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SAHEL EDUCATION WHITE PAPER

The Wealth of Today and Tomorrow



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THE WEALTH OF TODAY AND TOMORROW

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EXECUTIVE SUMMARY

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Nous savons ce que nous souhaitons : que tous les enfants aillent à l'école, que tous terminent leur éducation de base avec un socle commun, que leur éducation apporte des bénéfices individuels et collectifs, que l'apprentissage contribue à une masse critique capable de transformer l'économie... Toutes les mêmes questions se sont posées depuis l'Indépendance : accès, qualité, dualité du système - défis persistants - comment aller vers le changement en identifiant des points d'ancrage ?

Expert Panel Member, 2021

Good education for all is the key to a better long-term future for the Sahel region. Education improves employability and incomes, narrows gender gaps, lifts families out of poverty, strengthens institutions, and yields benefits that echo to the next generation.

The good news is that the region has taken the important first steps toward building this future. Many more children have been able to access education over the past 15 years: enrollment in the region has nearly doubled in primary education and tripled in secondary education. And governments have launched numerous initiatives and announced high-level commitments in support of education.

Still, many children remain out of school, and those who are in school learn far less than they should. Of the region's primary-school-age children, 40 percent are out of school. Furthermore, the region's learning poverty rate is 88 percent—meaning that only 12 percent of children are enrolled in school and able to read and comprehend an age-appropriate passage by late primary age. Access is lower at other levels of education: enrollment is below 56 percent in lower secondary throughout the Sahel G5 and between 2 and 10 percent in pre-primary and tertiary. All these contributing factors result in low education attainment in the Sahel region and therefore low productivity. In Niger, for example, 72 percent of current working-age adults have no education at all. In every Sahel country, fewer than 50 percent of adult females are literate, compared with 59 percent in Sub-Saharan Africa as a whole and 80 percent in low- and middle-income countries. This figure drops to 23 percent for females living in the Sahel rural areas. Even among the youngest segment of the labor force—youth aged 15-24, reading and writing performance in the Sahel is relatively low, with literacy rates ranging from 45 to 66 percent, while the average in Sub-Saharan Africa is 77 percent. Additionally, the poorest children and youth, and those affected by conflict, who most need a good education to have a chance in life, suffer the most from failings in education access and quality. The upper secondary enrollment rate is only 5 percent for the poorest rural girls, versus 100 percent for urban boys in the wealthiest quintile.

Many factors have kept education from fulfilling its potential—not just poor conditions in schools and classrooms, but also less visible system-level problems and society-wide barriers that go beyond the education sector.

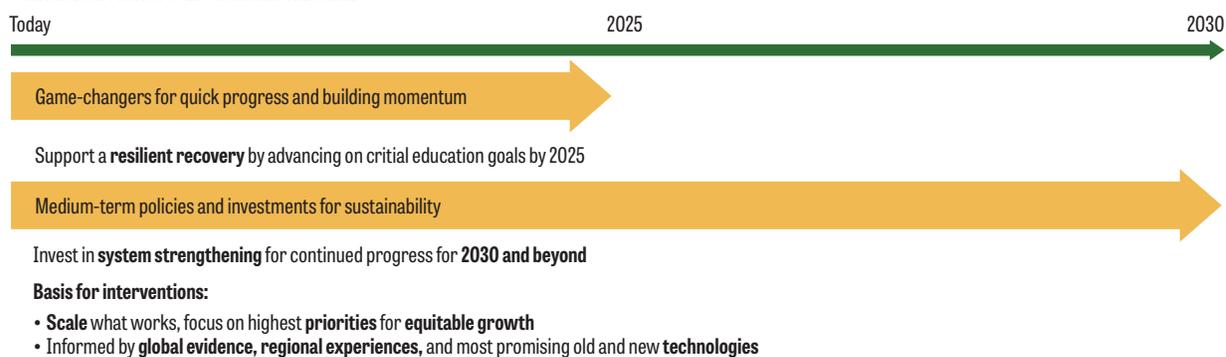
- At the societal level, the Sahel region is burdened by high levels of extreme poverty, population growth, conflict, and climate change, further exacerbated by the COVID-19 crisis. Some social norms, particularly around girls and education, also persist in reducing access and learning. All of this means that educators work in some of the world's toughest conditions for teaching and learning.
- At the school and community level, many barriers directly hamper children's learning. First, deficiencies in early childhood development leave most children unprepared for learning and trapped in an intergenerational cycle of low human capital. Shortages in both teaching and learning inputs, as well as inaccessible and inadequate school infrastructure, further constrain access and learning.
- And education systems largely fail to support efforts at improvement in schools. Management capacity in the system is low, due to a lack of information and politicization of leadership, and policies and programs lack the coherence needed for them to complement each other.

While a lack of money is not the root of all these problems, the limited and inefficiently spent budget undermines efforts to solve them. Only about 3 percent of GDP in the region is spent on education, below the 4 percent in Sub-Saharan Africa, and the 6 percent international aspirational benchmark. Moreover, although foundations are acquired in primary school, most Sahel G5 countries spend less than 50 percent of the total on primary education. More critically, combined schooling and learning indicators reveal that all the Sahel G5 underperforms relative to what current public spending on education can achieve. Furthermore, political commitment to quality education is not sustained or internalized by education ministry staff, and mostly focused on strengthening elite education.



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STRATEGIC APPROACH TO EDUCATION IN THE SAHEL



But there are many reasons for hope. Communities are playing a key role in creating and improving schools, and in a region with low government capacity, their involvement can strengthen the quality of services. Similarly, public-private partnerships can extend the reach of the state, in a region where religious and secular private providers already educate large shares of the children. Experiences in the region suggest that formalizing informal schools and incorporating academic subjects can make it possible to reach the many out-of-school children and youth in the Sahel who enroll in informal Koranic schools. Another strength is regional cooperation, which can support work on common problems.

The region can build on these strengths with the right strategy—one that starts with a limited set of game-changers that can achieve progress in the highest-priority areas. The region faces too many education challenges to give them all equal priority. Instead, a program that prioritizes short- and medium-term game-changers, combined with policies for long-term system strengthening, can make measurable improvement in equitable schooling and learning in the next 3 to 5 years. Despite all the pain it has caused, the pandemic creates an opening for progress: the disruption gives countries a chance to ask whether they really want to return to the inadequate and inequitable schooling and learning of the pre-“COVID-19 times. The answer must be no.

The Bank's strategy in the Sahel will focus on helping countries use game-changer interventions to achieve three critical targets:

- **Cut learning poverty** through immediate and concerted action to improve early childhood development, expand access to decent primary school, and improve the effectiveness of early grade teaching. *Target: By 2030, ensure that 10.2 million more children from the Sahel G5 are in school and able to read.*
- **Increase girls' education** through a combination of supply- and demand-side interventions, such as public-private partnerships to expand schooling and scholarships for girls, as well as service-delivery innovations to improve quality and foster the recovery from COVID-19 closures. *Target: By 2030, enroll 2.1 million more girls in secondary school.*
- **Raise the young adult literacy rate**, with a focus on young women, through programs tailored to the needs and motivations of adult learners. *Target: By 2030, ensure that 13.4 million more young adults, of which 6.5 million are female, become literate.*

Achieving these ambitious goals requires more than good policies and programs; countries also need high-level political commitment, accompanied by better monitoring and evaluation, but also deeper involvement from communities, all tailored to the challenging conditions in the Sahel. As the current education budget is limited, one major sign of commitment should be an increase in public financing for education. Then to support and sustain the short-term gains, over the medium term the focus should

be on system strengthening, with effective support provided to learners and teachers, well-designed revisions made to learning resources, and enhancements made to school management and environment. Through all these reforms, keeping the focus on better outcomes for all children and youth—and making decisions accordingly—will help increase efficiency of spending and make better use of scarce resources.

Retaining children and youth already in the system and providing second-chance programs to those who are not is also crucial to fulfill the potential of education in the Sahel. For highest impact, retention policies should begin before secondary school and remediation programs be flexible and closely linked to the formal education system.

Education is the only real path forward for the region—and this is a good thing. Around the world, societies that have built their development on universal, equitable high-quality education—starting with ensuring that all children get the foundational learning they need—are the ones that have managed to sustain development over decades needed to escape poverty. Countries must choose their own strategies for following this path, so this White Paper is intended only to spark and inform that urgently needed dialogue on how to move forward. Sahel countries are adding nearly 1 million school-age children per year and, at that pace of historical improvement, the region will not attain even the goal of universal primary enrollment until at least 2045. That must change, and it will. And as countries decide to move forward decisively to claim the future that all their children and youth deserve, the World Bank stands ready to support them.

Acknowledgments

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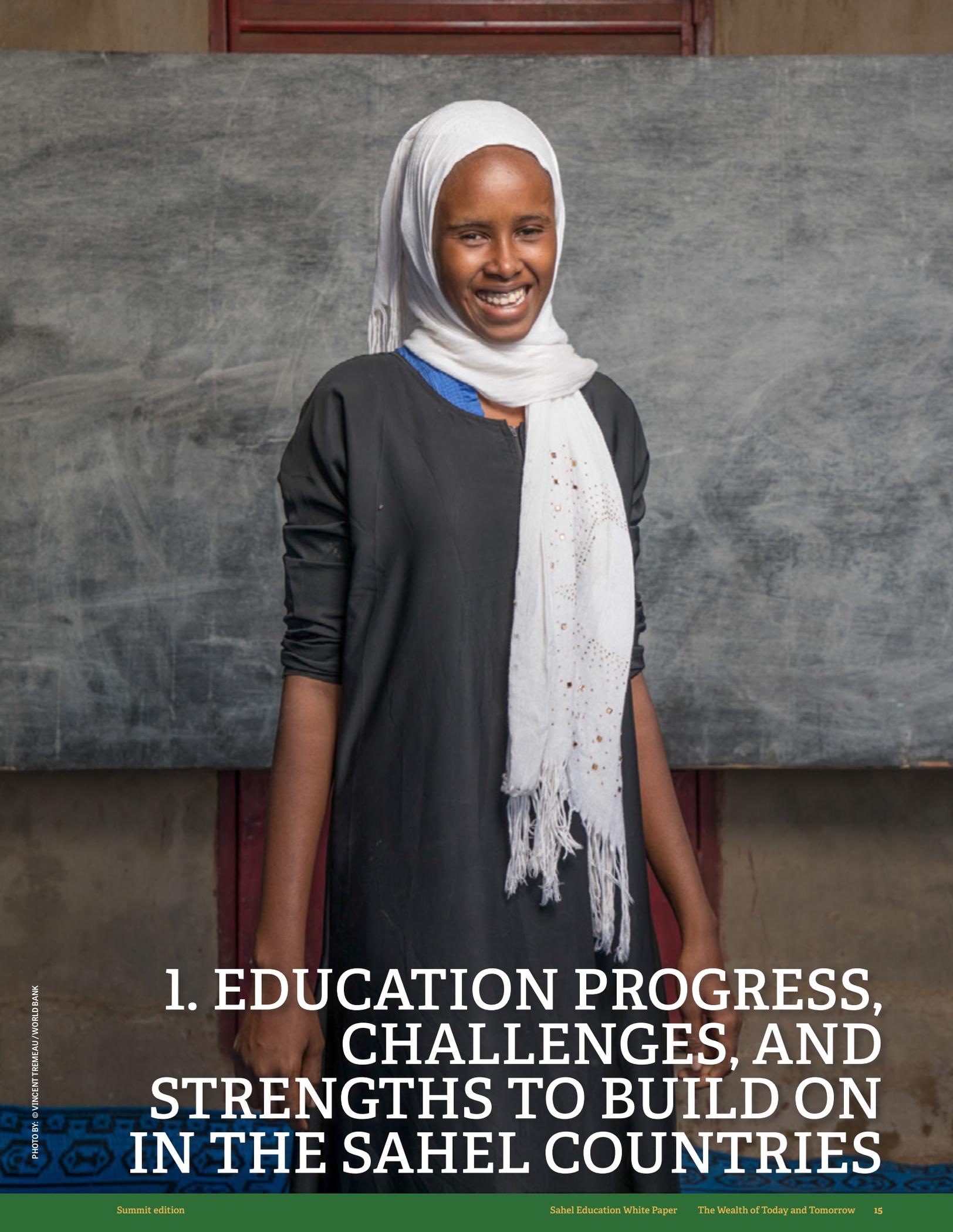
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The team apologizes to any individuals or organizations inadvertently omitted from this list and expresses its gratitude to all who contributed to this White Paper, including those whose names may not appear here.

