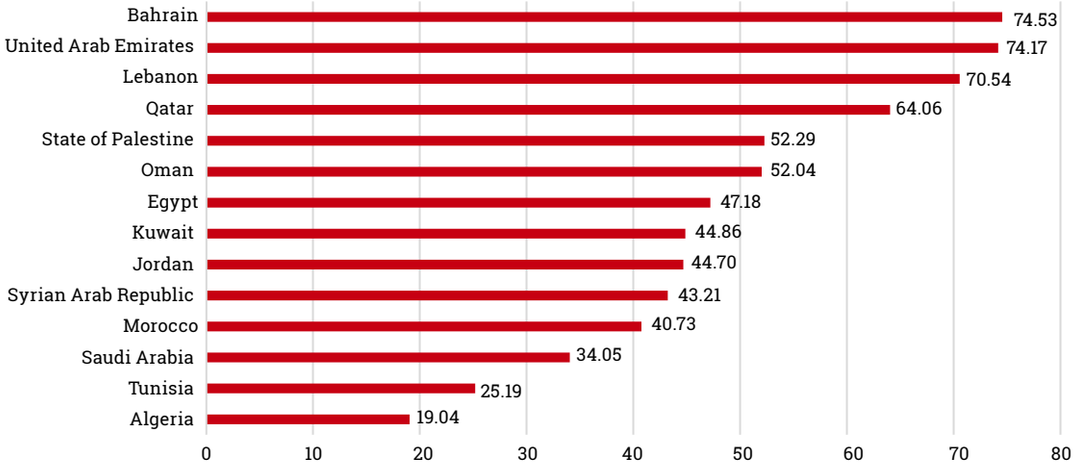
4.c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States	4.c.1 Proportion of teachers in: (a) pre-primary; (b) primary; (c) lower secondary; and (d) upper secondary education who have received at least the minimum organized teacher training (e.g. pedagogical training) pre-service or in-service required for teaching at the relevant level in a given country	3 chosen out of 5	Tier II	13, 14, 12

Notes: * Figures refer to the number of Arab countries with data for the indicator, while x means there are no data or the indicator was dropped.
We note that the weighting variables sometimes prevent us from evaluating the series/indicator using its full data that is available/provided to us. A such, our final data coverage for the series/indicators is sometimes slightly undermined by the data availability of the weighting variable. While this affects the global, regional and/or subregional aggregates, the country-year graphs include all the Arab countries for the evaluated series/indicator that have data, regardless of the weighting variable's data availability.
Source: https://unstats.un.org/sdgs/indicators/indicators-list/ and author's calculations.

2. Country graphs

Figure 4.1 Indicator 4.1.1 - Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex.

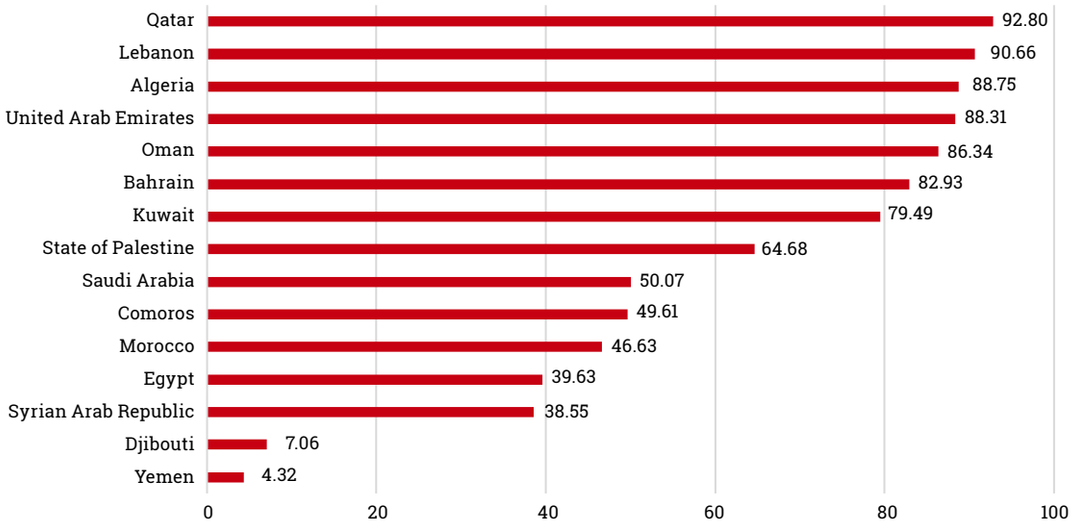
Proportion of children at the end of lower secondary education achieving at least a minimum proficiency level in mathematics (percentage)



