Education in Madagascar: A child at Mahamasina preschool.
Credit: UNICEF Madagascar, 2014, Ramasomanana

CHAPTER 3

EFFICIENT EDUCATION SYSTEMS
#10 68% of partner countries increased their share of education expenditure or maintained it at 20% or above.

#11 Equitable allocation of teachers.

#12 39% of partner countries had fewer than 40 pupils per trained teacher.

#13 Repetition and dropout impact on efficiency.

#14 33% of partner countries reported at least 10 of 12 key education indicators to the UIS.

GOAL 3
Effective and efficient education systems

OBJECTIVE 1
Strengthen education sector planning and policy implementation

OBJECTIVE 4
Mobilize more and better financing

KEY FINDINGS

• The volume of domestic financing for education increased by $5.8 billion between 2015 and 2019 in the 61 GPE partner countries.

• The proportion of countries with a share of education spending at or above the 20 percent recommended threshold or an increased share of government expenditure on education went from 64 percent in 2015 to 68 percent in 2020.

• GPE maintained its commitment to supporting more and better domestic financing. The proportion of Secretariat missions addressing domestic financing issues increased, from 47 percent in 2015 to 92 percent in 2020.

• GPE maintained its commitment to supporting more and better domestic financing. The proportion of Secretariat missions addressing domestic financing issues increased, from 47 percent in 2015 to 92 percent in 2020.

• Partner countries achieved progress in teacher training as demonstrated by 39 percent of countries with fewer than 40 primary students per trained teacher in 2020, increasing from 25 percent in 2015.

• The availability of key data to drive evidence-based education policy dialogue remained a challenge during the implementation of GPE 2020. The lack of data to report on teacher deployment and internal efficiency confirms the data challenge. In 2020, 33 percent of partner countries reported at least 10 out of 12 key indicators to the UIS, up by only 3 percentage points from the 2015 baseline.

• In addition to the various incentives provided through its operational model, GPE’s implementation grants approved between 2016 and 2020 dedicated $653.2 million to support activities aimed at strengthening education systems (for instance, data-related and capacity-building activities at central and decentralized levels) in partner countries.
CHAPTER 3

EFFICIENT EDUCATION SYSTEMS

The GPE 2020 theory of change advocates that a strong education system is one of the conditions for improved access to education and learning for all. Since 2015, GPE has been contributing to improving the efficiency and the effectiveness of the education systems in partner countries through nonfinancial support (various incentives provided by GPE’s funding model) and direct financial contribution to system strengthening activities. The GPE 2020 results framework dedicated seven indicators to gauge the partnership’s progress toward efficient and effective education systems in partner countries. This chapter discusses GPE’s progress toward stronger education systems as measured by these indicators, highlighting progress in domestic financing and teacher training but continued challenges with data.

3.1. DOMESTIC FINANCING FOR EDUCATION (Indicators 10 and 31)

Building a stronger education system requires adequate financing of the education sector. As government expenditure is one of the most important sources of funds for the education sector, improving the education share of the government budget has been a key element of the GPE 2020 strategy. To incentivize education budget improvements in partner countries, GPE requires countries applying for implementation grants to commit to maintaining the share of their expenditure on education at 20 percent (or more) or to increase education spending toward the 20 percent benchmark. Indicator 10 monitors the proportion of partner countries dedicating at least 20 percent of government total expenditure to education or increasing their share of education expenditure toward this benchmark.

In 2015, at baseline 64 percent of partner countries with data available (32 out of 50), including 59 percent of partner countries affected by fragility and conflict (PCFCs) (13 out of 22), maintained a share of education expenditure at or above 20 percent or increased the share of their education expenditure from 2014. In 2020, the proportion of countries with at least a 20 percent share of education spending or an increasing share of education spending improved to 68 percent overall (32 out of 47 countries) and declined to 57 percent in PCFCs (12 out of 21). The value of Indicator 10 in 2020 is 22 percentage points below the overall target, and 29 percentage points below the target for PCFCs (figure 3.1).