Abbreviations

ABC	<i>Alphabétisation de Base par Cellulaire</i>	LEAP	Liberian Education Advancement Program
ASP	Adaptive Social Protection	LoI	Language of instruction
AWC	Anganwadi centers	NGO	Nongovernmental organization
AWW	Anganwadi worker	PASEC	Programme for the Analysis of Education Systems (<i>Programme d'analyse des systèmes éducatifs de la CONFEMEN</i>)
BEUPA	Uganda's Basic Education for Urban Poverty Areas	PCR	Primary Completion Rate
BRIGHT	Burkinabe Response to Improve Girls' Chances to Succeed	PPP	Public-private partnership
CENSAD	Community of Sahel-Saharan States	RCT	Randomized controlled trial
CONFEMEN	Conférence des ministres de l'Éducation des États et gouvernements de la Francophonie	SASP	Sahel Adaptive Social Protection Program
CTs	Community teachers	SBCC	Social and behavior change communications
ECB	Basic Community School	SDI	Service Delivery Indicators
ECD	Early Childhood Development	SRGBV	School-Related Gender-Based Violence
ECOWAS	Economic Community of West African States	SSA	Sub-Saharan Africa
EHCVM	Enquête Harmonisée sur les Conditions de Vie des Ménages	SSA/P	<i>Stratégie de Scolarisation Accélérée avec la Passerelle</i>
EPCV	Enquête Permanente sur les Conditions de Vie des ménages	STR	Student-teacher ratio
FCV	Fragility, Conflict and Violence	SWEDD	Sahel Women's Empowerment and Demographic Dividend
GBV	Gender-based violence	TARL	Teaching at the Right Level
GDP	Gross Domestic Product	TLM	Teaching and learning materials
GER	Gross Enrollment Rate	TVET	Technical and Vocational Education and Training
GPE	Global Partnership for Education	UN	United Nations
GPI	Gender Parity Index	UNESCO	United Nations Educational, Scientific, and Cultural Organization
HCI	Human Capital Index	UNICEF	United Nations Children's Emergency Fund
IAI	Interactive Audio Instruction	US	United States
ICDS	Integrated Childhood Development Scheme	WAEMU	West African Economic and Monetary Union
IMF	International Monetary Fund	WDR	World Development Report
JICA	Japan International Cooperation Agency		
LAYS	Learning-adjusted years of schooling		



1. EDUCATION PROGRESS, CHALLENGES, AND STRENGTHS TO BUILD ON IN THE SAHEL COUNTRIES

PHOTO BY: © VINCENT TREMEAU / WORLD BANK

1.1. What's at stake: Education for development in the Sahel region

The geographically vast, mostly landlocked, and semi-arid countries of Burkina Faso, Chad, Mali, Mauritania, and Niger face a common set of development challenges within the broader diversity of Western & Central Africa. Development challenges in the Sahel region remain huge; they include high levels of poverty, low urbanization, high unproductive subsistence agriculture, obstructive business environment, poor logistic and transport infrastructures that prevent further regional integration, low productivity and low quality of public services, weak governance, and low human capital. Compounding the challenges are major shocks that are eroding fragile economic progress. The global COVID-19 pandemic reduced 2020 GDP per capita in all five countries, and while growth is expected to resume in 2021, the damage of deeper poverty and more constrained fiscal positions will be felt for some time. Moreover, climate change threatens the livelihoods of large segments of the Sahel's population, with average temperatures rising 1.5 times faster than the global average and extreme weather events increasing.¹

Burkina Faso, Chad, Mali, and Niger are among the poorest and most fragile countries in the world. These four countries are in the bottom 10 of Western & Central Africa in terms of 2019 GDP per capita and in the bottom 25 countries globally.² Moreover, they are all experiencing medium-intensity conflicts that, in addition to their direct costs in lives and destruction, are forcing displacement, reducing food security, and destabilizing governance.³ Despite government efforts, the incidence and severity of conflict is increasing throughout the region, with limited signs of abating in the short to medium term.

All five Sahel countries have yet to effectively tap one of their most abundant resources—their people—for growth and development. Home to about 19 percent of Western & Central Africa's population (84M out of 450M people), these five countries are all in the top 10 regionally in terms of annual population growth (over 3 percent). Poor families are limited in their capacity to adequately invest in all their children, and this rapid growth places extreme pressures on already weak public services. As a result, the Sahel has some of the lowest human development outcomes within Western & Central Africa and the world. As measured by the Human Capital Index (HCI), a child born in the Sahel region today will only be 34 percent as productive when she grows up as she could be if

she enjoyed complete education and full health. This is lower than the averages for the Sub-Saharan Africa (SSA) region (40 percent), Western & Central Africa (38 percent), and low-income countries (37 percent). Significant and effective investment in the Sahel's people—through education, health, and social protection programs—is critical to build human capital, spark a demographic transition, and help spur the development that the region urgently needs.

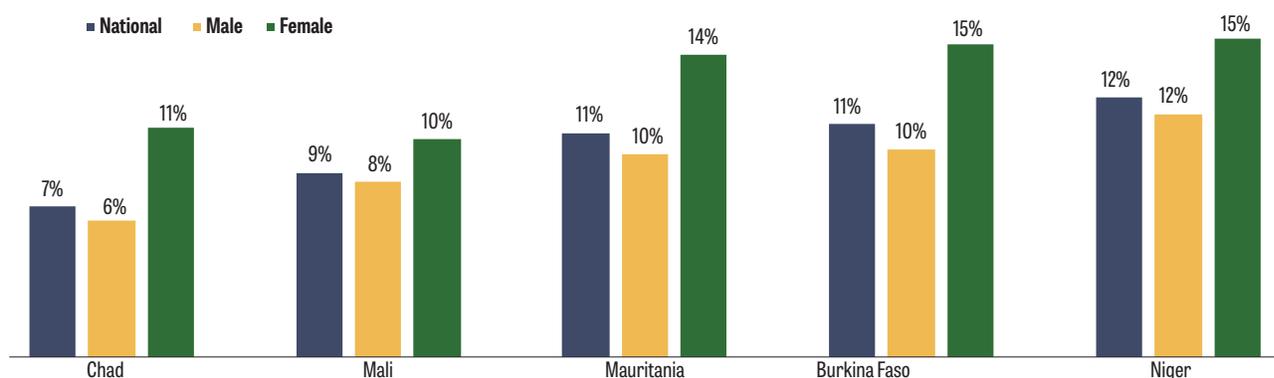
Education brings tremendous benefits to individuals and societies—benefits that are especially needed in fragile and conflict-affected settings. For individuals, education attainment is associated with higher productivity and earnings, lower poverty rates, better health outcomes, and higher civic engagement. For countries, education contributes to innovation and growth, better-functioning institutions, greater intergenerational social mobility, higher levels of social trust, and a lower likelihood of conflict.⁴ Beyond these benefits, education can accelerate progress by advancing economic development, strengthening humanitarian action, contributing to security and state-building, and mitigating impacts of disasters.⁵ The role of education in post-conflict reconstruction has also been researched and discussed widely.⁶

Education is a key determinant of livelihoods in the Sahel, as it is globally. Despite weaknesses in education quality, higher levels of education are associated with higher earnings, increased probability of wage employment, and increased likelihood of being employed in more productive sectors. Each additional year of schooling is associated with increases in earnings that range from a low of 7 percent in Chad to a high of 15 percent in Burkina Faso and Niger (Figure 1). On average, relative to individuals with no formal education or incomplete primary education, those with attainment ranging from completed primary education through postsecondary education are much more likely to be in wage employment and enjoy a substantial earnings premium (Figure 2). An additional year of education also increases the probability of working in sectors with higher returns (industry and services). Education can also narrow gender gaps in earnings: for the same amount of education, women have a higher rate of return than men across the five countries.

Education matters for all, but even more so for girls and women, and for intergenerational progress. Wodon et al (2018) estimate that each additional year of secondary education is associated with lower risks of marrying and having a child before age 18 by about 7 percentage points on aver-

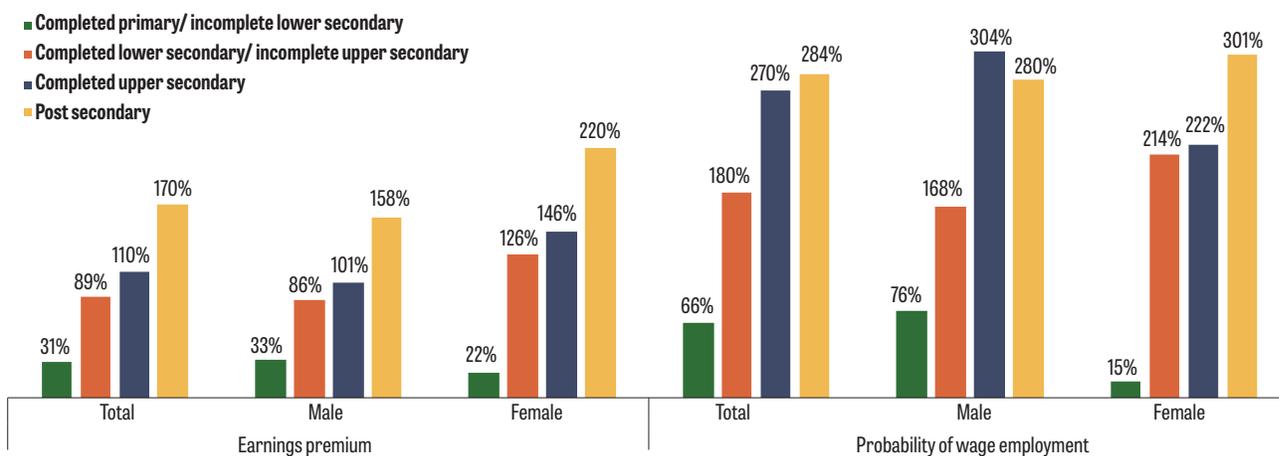
1 Ehui and Sarraf (2021).
2 World Development Indicators, 2021.
3 World Bank (2021a).