Note: All data are from 2015 apart from the State of Palestine and Syrian Arab Republic (2011).

Figure 4.2 Indicator 4.2.2 - Participation rate in organized learning (one year before the official primary entry age), by sex

Participation rate in organized learning (one year before the official primary entry age) (percentage)



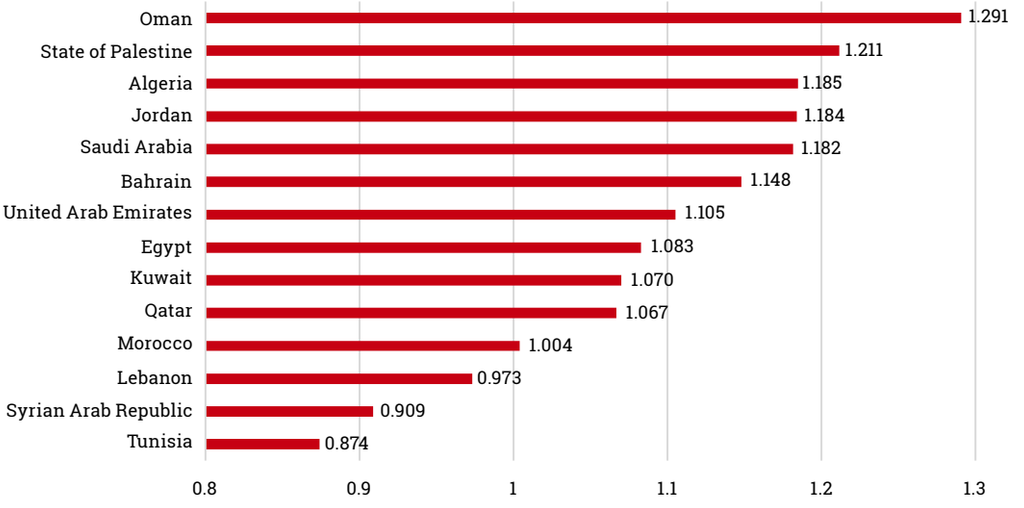
Note: Data are from various years as follows: Algeria (2010), Syrian Arab Republic, United Arab Emirates, Yemen (2013), Comoros (2014), State of Palestine (2015), Bahrain, Egypt, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia (2016), Djibouti (2017).

Figure 4.3 Seven series of indicator 4.5.1 - Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated

Parity indices for education indicators that can be disaggregated for students and for teachers

