

## Can African countries afford their national SDG 4 benchmarks?

The international community has committed to ambitious education targets to be achieved by 2030, including universal secondary completion and at least a minimum level of proficiency in reading and mathematics achieved by all children.

The magnitude of the challenge has become clearer since 2015. Progress was slow in the first five years after 2015. Even the goal of universal primary completion – first set to be achieved by 1980 – is not expected to be reached by 2030. As of 2020, one in four children in Africa were not completing primary school, making the objective of universal secondary completion clearly unachievable. And the most optimistic estimate – given the large data gaps – suggests that only one in five children complete primary school and achieve the minimum level of proficiency. The COVID-19 pandemic has caused a major disruption to education systems, creating further obstacles to improving these headline indicators.

Under these circumstances, it is no longer useful to estimate the cost to low- and lower-middle-income African countries of achieving the Sustainable Development Goal 4 (SDG 4) targets, as done twice before, in 2015 and 2020. However much money is spent, the targets are no longer achievable. However, a notable development in the past two years has been that countries have set national benchmarks for selected SDG 4 indicators to be achieved by 2025 and 2030 (**Box 1**). This step, which fulfils a commitment that countries made in 2015 as part of the Education 2030 Framework for Action, allows the reformulation of the challenge: what will it take countries to achieve the 2030 targets they have set for themselves rather than the aspirational targets?

This brief paper follows the broad methodological approach of the two previous SDG 4 costing exercises and their main assumptions (UNESCO, 2015a; UNESCO, 2020). It introduces the SDG 4 benchmarking process and how to estimate the cost of achieving these targets set by countries, largely based on their sector plans. Finally, it presents the revised assumptions of the model and the key findings. Despite lowering ambition, there is still an average national financing gap of USD 78 billion per year in the 44 low- and lower-middle-income countries in Africa.

The previous papers costed the universal education objective of SDG targets 4.1 and 4.2 but also selected other SDG 4 targets. For instance, the costing model recognized that to fulfil the equity pledge, as reflected in target 4.5, and reach any out-of-school children, a higher cost per student would be incurred than for those already in school.

The model also recognized that core standards would need to be met to fulfil the SDG 4 pledge for quality. With respect to target 4.a, one quarter of recurrent expenditure would be allocated for purposes other than teacher salaries to cover a wide range of quality-improving items. There would also be enough new classrooms constructed spread over 10 years to ensure one classroom per teacher and the replacement of old classrooms.

With respect to target 4.c, the commonly accepted pupil/teacher ratios (e.g. 40 students per teacher in primary education) would not only be achieved but would fall further as countries became wealthier. The assumption was made that countries would gradually converge at a steadily declining global average. It was projected, for instance, that the average ratio in primary education would be 29 students per teacher by 2030.

Teacher salaries tend to be high in GDP per capita terms in poorer countries where relevant skills are scarce. Regardless, they need to be sufficiently high to attract good candidates to the profession. It was assumed that countries would converge towards the teacher salary levels of the highest-paying 50% of countries in GDP per capita terms.

The model did not cost the remaining SDG 4 targets related to tertiary education (4.c), skills for work (4.4), adult literacy (4.6), education for sustainable development and global citizenship (4.7), and scholarships (4.b). Significantly, it did not attempt to cost the achievement of at least a minimum level of proficiency in reading and mathematics, mainly because there are no established models that associate the impact of a dollar spent in education on learning outcomes.

### SOME ASSUMPTIONS OF THE COSTING MODEL HAVE BEEN UPDATED

With the SDG 4 goal of achieving quality education for all by 2030 less than seven years away, and therefore out of reach, the costing model focused on the cost of achieving the targets that countries have set for 2030, which fall short of the universal global SDG 4 aspiration. A few other assumptions were also revised, notably those related to the calculation of classroom costs (Table 1).

The costing model covers the period 2023–30 and has been calculated for the 44 low- and lower-middle-income in Africa countries (as per the 2019 World Bank classification). Figures are expressed in constant 2019 US dollars. While post-secondary education costs are recorded, they are not included in the costing model, which would add about 0.8% of GDP to current education budgets.

IMF projections for GDP are used for each year up to 2026; beyond then, GDP is assumed to grow at the average rate of the last three years in each country. IMF projections are also used for tax revenue as a share of GDP up to 2026; beyond then, tax revenue is expected to grow at a decreasing rate from the starting values (e.g. by 1 percentage point per year if they are between 10% and 12.5% but by 0.5 percentage points per year if they are between 20% and 25%). Similar assumptions are used for the share of education in the budget.