4 World Bank (2018); Rohner and Saia (2019).
5 Winthrop and Matsui (2013).
6 Buckland (2005).

Figure 1: Rates of return on additional years of schooling by gender

Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2019 for Mauritania.

Note: This includes all workers with positive value of wage (including wages for salaried employees, bonuses, indemnities, and in-kind payments for main and secondary jobs). The Mincer regression model was used to estimate earning increases associated with additional years of education.

Figure 2: Differences in earnings and wage employment probability associated with each level of education, by gender (across the Sahel G5)

Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2019 for Mauritania.

Note: Bars show the earnings premium and increase in wage employment probability for workers with each level of education, relative to those of workers with no formal education or incomplete primary education.

age across developing countries. If universal secondary education were achieved in developing countries, child marriage could be virtually eliminated, total fertility could be reduced by up to one third, and young children's health outcomes could be substantially improved.⁷

Education also has the potential to contribute to promoting peace, strengthening institutions, and more sustainable growth. Globally, while causal evidence is limited, more

educated societies are more civically engaged, enjoy greater trust and tolerance, and have better functioning institutions.⁸ Moreover, growth built on human capital rather than natural resources may lead to fewer incentives for conflict.⁹ For the Sahel, more and better education can reduce fragility by strengthening the social contract through provision of better services and by equipping youth with skills so they can earn a living and avoid violence.¹⁰

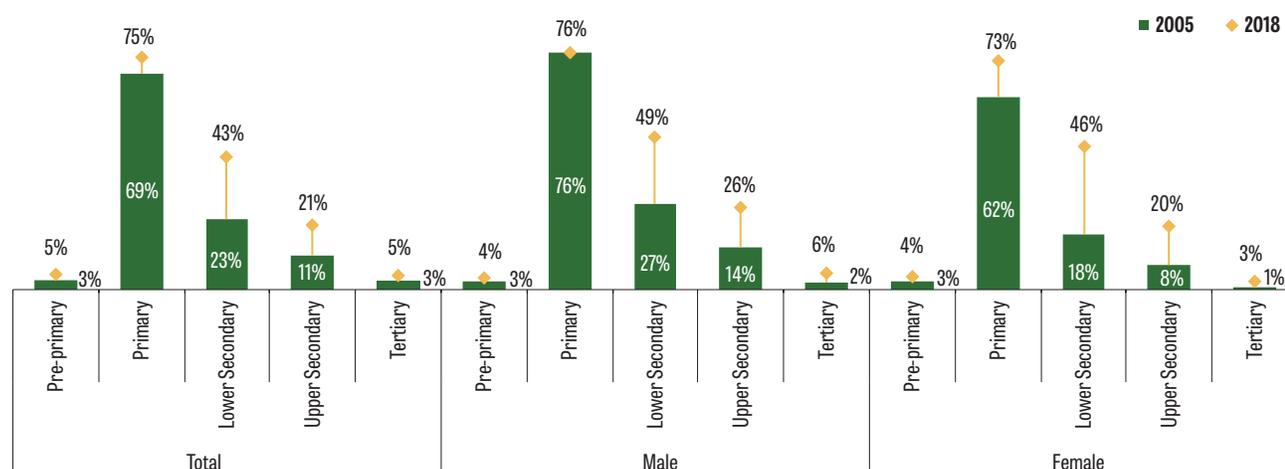
7 Wodon et al (2018).

8 World Bank (2018).

9 World Bank (2018); de la Briere and others (2017); Acemoglu and Wolitzky (2011); Collier, Hoeffler, and Rohner (2009); Davies (2004).

10 World Bank Group Strategy for Fragility, Conflict, and Violence 2020–2025.

Figure 3: Trends in Gross Enrollment Rate (GER) by level of education and gender (across the Sahel G5)

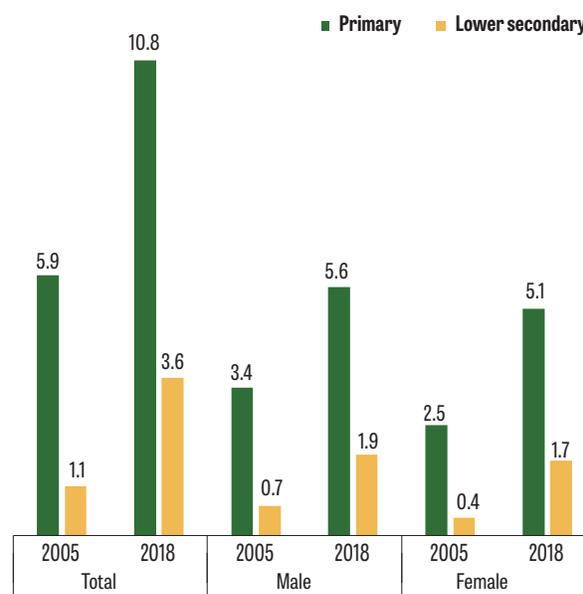


Source: EdStats and authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2019 for Mauritania. Note: The base year for the Pre-primary GER is 2010. The base year for Tertiary GER for Mali is 2008.

1.2. Progress: Enrollment and attainment gains, in a race between expanded access and surging populations

Sahelian countries have nearly doubled primary and tripled secondary education enrollments over the past two decades, but rapid population growth has limited improvements in access rates. Gross enrollment rates (GERs) increased across almost all levels of education for the five countries (Burkina Faso, Chad, Mali, Mauritania, and Niger) altogether, between 2005 and 2018 (Figure 3). This substantial increase is mainly driven by the expansion of girls' access to education, which increased from 62 to 73 percent between 2005 and 2018. At the national level, the primary GER substantially increased in Burkina Faso, Niger, and to a lesser extent in Mauritania (where the primary GER was already highest among the five), but only grew by one to two percentage points in Chad and Mali (Figure A2 in Annex). At the secondary level, each of the five countries achieved double-digit growth in its lower-secondary GER, and slightly lower growth in upper secondary. However, modest increases in enrollment rates mask incredible growth in the actual size of the education sector in the Sahel, due to these countries' rapid population growth (discussed below). For instance, the Sahel average GER at the primary level increased from 69 to 75 percent between 2005 and 2018, a 6 percentage-point increase. However, the actual number enrolled in primary increased from 5.9 million to 10.8 million (85 percent increase) over the same period. Similarly, at the lower secondary level, the GER

Figure 4: Trends in actual number enrolled in basic education, across the Sahel G5 (in millions)



Source: EdStats and authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2019 for Mauritania.

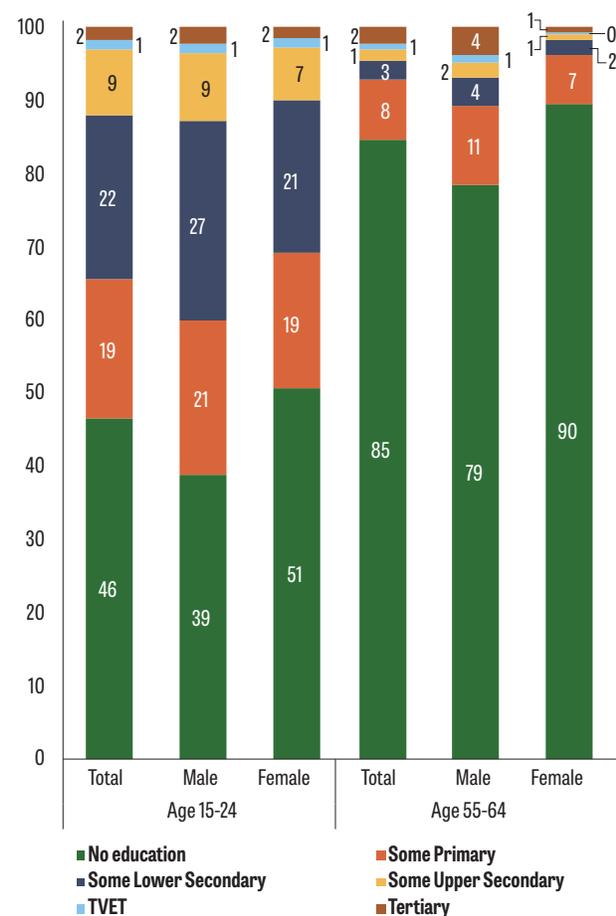
increased from 23 percent to 43 percent over the same period (20 percentage points increase), while the actual number enrolled in lower secondary has more than tripled between 2005 and 2018, from 1.1 million to 3.6 million (Figure 4).

Pre-primary and post-secondary participation have grown quickly but remain extremely concentrated among

the better-off. Both pre-primary and post-secondary GERs remain at or below ten percent across the Sahel, although they have in many cases increased by 50 to 100 percent between 2005 and 2018 (Figure 3). At both these levels, access is concentrated almost exclusively among urban, upper-quartile households. For example, on average across the Sahel, the tertiary GER is 0 percent for rural men and women in the bottom quintile, but 13 percent for urban, top-quintile women and 21 percent for their male counterparts.

The educational attainment of the labor force is also growing, though from a very low base. Figure 5 shows that, on average, 54 percent of the youth cohort (age 15-24) in the Sahel has received at least some formal primary education, far higher than the 15 percent of older adults (age 55-64) with any formal education. When the distribution of the working

Figure 5: Average education of the labor force by gender, for younger and older cohorts (across the Sahel G5)



Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2019 for Mauritania.

age population is disaggregated by gender, there are relatively more young women (51 percent) than young men (39 percent) who have not received a formal education. This gender gap is much higher for the older cohort. In terms of schooling completed, the youth cohort in the Sahel has on average 4.2 years of schooling, compared to 1.2 years for the older adult cohort. These measures indicate important progress in expanding education access and increasing attainment over the last four decades, a significant accomplishment given that the Sahel's population more than tripled during that time.