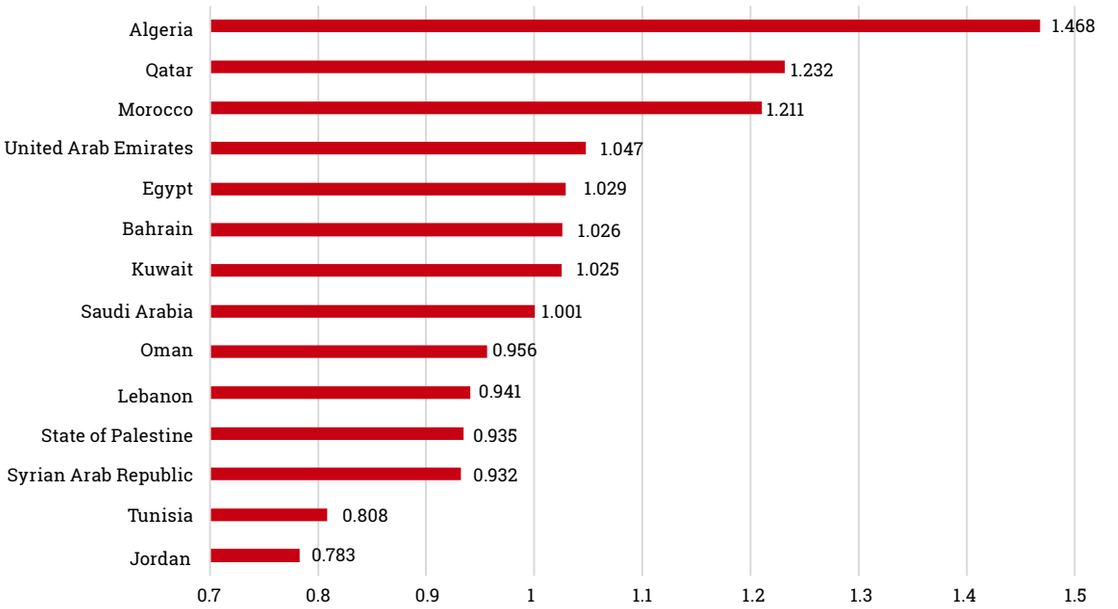
Students

Gender parity index for achievement in mathematics at the end of lower secondary



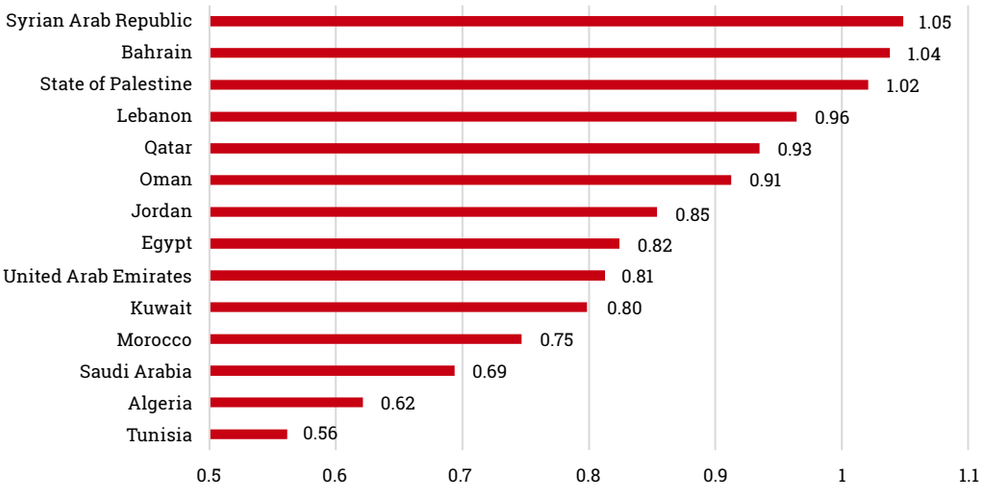
Note: Data are for 2015 apart from State of Palestine and Syrian Arab Republic (2011).

Language test parity index for achievement in mathematics at the end of lower secondary



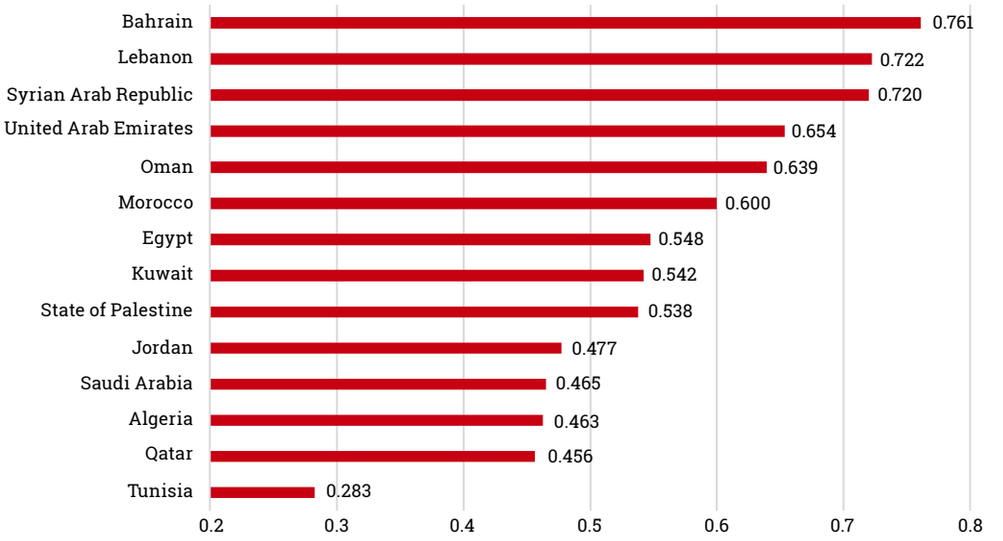
Note: Data are for 2015 apart from State of Palestine and Syrian Arab Republic (2011).