#### BOX 1:

#### The national SDG 4 benchmarks show countries' contribution to the global goal

In 2015, anticipating that the global targets could not apply equally to all countries, the Education 2030 Framework for Action, which is the roadmap for achieving SDG 4, called on countries to establish benchmarks, i.e. national targets (UNESCO, 2015b). The UNESCO Institute for Statistics and the *Global Education Monitoring Report*, which share the mandate to monitor progress towards SDG 4 according to the Education 2030 Framework for Action, have helped countries fulfil their commitment to establishing national SDG 4 benchmarks (UIS and GEM Report, 2022a; 2022b). The benchmarking process, which began shortly after the SDG 4 monitoring framework was adopted by the UN General Assembly in 2017. By January 2023, about 75% of countries had submitted national targets and another 15% have targets outlined in their sector plans for at least some of the benchmark indicators (UNESCO and GEM Report, 2023).

Two of the seven benchmark indicators are relevant for the costing exercise: the participation rate one year before primary and the out-of-school rate. If all low- and lower-middle-income countries achieved their national targets, then the participation rate one year before entry into primary school would increase from 71% in 2020 to 85% in 2030. Likewise, during the same period, if all these countries were to achieve their national targets, the out-of-school rate should fall from 12% to 5% among children of primary school age, from 21% to 11% among adolescents of lower secondary school age, and from 44% to 26% among youth of upper secondary school age.

A portion of official development assistance (ODA) by Development Assistance Committee (DAC) member countries is already directed at government budgets: it is assumed that 60% of ODA to education should be deducted from each recipient country's public education expenditure. It is further assumed that ODA will remain constant until 2030, based on recent trends, at just over 0.3% of gross national income. The model also assumes that about 8% of total ODA is allocated to education or 10% of the ODA that is allocated to specific sectors. Finally, DAC donor allocations per low- and lower-middle-income country in 2016–19 are assumed to be replicated up to 2030.



**TABLE 1: SDG 4 costing model assumptions**

	2015 and 2020 models	2023 model
<b>4.1: Primary and secondary education</b>	Universal transition to upper secondary education achieved by 2030	National out-of-school rate benchmarks
<b>4.2: Pre-primary education</b>	100% pre-primary gross enrolment ratio by 2030	National early childhood education participation benchmarks
<b>4.5: Equity</b>	20% to 40% markup on the per student cost to capture the additional costs expected for out-of-school students to address socio-economic barriers	As before; the proportion of the population considered disadvantaged has been adjusted from the global (USD 2 per day) to the national poverty line
<b>4.6: Youth literacy and numeracy</b>	Costs of second-chance education incorporated for young people who missed out on formal education	The target for youth literacy and numeracy has been absorbed into primary education
<b>4.a: Learning environments</b>	<ul style="list-style-type: none"> <li>▪ One classroom per teacher</li> <li>▪ Old classrooms replaced</li> <li>▪ New classroom construction spread over 10 years</li> <li>▪ Cost of each classroom equal to a base cost multiplied by a furniture cost</li> <li>▪ Countries will gradually allocate one quarter of recurrent expenditures for purposes other than teacher salaries (e.g. textbooks, teacher training)</li> <li>▪ Maintenance cost of 5%</li> <li>▪ Utility cost of 6%</li> </ul>	As before, except for the following adjustments: <ul style="list-style-type: none"> <li>▪ Classroom construction multipliers linked to GDP per capita have been recalculated based on data on construction labour costs, a proxy for material costs and average construction costs per square metre, as per the COVID-19 cost analysis.</li> <li>▪ 30% teacher classroom sharing rate to fully utilise the available classrooms</li> <li>▪ Classroom depreciation based on a useful life of 30 years, with value at the end of this period at 10% of the original value</li> <li>▪ 20% markup cost for classrooms constructed in poor and rural areas at all levels of education.</li> </ul>
<b>4.c: Qualified teachers</b>	<ul style="list-style-type: none"> <li>▪ Target pupil/teacher ratios: pre-primary (20:1), primary (40:1) and secondary (30:1) education</li> <li>▪ Long-term relationship between teacher salaries and GDP per capita: countries will gradually converge at the salary level of the 50% of countries that pay teachers more to ensure pay is sufficient to attract the best candidates to the profession.</li> </ul>	As before, except for the following adjustment: <ul style="list-style-type: none"> <li>▪ A 30% increase to teacher salaries was applied to those teaching disadvantaged students.</li> </ul>

## THERE IS AN ANNUAL FINANCING GAP OF USD 77 BILLION

Achieving the national targets in low-income and lower-middle-income African countries will cost a cumulative USD 1.5 trillion between 2023 and 2030, or USD 183 billion per year on average. Of that, the average annual cost will be USD 40 billion in low-income and USD 143 billion in lower-middle-income countries – or a total USD 183 billion per year. The cost of pre-primary education will quadruple during the period.