Signs of progress also show what is possible with political commitment. For example, in Burkina Faso, participatory sector policy and high-level political commitment to expanding and strengthening the education sector have been in place since the early 2000s, and are reflected in the country's relatively high spending on education and learning outcomes above what would be predicted based on GDP per capita.¹¹ In Niger, education was recently announced as a top policy priority for the new administration, continuing a focus that has contributed to Niger being the only Sahel country to significantly improve learning outcomes between 2014 and 2019.¹²

1.3. Challenges: Widespread learning poverty driven by low-quality education and continued enrollment gaps, with stark inequalities

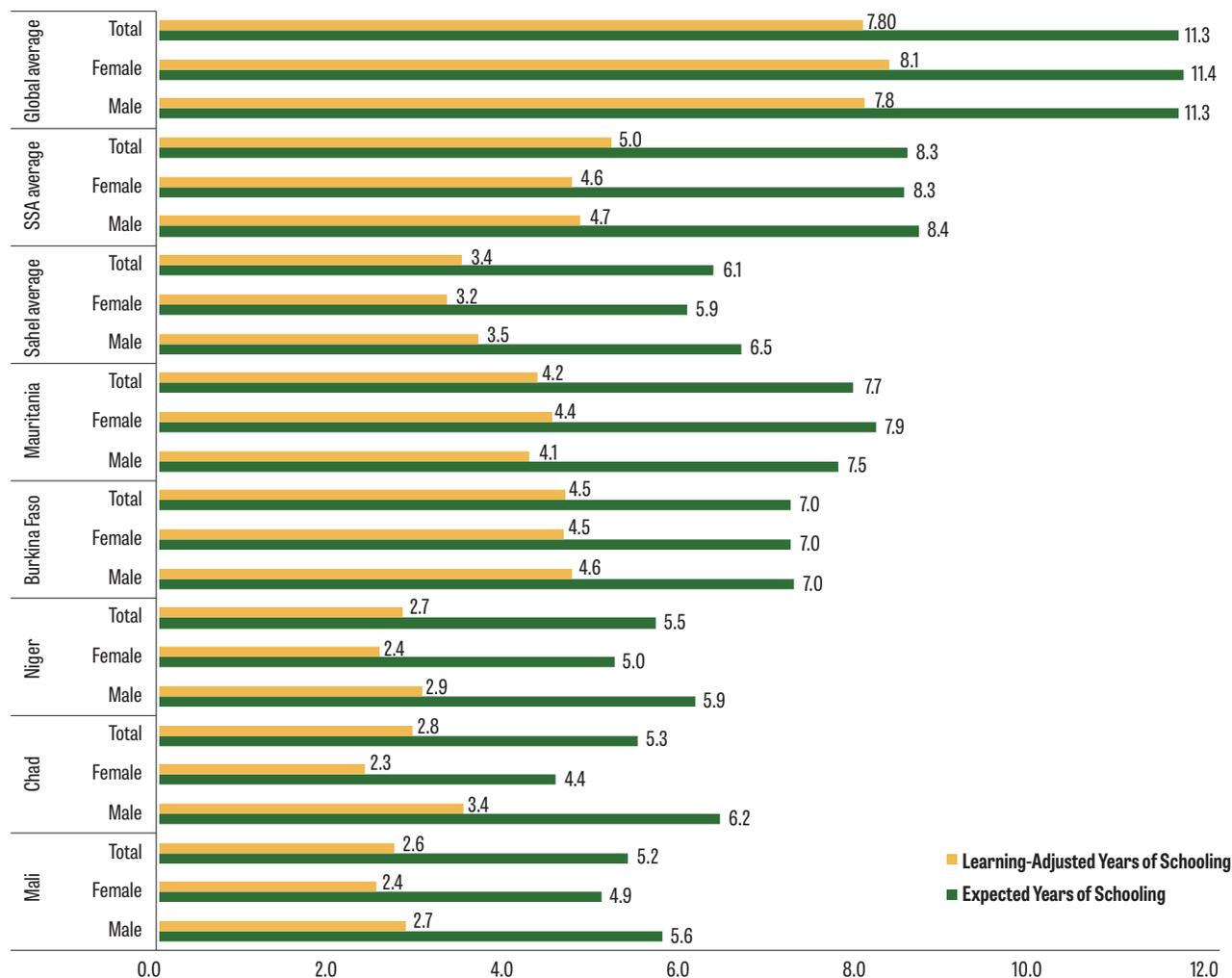
Children living in Sahel countries complete far fewer years of quality education than their peers in other regions in the world. On average, a child born in the Sahel today will be expected to complete about 6.1 years of schooling, compared to a global average of more than 11 years (Figure 6). However, when adjusted for learning, these 6.1 years are reduced to the equivalent of about 3.4 years of high-quality schooling, compared to a global average of 7.8 years. Overall, the expected years of schooling and learning-adjusted years of schooling for boys are higher than for girls in the Sahel region. The learning-adjusted years of schooling range from 2.6 in Mali and Niger to 4.2 in Mauritania.

Across the Sahel, an estimated 88 percent of 10-year-old children are unable to read and understand an age-appropriate text.

¹¹ Sahel Education White Paper, Consultation with External Experts, March 2021; World Development Indicators, 2021.

¹² As measured by the Program for the Analysis of Education Systems or Programme d'Analyse des Systèmes Educatifs de la CONFEMEN (PASEC).

Figure 6: Expected Years of Schooling and Learning-Adjusted Years of Schooling by gender

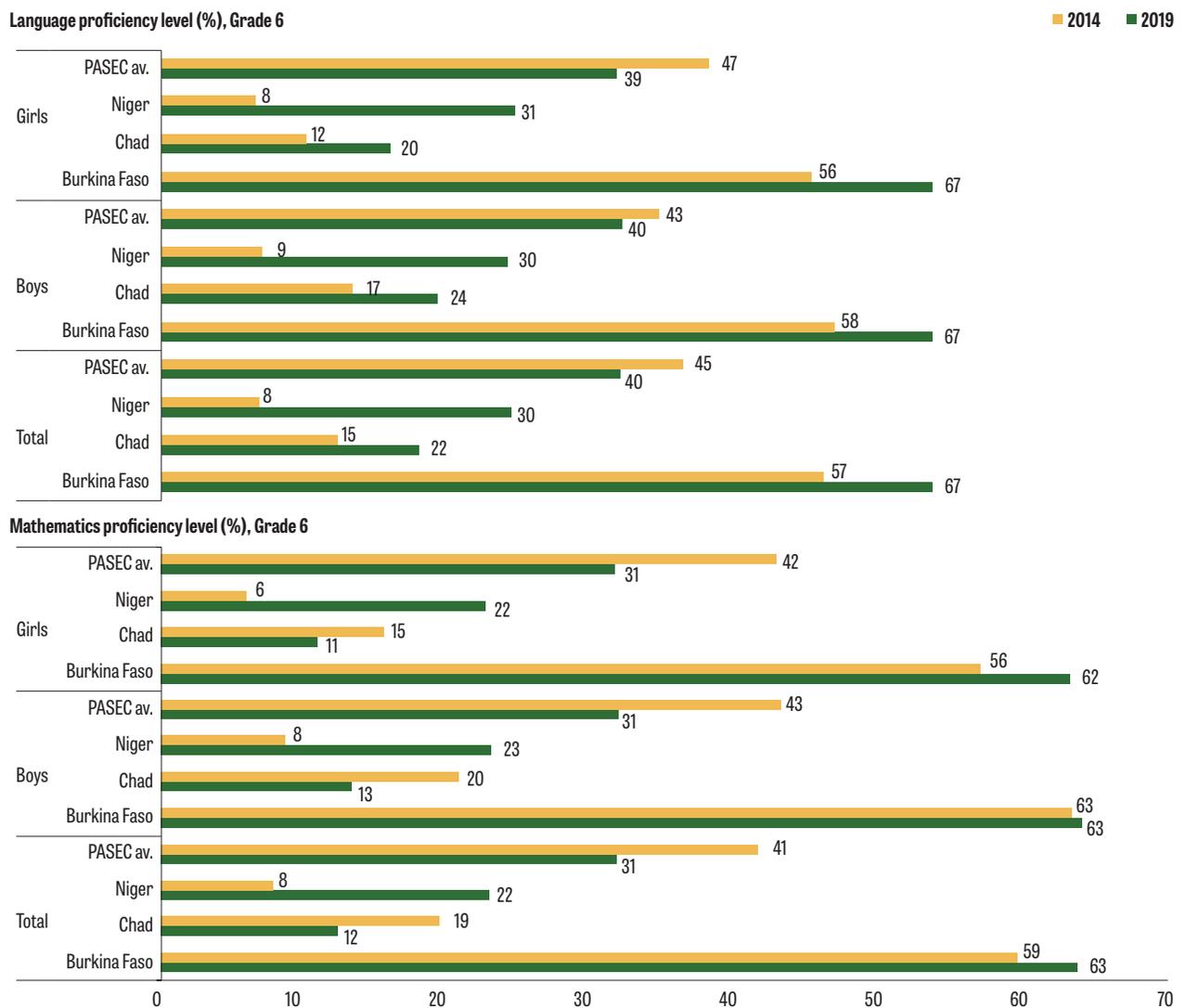


Source: Human Capital Index

appropriate text. This learning poverty rate varies only slightly across countries, from 75 percent in Burkina Faso to 95 percent in Mauritania, reflecting both low literacy levels of children in school as well as high shares of children out of school.¹³ Without a strong foundation in literacy, children are unable to fully benefit from continued schooling and are left poorly equipped to become productive workers and engaged citizens. All five Sahel countries are among the top 20 countries globally in terms of learning poverty rates, threatening all development goals if not effectively addressed.

¹³ Learning Poverty is defined as the proportion of children unable to read and understand a simple text by age 10. This indicator brings together schooling and learning indicators: it starts with the share of children who have not achieved minimum reading proficiency (as measured in schools) and adjusts it by the proportion of children who are out of school (and are therefore assumed not to read proficiently). In fact, learning poverty is particularly high in the region. On average in the Sahel region, adjusting for the Out-of-School children, about 94 percent of children at late primary age are not proficient in reading and are thus learning-poor.

Children in school receive low-quality education on average and learning levels—where measured—are very low. Only Burkina Faso, Chad, and Niger participated in the 2019 wave of the PASEC international learning assessment. Results show that there is variation within the Sahel region, but on average extremely low levels of learning occurring for children in school. The 2019 results show that only 22 percent of grade 6 students in Chad, and 30 percent in Niger, reach the PASEC competency threshold in reading (Figure 7). Results in Burkina Faso are significantly better, with 69 percent of grade 6 students reaching reading competency, compared to a PASEC average of 48 percent. However, the PASEC competency threshold is below the global minimum proficiency level for reading used in the SDG monitoring process—meaning that the share of children who attain the basic competencies expected under the SDGs is even lower than these figures indicate. Mali and Mauritania have not

Figure 7: Language and mathematics proficiency level (%) in PASEC assessment

Source: Authors' estimates based on PASEC 2014 and 2019.

participated in a recent international student assessment, and therefore lack data to assess learning against international benchmarks.