Rural-to-urban parity index for achievement in mathematics at the end of lower secondary



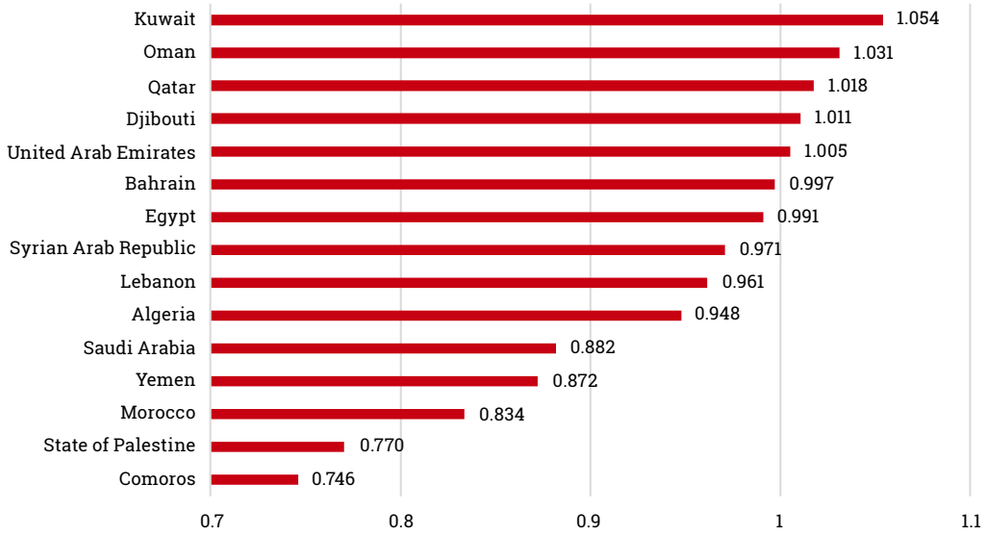
Note: Data are for 2015 apart from State of Palestine and Syrian Arab Republic (2011).

Low to high socioeconomic parity status index for achievement in mathematics at the end of lower secondary



Note: Data are for 2015 apart from State of Palestine and Syrian Arab Republic (2011).

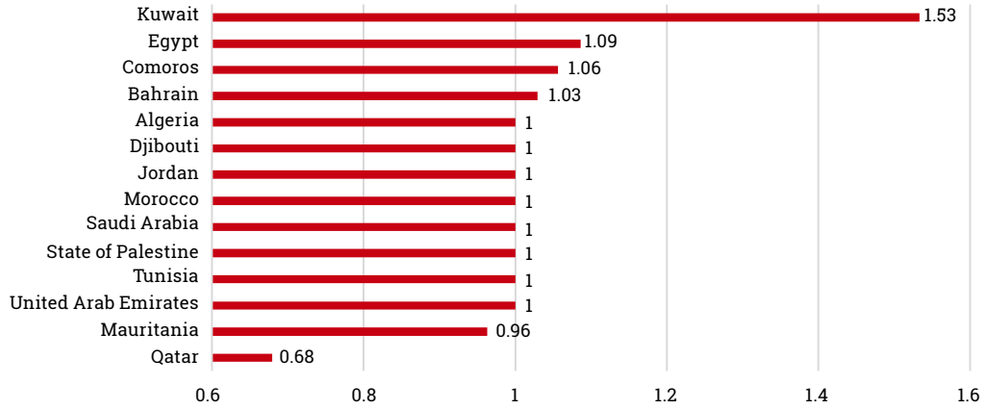
Gender parity index for participation rate in organized learning one year before the official primary entry age



Note: Data are from various years as follows: Algeria (2010), Syrian Arab Republic, United Arab Emirates, Yemen (2013), Comoros (2014), State of Palestine (2015), Bahrain, Egypt, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia (2016), Djibouti (2017).