Despite optimistic budget projections, many countries will not manage to increase their budgets sufficiently because of low tax revenues. As a result, the annual average financing gap between 2023 and 2030 is estimated to be USD 77 billion or 42% of the total cost of achieving the national targets. The average gap is USD 21 billion (53% of the total cost) in low-income countries and USD 55 billion (39% of the total cost) in lower-middle income countries. (Table 2a). This annual financing gap is equivalent to 2.3% of GDP during the period (Table 2b).

**TABLE 2:****Average annual total budget, cost and financing gap, by education level, Africa, 2023–30***a. In USD billion*

	Low income			Lower middle income			Total		
	Budget	Cost	Gap	Budget	Cost	Gap	Budget	Cost	Gap
Pre-primary	1	4	3	4	13	9	6	17	12
Primary	11	20	9	45	64	18	56	83	28
Lower secondary	4	10	6	21	35	13	25	44	19
Upper secondary	3	6	3	17	32	15	20	38	18
<b>Total (USD)</b>	19	40	21	88	143	55	107	183	77
<b>Share (%)</b>			53			38			42

*b. As a share of GDP (%)*

	Low income			Lower middle income			Total		
	Budget	Cost	Gap	Budget	Cost	Gap	Budget	Cost	Gap
Pre-primary	0.4	0.9	0.6	0.2	0.5	0.3	0.3	0.7	0.4
Primary	2.3	3.9	1.6	2.1	2.8	0.7	2.2	3.4	1.2
Lower secondary	0.8	2	1.1	0.9	1.5	0.6	0.9	1.7	0.9
Upper secondary	0.7	1.4	0.8	0.7	1.2	0.5	0.7	1.3	0.6
<b>Total</b>	4.1	8.2	4.0	4.0	6.0	2.0	4.1	7.1	3.1

*Note:* Reported estimates are unweighted country averages.

African countries represent 56% of the low- and lower-middle-income countries (44 out of 79) but 79% of the financing gap (USD 77 out of USD 97 billion). While the annual average total budget is expected to increase from 3.4% of GDP in 2023 to 4.2% by 2027 and 4.7% by 2030, it remains limited due to the low tax base, which accounts for only 20% to 25% of total government spending, and falls short of meeting growing financing needs. As a share of GDP, the total cost is expected to increase from an average of 5.6% in 2023 to 7.1% in 2027 and 9.2% in 2030 – and 10% if post-secondary education financing needs are also taken into account. Africa has the highest education exclusion rates, with 19% of primary school age children and 41% of upper secondary school age youth not in school.

The 2023 model has an annual average cost of USD 183 billion and predicts an increase from 5.6% in 2023 to 9.2% in 2030 (or an average of 7.1% of GDP in 2023–30). The increase is explained by the fact that slow past progress implies a much faster increase in student and teacher numbers, even though the targets are more modest.

The number of teachers in the model is about equal to the number of students per level of education divided by the pupil/teacher ratios. In total, it is estimated that 50% more teachers will be needed between 2023 and 2030 for low- and lower-middle-income African countries to achieve their targets in pre-primary, primary and secondary education. Pre-primary education will bear the brunt of this increase. Relative



to the 2023 baseline, the number of pre-primary educators needs to grow by 3.5 times in low- and lower-middle-income African countries by 2030.

As the assumptions have made clear, the model focuses on the essential needs for low- and lower-middle-income African countries to accelerate their progress and set them on course to achieving SDG 4. Arguably, this is not enough as the world is changing rapidly. Digital and other transformations are additional demands that education systems need to engage with. But there are formidable cost implications and real trade-offs facing governments and development agencies.

## CONCLUSION

Slow progress between 2015 and 2020, further challenged by the COVID-19 pandemic, has put the world off track from achieving the global SDG 4 targets of universal pre-primary, primary and secondary education by 2030. The estimated costs of achieving these targets, as the *Global Education Monitoring Report* has tried before, in 2015 and 2020, are no longer relevant, as the targets are unattainable by the original deadline. However, in the past two years, countries have established more realistic targets on selected SDG 4 indicators, albeit still ambitious. Such benchmarks would see Africa increase participation rates in early childhood education from 39% to 74% and more than halve their out-of-school rates (for instance from 26% to 13% among adolescents of lower secondary school age) between 2015 and 2030.

We already know that African countries are off-track halfway to 2030. By 2022, according to the latest estimates, early childhood education participation rates had only increased to 43% (far from the necessary 54% to be on track), while out-of-school rates had only fallen to 23% (far from the necessary 19% to be on track). Achieving these national targets over the few years remaining to 2030 involves rapid cost increases, which even optimistic assumptions of domestic revenue mobilization cannot match. This paper has estimated that there will be an average annual national financing gap of USD 77 billion in the 44 low- and lower-middle-income countries. Countries will need to weigh how to finance quality education for all children relative to other emerging priorities such as digital transformation.

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