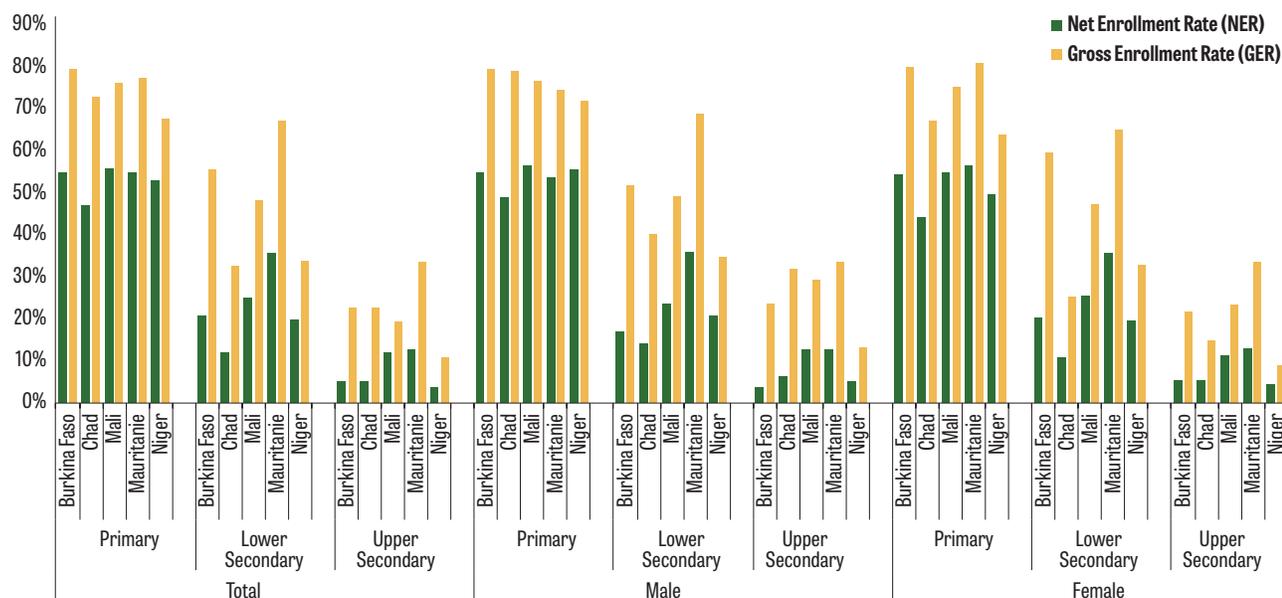
Despite important progress in access, about 10.8 million children and adolescents (ages 6-15) remain out of school, due to most accessing education late and dropping out early, and many never participating at all. In 2018, there were an estimated 14.5 million primary-school-age children (6–11 years old) in the Sahel, of whom about 7 million (48 percent) were out of school. In each of the five countries, over 40 percent of primary school-age children are out of school, with Burkina Faso having the lowest rate at 40.1 percent and Chad the highest at 49.5 percent. Similarly, there were an estimated 8.1 million lower-secondary-age-children (12-15

years old) in the Sahel, of whom about 3.8 million (45 percent) were out of school. All five Sahel countries are in the top 20 countries globally in terms of shares of children out of school.¹⁴ About one third of primary-age children across the Sahel have never attended formal schooling.

Those who do access schooling experience late starts, high rates of repetition, and early dropout. Fewer than 30 percent of 6-year-olds are in school, although 6 is the official starting age for primary across the Sahel. Repetition rates are very high on average—10 percent in primary, 11 percent in lower secondary, and 13 percent in upper secondary. Repetition rates are higher for girls and rural children (Table 1).

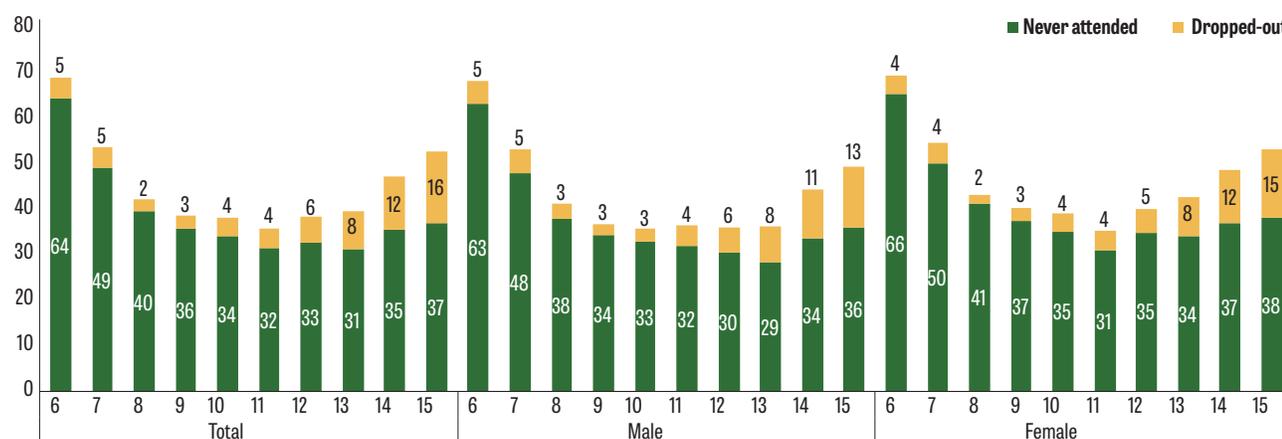
14 World Development Indicators, 2021.

Figure 8: Net Enrollment Rate (NER) vs Gross Enrollment Rate (GER) by level of education and gender



Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger and EPCV 2019 for Mauritania.

Figure 9: Out-of-school and dropout rates by age and gender, across the Sahel G5



Source: Authors' estimates, based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger and on EPCV 2019 for Mauritania.

Figure 8 shows the GER and net enrollment rate (NER)¹⁵—a proxy for overage children by level of education. The figure shows a large gap between the GER and NER. For instance, the GER at the primary level in Mauritania is 77 percent compared to NER of only 55 percent. Interruptions in schooling or repeating successive grade levels are contributing to this gap, creating barriers for children to complete the desired school level within the standard time frame. The repetition

rate varies widely across countries at all levels of education. For instance, the repetition rate at primary level ranges from a low of 5 percent in Niger to 20 percent in Chad (Table 1). Early dropout is also widespread. After age 11, participation rates steadily decline, such that over half of 15-year-olds are out of school (Figure 9).

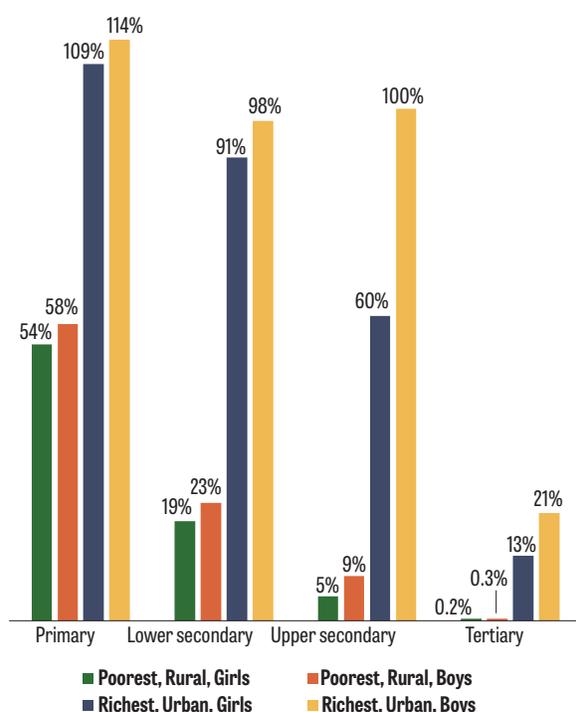
In each country, disproportionately more girls and economically disadvantaged children are out of school compared to their better-off and urban counterparts. At every age, more girls than boys are out of school, with the largest difference among 13- and 14-year-olds. Figure 10 shows the stark enrollment disparities at every education level between

¹⁵ The major disadvantage of the NER as an indicator is that it only accounts for the education of those children who are within the official age-range for schooling, thus excluding all the children who enter the system either after or before the official age. This can be accompanied by errors of measurement due to a lack of accuracy concerning the real ages of the pupils: in certain African countries, it is common practice to change the ages of children on the civil status register.

Table 1: Repetition rate by level of education, gender, and area of residence

Repetition rates		Gender		Area		Total
		Male	Female	Urban	Rural	
Primary	Burkina Faso	9.9	7.3	7.3	9.2	8.7
	Chad	18.9	20.8	13.2	23.4	19.8
	Mali	9.5	9.2	8.2	9.9	9.4
	Mauritania	15.8	15.5	14.8	16.5	15.6
	Niger	5.8	4.7	6.8	4.7	5.3
Lower secondary	Burkina Faso	14.8	16.4	15.7	15.6	15.6
	Chad	10.7	11.6	8.8	13.8	11.0
	Mali	13.3	12.9	10.9	15.2	13.1
	Mauritania	11.1	7.9	10.2	7.9	9.6
	Niger	10.1	10.0	10.3	9.8	10.1
Upper secondary	Burkina Faso	13.3	9.1	9.9	15.9	11.3
	Chad	14.8	11.6	11.6	18.7	13.7
	Mali	14.2	13.1	12.2	17.6	13.7
	Mauritania	22.0	20.9	21.8	18.2	21.5
	Niger	13.6	4.7	9.3	10.8	9.7

Source: Authors' estimates, based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger and on EPCV 2019 for Mauritania.

Figure 10: GER by level of education, gender, area, and wealth quintile (across the Sahel G5)

Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger and EPCV 2014 for Mauritania.

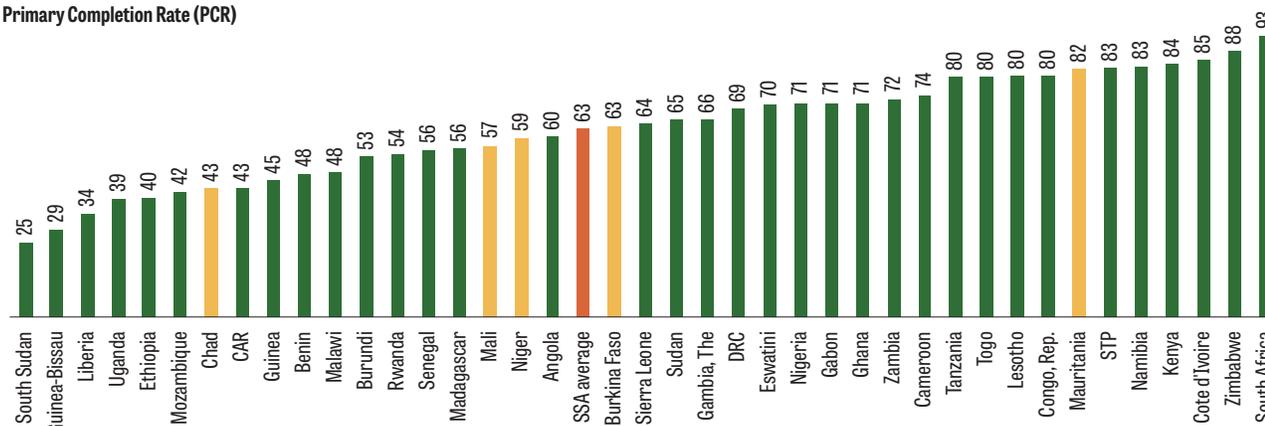
rural students from the bottom socioeconomic quintile and urban students from the top. While the gross enrollment rate (GER) of top quintile urban boys hovers around 100 percent from primary through upper secondary, it is under 10 percent for the poorest, rural boys and girls. Even relatively well-off girls are disadvantaged relative to their male peers, with top quintile, urban girls having a GER 40 percentage points lower than boys.