The targets and milestones for Indicator 10 were calculated using baseline data collected in 2016 on public education expenditure in 2015 and before. Since then, Indicator 10 data were revised in 2017, 2018, 2019, 2020 and 2021 as more recent budget documents became available. Because the original baseline was 14 percentage points higher than the revised baseline, it led to higher target-setting for 2020. Therefore, despite the increase in the value of Indicator 10 since 2015, the 2020 target was missed.

Education expenditure as a share of total government expenditure (excluding debt service) improved from 19.0 percent in 2015 to 18.8 percent in 2019 on average in 44 countries with

1. As per Strategic Plan 2016–2020 (GPE 2020); theory of change available at https://www.globalpartnership.org/content/gpe-2020-theory-change.
3. For more information, see the methodology sheet for Indicator 10: https://www.globalpartnership.org/content/methodology-sheet-gpe-result-indicator-10-0.
4. The baseline was updated in figure 3.1 using more recent budget documents. The updated baseline is much lower than the original, which was 78 percent (77 percent for PCFCs). The baseline was updated in figure 3.1 using more recent budget documents. The updated baseline is much lower than the original, which was 78 percent (77 percent for PCFCs).
data available, but declined to 17.5 percent in 2020. The total volume of public education expenditure increased by $5.8 billion between 2015 and 2019 in the 61 partner countries. The volume of education expenditure experienced a faster growth compared to that of the school-age population. This led to a slight increase of the spending per school-age child from $119 ($84 in PCFCs) in 2015 to $122 ($106 in PCFCs) in 2019.

During the GPE 2020 strategy implementation period, country missions offered an opportunity to tackle domestic financing issues through dialogue with various actors at the country level. Indicator 31 monitors the proportion of the Secretariat's missions addressing domestic education financing issues in partner countries.

At baseline in 2015, 47 percent of missions (27 out of 57) and 62 percent of missions in PCFCs (21 out of 34) addressed domestic financing issues. In 2020, because of the COVID-19 pandemic, 64 missions (down from 90 missions in 2019) were undertaken in partner countries. Of these, 92 percent (59 out of 64 missions) addressed domestic financing issues; 33 missions took place in PCFCs and all addressed domestic financing issues. Despite the slowdown in country missions in 2020 because of COVID-19-related travel restrictions, the target of Indicator 31 was exceeded by 27 percentage points (35 percentage points for PCFCs) (figure 3.2).

Findings from the country-level evaluations show that GPE's requirement for domestic financing contributed to improving the dialogue between the ministry of education and the ministry of finance during the budget negotiation process in some

6. These figures were calculated by the Secretariat using data from UIS (database), Montreal (http://uis.unesco.org), and World Development Indicators, World Bank, Washington, D.C. (https://datacatalog.worldbank.org/dataset/world-development-indicators). The 2020 data are not available yet.
7. This indicator mainly monitors the Secretariat country leads' involvement in domestic financing dialogue during their mission travel in partner countries.
8. In 2019, 90 missions were undertaken in partner countries, of which 86 addressed domestic financing issues. The number of missions declined in 2020 because of COVID-19-related travel restrictions; however, the GPE Secretariat remained engaged to continue the policy dialogue on domestic financing through virtual meetings.
countries. However, GPE’s influence on the volume of domestic financing was moderate to minimal, with domestic factors playing a much stronger role in determining the volume of education financing. The domestic financing requirements can be an effective tool for initiating discussions on domestic financing especially with the ministry of finance. Dialogue could also play a key role in engaging the government in discussion on the efficiency and the equity of public education expenditure.

3.2. Efficiency of the Education System (Indicator 13)

GPE 2020 not only advocated for an increased volume of education expenditure, but also aimed to incentivize the efficient use of education resources. Indicator 13, the internal efficiency coefficient (IEC), estimates the proportion of the primary education resources used to cover internal inefficiencies caused by repetition and dropout. Specifically, Indicator 13 measures the proportion of countries that have an IEC higher or equal to 70 percent, meaning that 30 percent or less of their resources are wasted because of repetition and dropout.