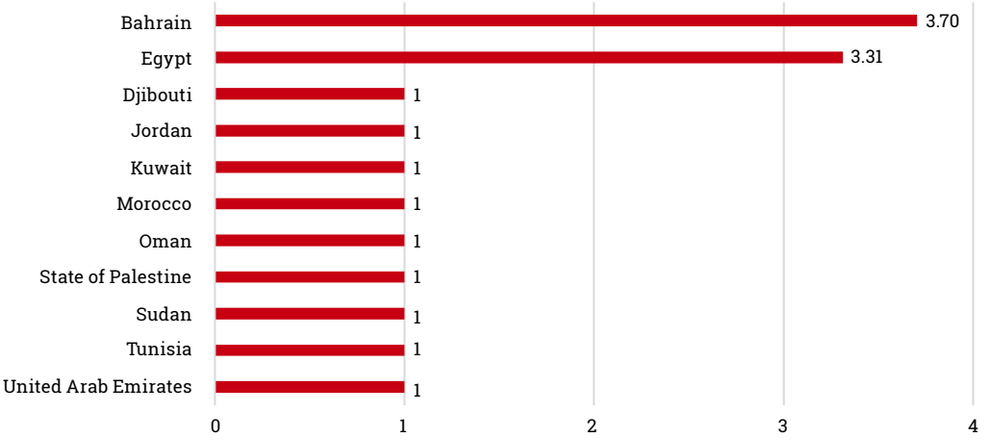
Teachers

Gender parity index of trained teachers in primary education



Note: Data are from various years as follows: Qatar (2009), Comoros (2013), Algeria, Djibouti, Kuwait (2015), Bahrain, Egypt, Jordan, Mauritania, Morocco, Saudi Arabia, State of Palestine, Tunisia, United Arab Emirates (2016).

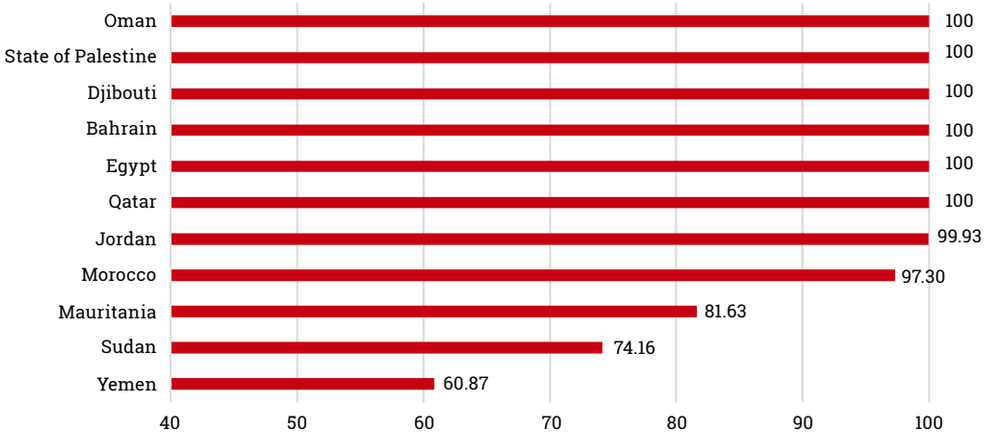
Gender parity index of trained teachers in pre-primary education



Note: Data are from various years as follows: Djibouti, Kuwait (2009), Morocco (2012), Jordan (2013), State of Palestine, Sudan (2015), Bahrain, Egypt, Oman, Tunisia, United Arab Emirates (2016).