These challenges are reflected in the Sahel's relatively low rates of primary completion and lack of gender parity, particularly for Chad, Mali, and Niger. The average primary completion rate (PCR) in the Sahel region is 61 percent and the average gender parity index (GPI) stands at 92 percent, slightly below the SSA averages of 63 percent and 95 percent (Figure 11). These rates vary widely within the Sahel, with Chad, Mali, and Niger below the SSA averages and Chad near the bottom with a PCR of only 43 percent and a GPI of 78 percent. In contrast, Burkina Faso is slightly above SSA averages, with a PCR of 63 percent and a GPI of 98 percent. Mauritania is near the top with a PCR of 82 percent and girls outperforming boys with a GPI of 106.

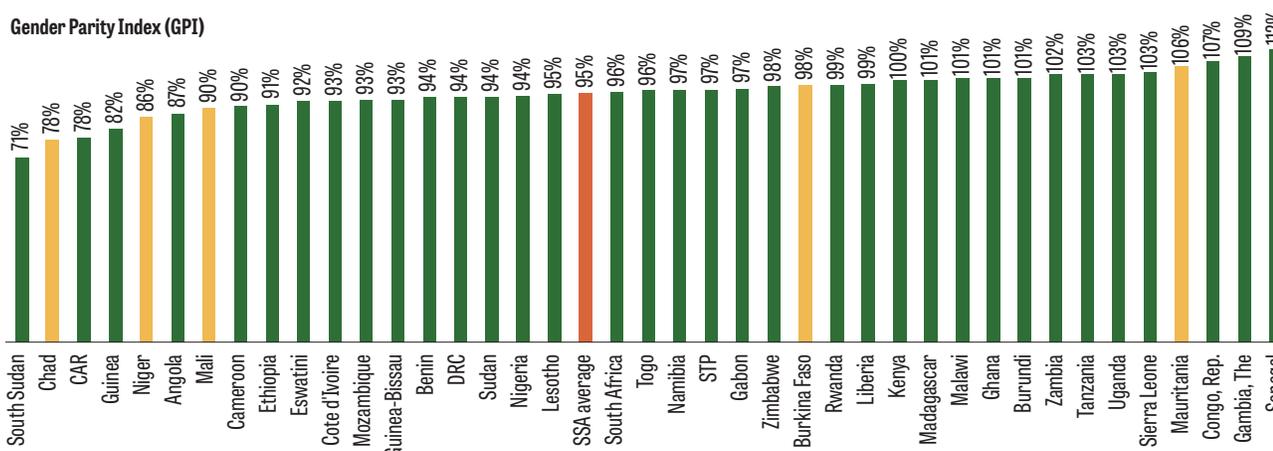
The average literacy rate for working-age adults (age 15-64) in the Sahel is only around 42 percent, with sub-

Figure 11: International comparison of Primary Completion Rate (PCR), and Gender Parity Index (GPI) at primary

Primary Completion Rate (PCR)



Gender Parity Index (GPI)



Source: Authors' estimates based on EHCVM 2018 for Senegal and Education Statistics (EdStats) for the rest.

stantial variation by gender and geographical location.

In other words, more than the half of adults—as well as about two-thirds of adult women—are illiterate, defined as being unable to read or write in any language. Sahelian reading and writing performance are quite low by regional and global standards: in Sub-Saharan Africa as a whole, 59 percent of working-age adults are literate, and the figure is 80 percent for low- and middle-income countries globally. Literacy rates in the region also vary substantially, ranging from 32 percent in Chad to more than 60 percent in Mauritania. Figure 12 shows the literacy rates among the youth and young adult (age 15–34) and the adult (age 15–64) populations. On average, only 32 percent of adults (age 15–64) living in rural areas are literate, compared to 66 percent in urban areas. For women in rural areas, the situation is even worse: only 23 percent are literate. Unsurprisingly, for the region as a whole, the literacy rate is higher among the younger cohort of the work force (age 15–34), at 49 percent.

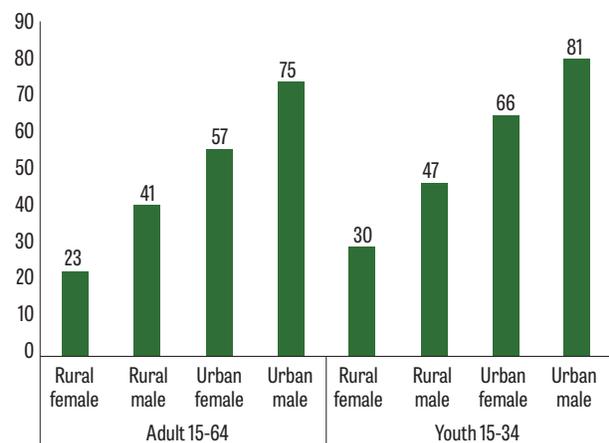
Table 2: Youth literacy rates

Country	Youth Literacy rates, 15-24 years, both sexes
Burkina Faso	59
Chad	45
Mali	56
Mauritania	66
Niger	46
SSA	77

Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; EPCV 2014 for Mauritania; and UNESCO UIS 2018 for SSA

However, when compared to those of other countries in SSA, literacy rates in the Sahel are quite low among even the youngest segment of the labor force—youth aged 15-24

Figure 12: Literacy rates of the labor force by gender, for younger and older cohorts (across the Sahel G5)

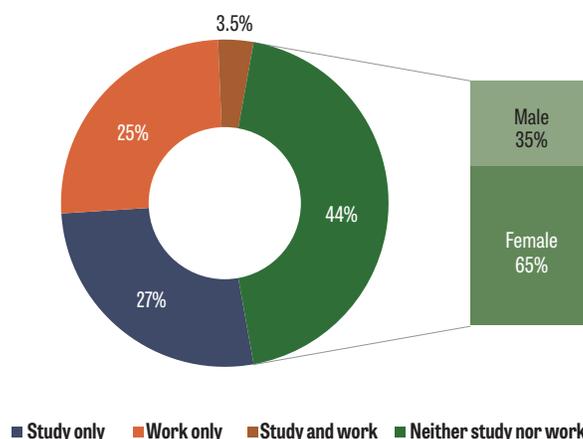


Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2019 for Mauritania.

(Table 2). The functional literacy rate—the ability to apply literacy skills to tasks at work and in daily life—is likely to be even lower.

The lack of foundational skills for youth and working-age adults, particularly women, constrains productivity and development in the Sahel. This evidence underlines that despite the progress on enrollment, levels of schooling and skills in the labor force remain very low by global standards. Such low human capital even among the youngest potential members of the labor force is a drag on economic perfor-

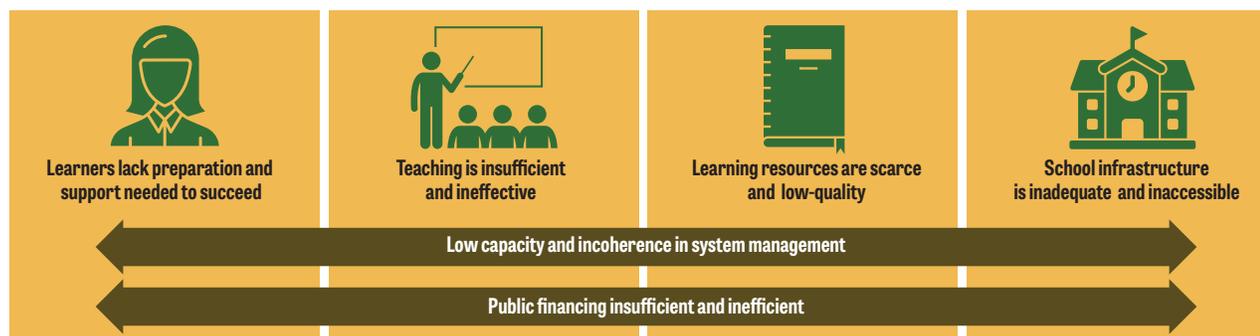
Figure 13: Youth activity (ages 15 to 24) across the Sahel G5



Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger and EPCV 2014 for Mauritania

mance, likely across all sectors. Indeed, across the five Sahel countries, an average of 31 percent of firms report that an inadequately educated workforce is a major constraint to their business, compared to 16 percent on average across Sub-Saharan Africa.¹⁶ At the same time, about 44 percent of youth across the five countries are neither in school nor working (Figure 13). Of these inactive youth, between 60 and 80 percent have had no formal schooling, a reflection of just how nascent the Sahel's education systems are.¹⁷ Two-thirds are female and, except in the case of Mauritania, about 80 percent live in rural areas.¹⁸

16 World Bank Enterprise Surveys (<https://www.enterprisesurveys.org/en/enterprisesurveys>). Burkina Faso 2009: 37.5 percent; Chad 2018: 10.3 percent; Mali 2016: 44.7 percent; Mauritania 2014: 39.3 percent; Niger 2017: 21.9 percent
 17 See Figure A6 in annex.
 18 See Figure 13 below and Figure A7 in annex.

Figure 14: Proximate and systemic causes of poor education outcomes

Source: Authors, based on World Bank (2018).

1.4. The causes of poor outcomes: proximate and systemic factors in basic education

Poor education outcomes in the Sahel are driven by an interrelated set of proximate and systemic factors. The barriers in schools and communities that directly constrain children's education outcomes include: (i) children unprepared for school or excluded completely, (ii) shortcomings in teaching, in terms of both quantity and quality, (iii) inadequate learning resources, and (iv) inaccessible and inadequate school infrastructure. These service delivery challenges are driven by underlying weaknesses in education systems, including low capacity and incoherence in system management as well as inadequate public financing (Figure 14). This section reviews the evidence for each of these factors in turn, focusing on basic education (primary and secondary). This focus is driven both by the recognition that the basic education system is the only one with which the vast majority of today's children in the Sahel will ever interact, as well as the more practical considerations of data and space limitations.

1.4.1. Learners inadequately prepared and supported to succeed

Large proportions of young children in the Sahel are afflicted by poor health outcomes, leaving them unprepared for learning in school. Stunting rates for children under the age of five are as high as 48 percent in Niger and 40 percent in Chad (both in the bottom quarter globally), and still a major cause for concern in the other countries at around 25 percent (bottom half globally).¹⁹ In 2018, UNICEF reported that more than 1.3 million children below five needed treat-

ment for severe acute malnutrition in the five Sahel countries and Senegal, the most in at least a decade and more than a 50 percent increase from 2017.²⁰ Stunting and malnutrition can be attributed to multiple factors including poor maternal health and nutrition, inadequate infant and young child feeding practices, and infection.²¹ Contextual factors such as food insecurity linked to weather-related shocks, healthcare access limitations, and poor sanitation also play a part.²² Fragile and conflict-affected states also tend to have significantly higher instances of stunting than do more stable countries.²³

Children miss important early learning years, as participation in pre-primary education is very low and concentrated among better-off, urban households. Gross pre-primary enrollment rates in the Sahel ranged from around 2 percent (Chad) to 13 percent (Mauritania) in 2018 (Table 3). There is evidence for rapidly increasing demand from some parents for early childhood programs, combined with a willingness to pay for it. For instance, enrollment in Niger tripled between 2010 to 2018 and increased by around 60 percent in Burkina Faso between 2011 to 2015, albeit starting from low bases. Poverty and rurality are strong predictors of non-participation in pre-primary education. On average, children from the richest quintile are nearly 8 times more likely to attend pre-primary education compared to children from the poorest quintile, and pre-primary school services simply do not exist in many rural areas.²⁴ Beyond pre-primary, most children in the Sahel start primary school very late, with only 29 percent of 6-year-olds in school.