In 2015, 19 countries had some data available for the period 2010–14 and five of them (including 2 out of 12 PCFCs) had an IEC above 70 percent. Indicator 13 tracks the same countries’ progress through the period 2015–20. Only three of the 19 countries (Benin, Cameroon, and Sao Tome and Principe) have a new data point available in 2015–20, of which one (Sao Tome and Principe) exceeds the threshold of 70 percent. There are not enough updates to enable reporting against the target for this indicator.

Data for the IEC are available from 2010 to 2019 for 26 partner countries (including seven countries that were not in the Indicator 13 baseline sample and the 19 countries at the baseline). The IEC at the primary level in these countries varies from 25 percent in South Sudan to 82 percent in Sao Tome and Principe with an average of 59 percent (56 percent for the 17 PCFCs with data). This means that 41 percent of all education spending was used to cover the costs of repetition and dropout in these countries. Overall, 31 percent of the partner countries with data available any time between 2010 and 2019 (8 out of 26 countries) and 29 percent of the PCFCs (5 out of 17) have an IEC value at or above the benchmark.
3.3. TEACHER TRAINING AND DEPLOYMENT (Indicators 11 and 12)

Teachers are one of the most important factors for improving learning. It is estimated that almost 69 million more teachers (24.4 million for primary and 44.4 million for secondary) are needed worldwide to reach the SDG Education 2030 goals. The scope of the challenge is even more daunting when one considers the availability of trained teachers and the equitability of teacher allocation, both areas on which GPE collects data.

Having trained teachers in the classroom is one of the cornerstones of a strong education system. GPE recognizes the importance of having adequate numbers of trained teachers in schools and thus tracks the proportion of countries with a ratio of students to trained teachers below a threshold of 40 in primary education (Indicator 12). During the implementation of GPE 2020, the pupil to trained teacher ratio (PTTR) improved in many partner countries to below the suggested threshold of less than 40 students per trained teacher. The proportion of countries below the threshold was 25 percent (14 out of 55 countries) in 2015 and 39 percent (16 out of 41) in 2020 (figure 3.3). Overall, the indicator value surpassed the 2020 target of 35 percent.

In partner countries affected by fragility and conflict, the proportion of countries with a PTTR below the threshold increased from 13 percent (3 out of 24 countries) in 2015 to 27 percent (4 out of 15) in 2020. Despite a dip in 2018, these countries also
surpassed the 2020 target (21 percent). However, among the 14 PCFCs with data available in both 2015 and 2020, the average PTTR improved slightly in that time.

Despite general improvements over the period 2015–20 in the proportion of countries with a PTTR below the threshold, it is important to note that the number of countries with data available declined from 55 in 2015 to 41 in 2020, showing the need for stronger data systems that consistently collect and track data in this regard, particularly in PCFCs. Only 38 countries have data available in both 2015 and 2020, and the average PTTR among those slightly improved from 56 students per trained teacher in 2015 to 54 in 2020. Five countries improved from above the threshold in 2015 to below the threshold in 2020. A closer review of the countries shows that, though many countries did not meet the benchmark of below 40 pupils to trained teacher, some countries such as Benin and Sierra Leone still made considerable progress.

To ensure that the education system provides equitable learning opportunities to all students, the available teachers need to be deployed according to need. The adequacy of the allocation of teachers is measured by the statistical relationship (denoted as $R^2$) between the number of teachers and the number of students in schools. Indicator II assesses the percentage of partner countries meeting the suggested 0.8 threshold, meaning that the number of students enrolled explains at least 80 percent of teacher distribution.