Figure 4.4 Indicator 4.a.1 - Proportion of schools with access to (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single-sex basic sanitation facilities; and (g) basic handwashing facilities (as per the WASH indicator definitions)

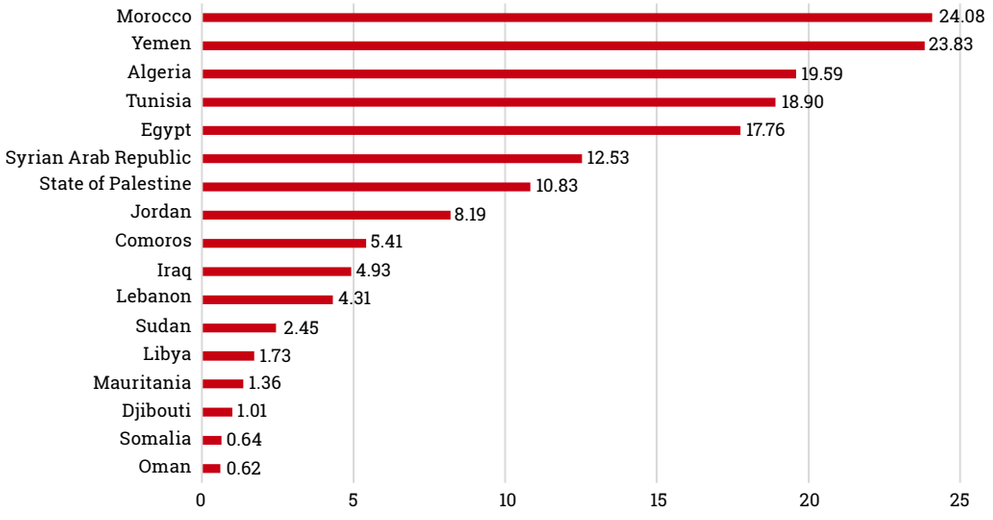
Proportion of schools with access to electricity in the upper secondary (percentage)



Note: Data are from various years as follows: Jordan, Oman (2011), Sudan (2015), Bahrain, Egypt, Mauritania, Morocco, Qatar, State of Palestine, Yemen (2016) Djibouti (2017).

Figure 4.5 Indicator 4.b.1 - Volume of official development assistance flows for scholarships by sector and type of study

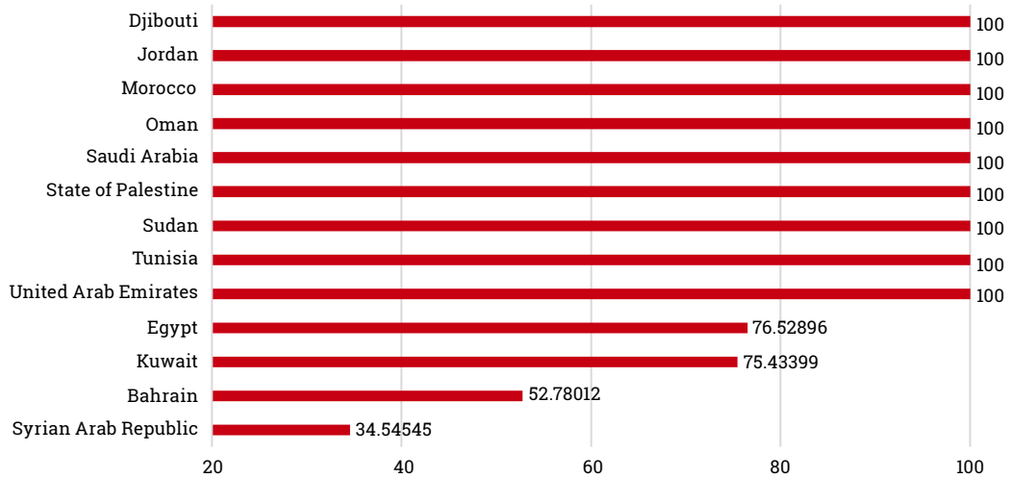
Total official flows for scholarships, by recipient countries (millions of constant 2017 United States dollars)



Note: All data are from 2017 apart from Oman (2010).