The majority of existing pre-primary education services are of low quality. Very few pre-primary teachers receive

19 World Bank (2020a).

20 UNICEF (2018).

21 WHO (2014).

22 WHO (2017).

23 Khara and others (2017).

24 World Bank (2019a).

Table 3: Participation rates in pre-primary education across the Sahel

Participation rates in pre-primary education					
Country	National	Poorest	Richest	Rural	Urban
Burkina Faso	3%	0.1%	17%	0.4%	16%
Chad	2%	0.5%	6%	1%	7%
Mali	4%	1%	14%	2%	11%
Mauritania	13%	8%	23%	14%	12%
Niger	5%	2%	16%	3%	18%
Average	5%	2%	15%	4%	13%

Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2014 for Mauritania

training, and governments rarely monitor the quality of pre-primary service delivery. In Burkina Faso, only around 22 percent of staff in registered pre-primary schools are trained, with the proportion in unregistered, informal institutions likely to be even lower. Only two of eleven teacher training institutes in Niger offer pre-primary training.²⁵ Pre-school programs in Burkina Faso were also found lacking in focus on the development of social and psycho-motor skills or on establishing an adequate foundation for literacy and numeracy for further development in primary education.²⁶

Among older children, some social norms common in the region impede girls' and women's access to education, and perpetuate early and frequent childbearing.²⁷ Burkina Faso, Chad, Mali, and Niger feature among the 20 countries with the highest rates of child marriage in the world, with as high as 76 percent of girls married by age 18 in Niger.²⁸ Consistently, pregnancy and/or marriage are the main reasons for girls' dropout from school, either after completing primary education, or after starting secondary school but without completing it (Figures A16 and A17 in annex). In Niger especially, married adolescents are likely to be expelled from public schools.²⁹ Family refusal also appears to be among the reasons for adolescent girls dropping out of school, which often reflects parental low expectations of the returns from their daughters' education.³⁰ Local mindsets could help explain this. In Burkina Faso, for instance, 44 percent of the population is in favor of early marriage (before 18) for girls, compared to just 4 percent for boys.³¹ High rates of early marriage are correlated with lower rates of secondary edu-

cation enrollment and completion for girls (Figure 15). Early marriage is also associated with higher fertility rates. In Niger, for instance, 43 percent of girls gave birth to at least one child before turning 18.³² Besides early marriage, restrictions on women's civil liberties may also contribute to gender gaps in education. Women are often prevented from accessing public spaces safely and on the same basis as men due to informal laws and norms, despite legal provisions protecting their rights. This is the case in many West African countries, including Burkina Faso, Chad, and Mali.³³ In Burkina Faso, 91 percent of the population thinks that women need their husband's approval to leave home, which likely impedes participation in adult education programs, among other detrimental impacts.³⁴

Early marriage is also associated with poorer health outcomes for girls and their children, trapping many children in an intergenerational cycle of low human capital accumulation. As shown in Figure 15, early marriage is correlated with lower secondary school enrollment rates. Maternal mortality rates across the Sahel are significantly higher than the rest of the world, which likely deprives many young children of critical early nurturing and care. The rates range from 320 per 100,000 live births in Burkina Faso (2017) to 1,340 in Chad (2017)³⁵; these are substantially higher than the world's average of 211 in 2017, with Chad being second only to South Sudan globally.³⁶ Maternal and child outcomes are even worse for adolescent mothers, due in large part to their physiological immaturity.³⁷ Furthermore, low birthweight and stunting often recur across generations. Short maternal stature, an indication of sub-optimal growth in the womb and

25 World Bank (2020b).

26 World Bank (2015a).

27 Wodon and others (2017) and Giacobino and others (2019).

28 UNICEF (2020).

29 Perlman et al (2018).

30 Perlman et al (2018).

31 OECD DEV (2018).

32 Perlman and others (2018).

33 Bouchama et al (2018).

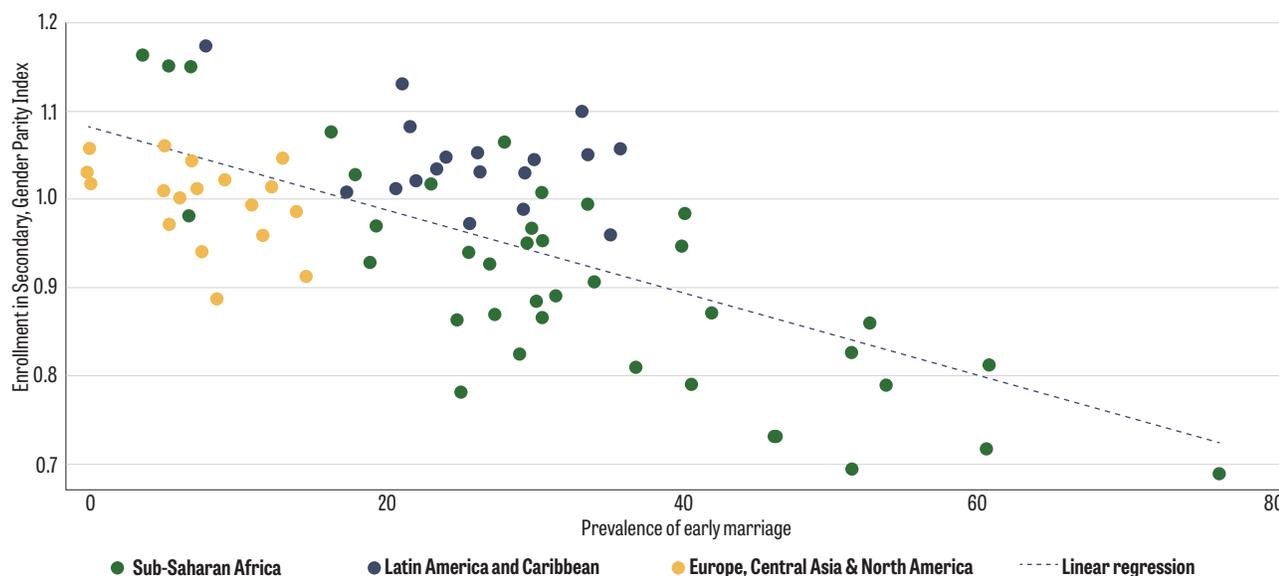
34 OECD DEV (2018).

35 World Development Indicators, 2021.

36 Bouchama et al (2018).

37 Flanagan and others (2020); Yussif and others (2017).

Figure 15: Early marriage is correlated with lower secondary school enrollment rates



Source: World Development Indicators (database), <http://data.worldbank.org>. A similar analysis was included in Bouchama et al. (2018); it has been replicated here by the authors using a larger dataset.

Note: This figure compares the gender parity index in terms of enrollment in secondary education and the prevalence of early marriage in 151 countries (48 in SSA, 61 in Europe, Central Asia, and North America, and 42 in Latin America & the Caribbean). The authors have controlled for GDP per capita, proportion of female teachers, government expenditure in education, gender gap in unemployment, urbanization rate, and regional dummy variables. The R^2 value for these variables is 0.52, implying that 52 percent of disparities in girls' participation in secondary education across countries are explained by the prevalence of early marriage for girls, controlling for the variables listed.

in early years, is associated with low birth weight, stunting, delivery complications and higher child mortality, even after controlling for socio-economic status. The transmission of poverty across generations also contributes to this effect.³⁸

Parents' education level is a key determinant of schooling choices. Schooling and life outcomes in Sub-Saharan Africa are transmitted across generations.³⁹ When parents complete secondary education or achieve higher degrees, their children are much more likely to finish secondary education. Younger youth (aged 12–14 years) from households with a secondary-educated head of household are 20 percent more likely to be in school compared with youth from households where the head of household has little or no education. This effect is more pronounced in Francophone countries (more than 25 percent improvement in the probability of attending school). Older youth in households in which the head of household has completed at least secondary education are twice as likely to stay in and complete school before the age of 24 than those whose parents have no education. Having such large out-of-school youth populations in the Sahel risks undoing efforts to boost education outcomes, espe-

cially given the transmission of low educational attainment across generations. Programs to re-engage out-of-school youth and enable them to lead productive lives are therefore crucial for breaking this vicious cycle.

Earning capacity of households and school quality are also important factors that affect retention. Youth in households with higher earning potential, measured as the number of working adults, are more likely to just attend school than to just work (Figure 16).⁴⁰ When a household has one or two working adults (compared with none), youth are 15–18 percent less likely to just work, and 14–15 percent more likely to just attend school in countries across Sub-Saharan Africa. Household data from 12 Sub-Saharan African countries, including Burkina Faso, Chad, and Niger, suggest that quality of schooling plays an important role in schooling decisions, and that it increases in importance as children become older.

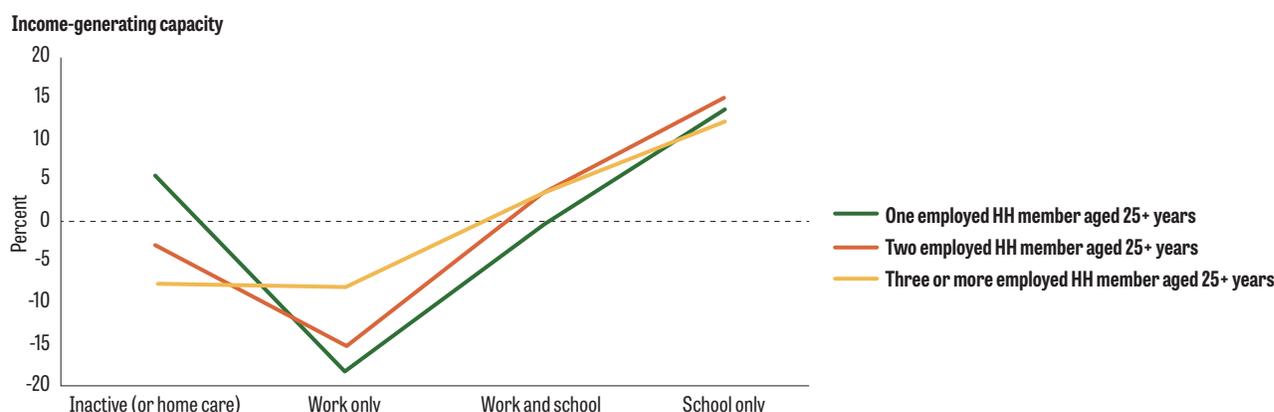
Family refusal, cost of education, and inaccessibility of schools are the main reasons cited for being out-of-school for primary-school-age children (6–11 years old) in the Sahel region. Yet these reasons are likely to be interrelated. Indeed, family refusal is often the reflection of the trade-offs between the perceived benefits of education, which are low

38 Martorell and Zongrone (2012). The authors note that the reasons for this correlation range from the purely biological to the socio-cultural and are not mutually exclusive.