Data availability for Indicator II is a challenge because the $R^2$ data are collected from education sector analyses, which are not often conducted in partner countries. In the baseline period (2010–14), 21 partner countries had data available. As of December 2020, 10 of these countries (including six PCFCs) reported new data points for this indicator (2015–20). Of these 10 countries with new data points, only one country reported a $R^2$ value above the 0.8 threshold. The average $R^2$ in the 10 countries with data available in the period 2015–20 worsened from 0.57 in 2015 to 0.49 in 2020. Notably, eight of these 10 countries show a decline in the $R^2$ values between 2015 and 2020. The most recent data available between 2010 and 2020 for the 21 countries in the baseline sample show that

15. The Gambia, Kyrgyz Republic, Lesotho, Liberia and Mauritania. Note that none of the 38 countries with data available in 2015 and 2020 declined from below the threshold in 2015 to above the threshold in 2020.

16. For instance, Bangladesh (from 70 to 60), Benin (from 94 to 56), Burkina Faso (from 54 to 45), Burundi (from 50 to 43), Cambodia (from 47 to 42), Côte d’Ivoire (from 50 to 42), Eritrea (from 57 to 46), Ghana (from 59 to 49), Mozambique (from 63 to 57), Niger (from 79 to 65), Sierra Leone (from 61 to 45) and Zambia (from 53 to 43).

17. A country-level $R^2$ value of 1 would indicate that the number of teachers is perfectly proportional to the number of students across schools. GPE has set 0.8 as the suggested threshold for partner countries’ $R^2$ value, meaning that the number of students enrolled should explain at least 80 percent of teacher distribution.

18. The $R^2$ values in 2020 vary between countries, ranging from a low of 0.24 in Cameroon (a figure that declined from the baseline) to a high of 0.93 in Sao Tome and Principe (which increased from the baseline).
19 percent (4 out of 21 countries) reported $R^2$ values that meet the threshold of 0.8. Among the 12 PCFCs in this sample, only two meet the threshold. Because of the insufficient data availability, the Indicator 11 value in 2020 could not be compared against the 2020 target.

Recognizing the central role that trained teachers play in ensuring good quality learning for all, the partnership is continuing to prioritize increasing the availability and equitable distribution of teachers across partner countries, particularly in PCFCs (see Box 3.2 for some examples). Teachers and teaching quality are priorities under GPE 2025. Through grants to partner countries, GPE will support diagnostics and data on teachers and teaching quality and consolidation as well as sharing of evidence on quality teaching. GPE will also support building the capacity of teachers’ organizations to participate effectively in policy dialogue and focused investments in policies and programs that are grounded in evidence. Through the Knowledge and Innovation Exchange (KIX), three global grants on teacher professional development and capacity-building are also supporting research in this area, while through Education Out Loud, GPE is supporting constituency-based networks such as teachers’ organizations to participate in sector policy dialogue and development processes.

### Box 3.2. GPE Support to Teacher Training and Deployment: Kenya and the Gambia

GPE supported Kenya with $97.88 million in two grants to support the Kenya Primary Education Development Program (PRIEDP) running from 2015 to 2021. The PRIEDP project dedicated $38.8 million to school management, tackling teacher and teaching challenges through multiple activities. School management activities supported in the education sector plan implementation grant were focused in part to help teachers improve their own practice and inform in-service teacher training. GPE funding also supported the use of a teacher appraisal and development tool to benchmark teacher knowledge and practice against professional standards.

Incentivizing and deploying teachers equitably can be difficult in contexts where teachers in rural or disadvantaged areas face harder working conditions, lower access to public services, and fewer professional advancement opportunities. GPE support plays a role in addressing these issues in The Gambia. GPE approved a $5.3 million grant in 2018 that supported teacher recruitment and deployment activities. GPE’s grant particularly focused on hardship allowances for teachers and special incentives to female teachers.

Source: GPE Secretariat.

### 3.4. Data for Education Systems (Indicators 14 and 17)

Strengthening education systems by making use of accurate, timely and comprehensive data to design and implement effective education policies was at the core of the GPE 2020 strategy. Overall, Indicators 14 and 17 show that GPE has supported data strategies through its grants, but many countries still do not report all data to the UIS, although several have data available at the country level.