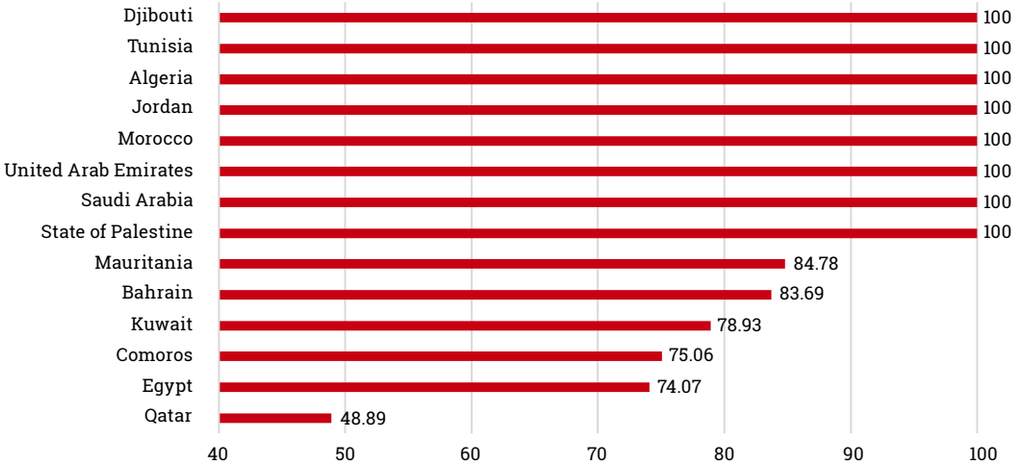
Figure 4.6 Indicator 4.c.1 - Proportion of teachers in: (a) pre-primary; (b) primary; (c) lower secondary; and (d) upper secondary education who have received at least the minimum organized teacher training (e.g. pedagogical training) pre-service or in-service required for teaching at the relevant level in a given country

Pre-primary teachers (percentage)



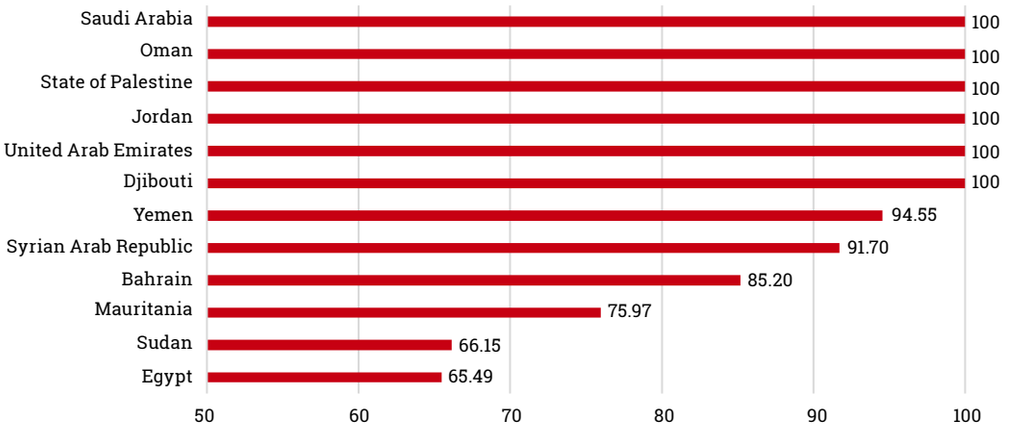
Note: Data are from 2016 apart from Djibouti (2009), Morocco (2012) Syrian Arab Republic (2013), Kuwait and Sudan (2015).

Primary teachers (percentage)



Note: Data are from 2016 apart from Qatar (2009), Comoros (2013), Algeria, Djibouti and Kuwait (2015).

Upper secondary teachers (percentage)



Note: Data are from various years as follows: Oman (2009) Syrian Arab Republic, Yemen (2013), Jordan, Saudi Arabia (2014), Djibouti, Sudan (2015), Bahrain, Egypt, Mauritania, State of Palestine, United Arab Emirates (2016).