Indicator 14 monitors the proportion of partner countries reporting at least 10 out of 12 key education-related outcomes, service delivery and financing indicators to the UIS. In 2020, 33 percent of partner countries (20 out of 61) reported at least 10 out of 12 key indicators to the UIS, up by 3 percentage points from the 2015 baseline (Figure 3.4). Many countries registered some improvements between 2015 and 2020. In total, eight countries that did not report key data to the UIS in 2015 reported data in 2020. In contrast, six countries reported key data to the UIS in 2015 but did not do so in 2020. There is a net gain of two additional countries reporting key data to the UIS between 2015 and 2020.

The number of partner countries reporting key data to the UIS increased between 2015 and 2020, but the target of Indicator 14 for 2020 was missed by 33 percentage points, and

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19. This includes the baseline data for the II countries without new data points.

20. For more information, see the “Methodology Sheet for Indicator 14”: https://www.globalpartnership.org/content/methodology-sheet-gpe-result-indicator-14. Note that GPE uses UIS data from 2018–17 to generate 2019 values for the results framework because of the standard two-year lag in data publication on the online UIS database.


improvement since the baseline has been unsteady. In 2015, countries reported an average of seven out of 12 indicators to the UIS. The average number of indicators reported remained at seven in 2020.

A closer look at the data shows that the number of indicators reported to the UIS increased in 40 percent of the partner countries (39 out of 61) between 2015 and 2020. In particular, in countries where a larger proportion of GPE funding is allocated to EMIS (more than 5 percent of the total grant amount and more) 46 percent (6 out of 13 countries) recorded some progress in the number of key indicators reported to the UIS. The average number of key indicators reported to the UIS increased from seven to nine in the countries that dedicated more than 5 percent of their implementation grants to data systems but stagnated at seven indicators on average in the other countries (those that spent less than 5 percent on data and countries that did not receive GPE’s implementation grants).

Reporting on education finance and service delivery indicators regarding teachers, especially by level of education, has been a persistent challenge for partner countries during the GPE 2020 implementation period. The ability of the education system to collect and disseminate key education data appears to be related to weak statistical systems in countries. Strengthening the overall statistical capacity in partner countries would be necessary to tackle the education data gaps. In particular, the World Bank’s Statistical Capacity Index reveals that partner countries need support to adhere to internationally recommended standards and methods and to build stronger administrative systems to conduct data collection activities in line with internationally recommended periodicity.

During the implementation period of the GPE 2020 strategy, GPE remained committed to leveraging its funding model to help fill the data gaps in partner countries. Indicator 17 monitors the proportion of countries with approved implementation

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23. There is a significant correlation between the number of indicators reported to the UIS and the World Bank’s statistical capacity index (see box 2.2 in GPE’s results report for 2020). However, it is worth noting that consultations with EMIS units in some countries show that there could be a lack of coherence between the overall statistical strategy and the capacity within the ministry of education.
grants and data strategies that meet quality standards to address data challenges. Data challenges mean that the country neither reports key data to the UIS nor collects and disseminates key education and finance data at the country level. At baseline in 2015, one partner country (out of the six that applied for implementation grants) did not report key data to the UIS. This country succeeded, however, in developing a robust data plan leading to a value of 100 percent for Indicator 17 at baseline. In 2020, GPE approved 16 education sector plan implementation grants for which the data requirements applied. Key data were not fully reported to the UIS in 10 countries. Data were available at the country level in five of these countries. The five other countries were identified as having some data gaps as per the funding model requirements and all developed strategies to address these data issues. Indicator 17 has reported a 100 percent value every year since 2015. This reflects GPE’s consistent engagement in addressing the data gaps in partner countries, although the partnership’s effort has not resulted in tangible improvements in data reporting to the UIS. However, this does not mean that data do not exist in countries. Indicator 17 clearly shows that even though some countries do not report key indicators to the UIS, the data are available at the country level.

In addition to leveraging its operating model to incentivize the production and use of data, GPE is involved at the international level, partnering with other organizations to strengthen data systems. In 2017, GPE and UNESCO co-hosted an international conference on education management information systems, which brought together a wide cross section of education stakeholders, including more than 20 partner countries as well as nonprofits, private companies, and international organizations. Building on the momentum from this conference, GPE launched the Education Data Solutions Roundtable (DRT), with the goal of leveraging local private and development partners’ expertise to improve the availability and use of accurate and timely education data at country and global levels. GPE also works closely with regional partners on data issues. For instance, in 2019, GPE in partnership with the Association for the Development of Education in Africa (ADEA) and the World Bank organized an evaluation of the EMIS in Burkina Faso in a peer review format. The review involved government representatives from The Gambia, Haiti, Morocco and Mali, who systematically assessed the performance of Burkina Faso’s EMIS against each standard laid out in ADEA’s norms and standards for EMIS.

3.5. GPE FINANCIAL SUPPORT TO EDUCATION SYSTEMS STRENGTHENING

FUNDING FOCUS: SYSTEMS

A total of 79 education sector plan implementation grants were approved under GPE 2020 (from January 2016 to December 2020). Of these, 77 grants allocated financial resources to support activities aiming at strengthening the education system. This corresponds to a total $653.2 million commitment, or 30 percent of the grants’ total allocations (Funding Focus: Systems). An important portion of these grants supported activities at the central level, such as technical assistance to the education ministry, followed by activities at school level, such as school grants or school-based management programs. Grants also supported activities at the decentralized level.

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24. For more information, see the methodology sheet for Indicator 17: https://www.globalpartnership.org/content/methodology-sheet-gpe-result-indicator-17.
25. The funding model requirements do not apply to accelerated financing.
level, such as technical assistance to the education systems in regions or provinces, as well as activities targeting data systems.

A NEED TO BOOST DOMESTIC FINANCING AND STRENGTHEN DATA SYSTEMS

Seven indicators are discussed in this chapter, but the available data allowed reporting on indicators’ values against their 2020 targets for five indicators. The GPE 2020 targets were met overall in three cases (Indicators 12, 17 and 31) and missed in two cases (Indicators 10 and 14). Overall, partner countries recorded some improvements in teachers’ availability and domestic financing but are still lagging in terms of data reporting to the UIS. The lack of data to report on Indicators 11 and 13 confirms the data challenge that partner countries are facing.

While some partner countries are lagging on the key elements of a strong education system, others are performing well. For instance, in addition to facing issues related to shortages in the availability of trained teachers, Guinea and the Republic of Congo have consistently spent less than 20 percent of their government resources on education and have reported only a few key indicators to the UIS during GPE 2020. In contrast, countries such as Moldova and Uzbekistan have consistently spent 20 percent or more on education and maintained a pupil to trained teacher ratio below 40:1 over the implementation period of GPE 2020. These countries also reported more than 10 key indicators to the UIS as of December 2020. Other countries such as Burkina Faso, Côte d’Ivoire and Liberia made some remarkable progress in domestic financing, data reporting to the UIS and the availability of trained teachers.

Overall, despite the incentives provided by the funding model requirements, data gaps seem to persist in partner countries, signaling the need for more effective strategies to strengthen the data systems. Building sound data systems that will help design and implement adequate education policies capable of boosting the transformation of the education sector requires adequate financing. As domestic financing is one of the most important sources of funding for the sector, there is a need to implement better policies for more and better domestic education financing.

GPE’s evaluations find that many complex country-level factors (including political changes, crises or natural disasters) affected domestic financing trends, with variations across countries. Evaluations show that GPE contributed to the dialogue and continued focus on the importance of domestic financing. However, the partnership’s involvement did not translate into a tangible improvement in the volume of domestic financing. Stronger engagement by the education stakeholders at the country level is needed to ensure that education is better prioritized in government budget and the resources are efficiently used to deliver equitable access to quality education to all children. Improving the volume, the efficiency and the equity of domestic financing is particularly important given the impact of the COVID-19 pandemic on the education sector. The GPE 2025 strategy aims to update GPE’s operating model to better leverage the partnership’s ability to strengthen education systems at the country level.

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