39 Inoue et al. (2015).

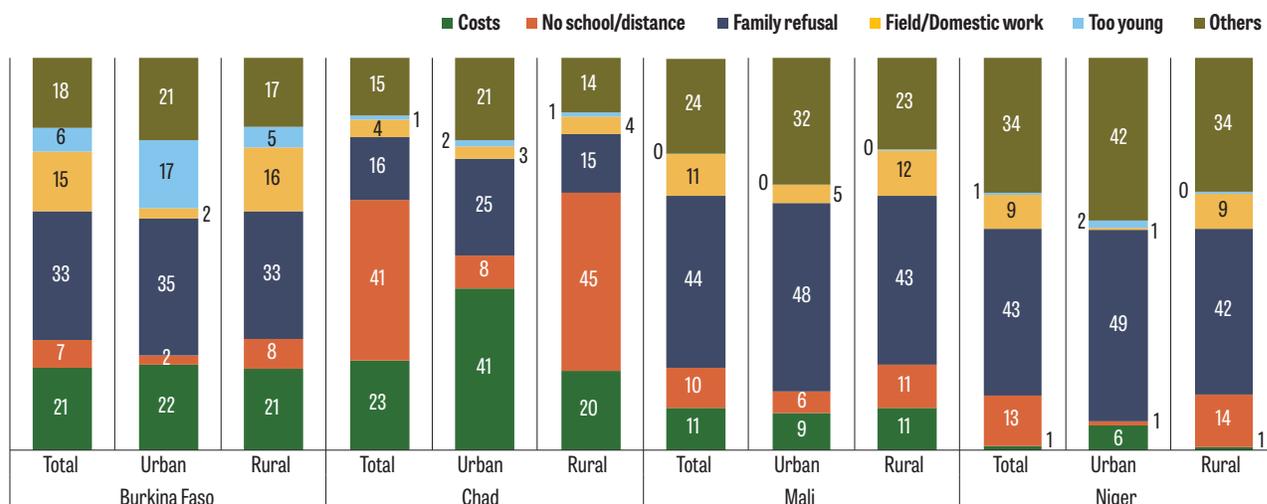
40 Feda and Sakellariou (2013), cited in Inoue et al. (2015).

Figure 16: Impact of income-generating capacity of households on the marginal probability of 15- to 24-year-old youths' work/school outcomes



Source: Feda & Sakellariou (2013), cited in Inoue et al. (2015)

Figure 17: Reasons for being out of school, primary-school-age children (6-11 years)



Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger.

if quality of education is low, and the overall costs associated with schooling.^{41,42} Figure 17 shows the main reasons given for out-of-school children (6-11 years) who are currently not enrolled in the formal education system vary by country and area of residence. For instance, family refusal is cited as the key reason in Mali (44 percent), Niger (43 percent) and Burkina Faso (33 percent), while inaccessibility of schools is cited as the key reason in Chad (41 percent). The national level metric in Chad belies significant variations based on area

of residence, with only 8 percent of children in urban areas reporting 'no school/distance' as the main cause for primary-age children's non-enrollment, compared to 45 percent in rural areas.

1.4.2. Teachers: Shortages, absences, and skill gaps

Across the Sahel, there are not enough teachers in the right places as systems struggle to efficiently expand and deploy human resources. The Sahel countries have among the highest average student-teacher ratios (STRs) in the world, ranging from 34 (2018) in Mauritania to 57 in

41 Low quality of education may reduce parental incentives to send their children to school if they perceive that they are not learning enough. Parents may also underestimate the returns to education (World Bank (2018)).

42 Costs of schooling may include costs for uniforms, transport, or guard fees when schools are remote, but also the opportunity cost associated with offspring's work (Perlman et al (2018)).

Chad (2016), all ranking in the top quintile of countries with available data.⁴³ Moreover, teachers are unevenly distributed across schools with strong regional disparities. A 2017 World Bank Service Delivery Indicators (SDI) survey in Mauritania found that 83 percent of rural schools faced teacher shortages, with some having fewer teachers than classrooms. Even after schools grouped students by ability to help address the deficit, 63 percent of rural schools still faced a shortage of teachers, whereas 82 percent of urban public schools had surplus teachers. Private schools also tend to have better STRs than public schools. For instance, Mali in 2016 had an average national STR of 53 in public schools and 39 in private schools in the first phase of basic education.

Rapid population growth and tight budgets have prompted Sahel countries to hire significant numbers of contract and community teachers, creating two classes of employment and persistent dissatisfaction. Contract teachers are generally paid less than tenured teachers and receive little to no training. Based on data from 2002 to 2008, both tenured civil servant teachers and contract teachers in Mali, Niger, Burkina Faso, and Chad were paid at or above the respective regional averages, but more recent data is not available to assess whether salaries have kept up with inflation.⁴⁴ However, there are large disparities in salaries between tenured and contract teachers. For example, in Niger, where the 2015 SDI found that nearly 70 percent of primary school teachers in a nationally representative sample were contract teachers, the average annual remuneration of a tenured teacher working at the same level of education is typically more than twice as much as contract teachers. Tenured teachers also have numerous additional allowances such as for “hardship” and transportation unlike contract teachers.⁴⁵ In Mali, where teachers are often unwilling to move to the northern regions due to security concerns, only 10 percent of primary teachers in Bamako were contract teachers versus 40 percent further away. These contract teachers also earn less and during focus group discussions, highlighted low salaries as a key reason for the lack of motivation.⁴⁶

Teacher absences, roughly half of which are driven by employment dissatisfaction and lack of access to services, result in significant losses of time for teaching and learning. A 2015 SDI in Niger found that 27 percent of teachers were not in the classroom (combination of teachers being absent from the school entirely or present but not teaching), with urban public-school teachers 5 percentage points more likely

to be absent than their rural counterparts. The 2017 SDI in Mauritania similarly found that the public-school teachers’ classroom absence rate was 27.8 percent. The reasons for teacher absences are similar across the region. In Niger, the main reasons were strikes (24 percent), having to travel to collect salaries (23 percent), sick leave (11 percent), maternity leave (11 percent), and other approved absences (11 percent). In Mali, low motivation due to dissatisfaction with posting locations was cited as a significant reason. Other commonly cited reasons were strikes, training during the work week involving travel to the capital Bamako, sick leave (rural teachers often need to travel to urban areas to access healthcare services), and salary collection.⁴⁷ Recurring strikes and lack of access to financial and health services for rural teachers need to be addressed systemically. At the same time, supervision of teachers and consequences for undesirable behavior are inadequate. In Mali, principals and school management committees often do not report teacher absences due to unclear reporting procedures. In both Mali and Niger, local authorities rarely inspect or collect data on absences. The suspension process in Mali is lengthy and rarely activated, and teachers may change their behavior if aware of upcoming proceedings.

Regardless of civil service status, teachers have very low levels of content knowledge and pedagogical skills. In Mauritania, none of the 1,250 teachers tested for knowledge in French or in Arabic cleared the performance threshold for teachers set at a score of 80 percent on the Grade 4 curriculum. Results in Mathematics were only slightly higher, with 1 teacher out of 24 (4.8 percent) clearing the threshold.⁴⁸ Pedagogical content knowledge was also very low, with a national average in the sample of just 13 percent. The 2015 Niger SDI similarly found that no teachers surveyed cleared the threshold for content knowledge in French and Mathematics.⁴⁹ Teacher pedagogy scores were also low at 18.8 percent, with teachers in private schools (24.1 percent) performing slightly better than their public-school counterparts (18.5 percent).

The quality of contract teachers relative to tenured teachers varies across countries and content areas. In Niger, while neither group had any teachers meeting the minimum threshold for content knowledge, the average score among civil servant teachers was 53.5 percent in French and 35.6 percent in Mathematics, compared to 46.4 percent and 24.2 percent among contract teachers. Contract teachers also scored

43 UNESCO Institute of Statistics (2020).

44 UNESCO (2020).

45 UNESCO (2020).

46 World Bank (2020d).

47 World Bank (2020d).

48 Mauritania Service Delivery Indicator Survey, 2017.

49 Primary school teachers in Niger teach all subjects as opposed to specializing in one. Hence the SDI test for content knowledge covered both French (literacy) and Mathematics (numeracy).

only 16 percent on pedagogy compared to 29.8 percent for tenured teachers. In Mauritania, the results were mixed. While contract teachers trailed tenured teachers in French and Arabic, they performed better in Mathematics and pedagogy.

These quantity and quality issues are due to problems with recruiting high-quality candidates to the teaching profession, the lack of effective pre- and in-service training, and deficiencies in teacher performance management. The potential talent pool for teachers is small to begin with, given the low levels of education in the labor force discussed earlier. Adult literacy rates in the Sahel range from 22 percent in Chad (2016) to 53 percent in Mauritania (2017).⁵⁰ The talent pool is likely to be much smaller in rural areas compared to urban areas, given persistently large rural-urban gaps in enrollment rates and the tendency of better-educated people to migrate to urban areas. With the need to hire tens of thousands of new teachers every year, Sahel countries likely face a quantity-quality tradeoff.

Pre-service and in-service training are highly deficient. Pre-service education programs are rarely selective, and completion of lower secondary education is often enough to be hired as a teacher. For example, postsecondary-level teacher training institutes in Niger only have capacity to graduate 5 percent of the annual new teachers needed, and the rest must come from secondary-level graduates or below.⁵¹ Pre-service teacher education curricula across the Sahel are fragmented and outdated, do not remediate academic deficiencies in teacher-candidates, and do not adequately address subject and pedagogical knowledge. In Mali, for example, the pre-service curriculum has not changed for over twenty years. In addition, practice teaching in classrooms is often perfunctory and inadequately supervised. In Mali, this is due to insufficient capacity in schools and the high number of student-teachers posted to schools, with more than 10 student-teachers in the same classroom sometimes. For new teachers in schools, there is little to no mentoring and in-service training is often too sporadic to be effective. In both Mali and Niger, there are few mechanisms for local authorities rendering pedagogical support to assess teachers' needs for in-service training. There is little support when teachers initiate requests to attend training, and approval processes are often mired in bureaucracy.⁵²

Working and living conditions limit the number of teachers willing to move from capitals and urban centers to rural

areas. Across the region, schools often lack sanitary facilities, materials, and basic infrastructure, and these deficiencies are more severe in rural areas. Moreover, lack of access to services in remote rural areas, language and ethnic group considerations, and safety concerns in conflict-affected areas all affect teachers' and other civil servants' willingness to be deployed to these areas, and the majority are still located in the capital cities. In Mali, 75 percent of civil servants are in Bamako, and in Niger, 64 percent are in Niamey, although the cities only account for 11 percent and 6 percent of the countries' populations respectively.⁵³

Education systems lack the tools to effectively redeploy teachers to where they are most needed. Identifying hiring needs at the local level is difficult as human resource data tends to be incomplete, fragmented, or incorrect. Postings are often decided centrally based on budget allocation, which may not always reflect needs. Efforts are underway to devolve responsibilities for formal teacher recruitment to the local level, particularly in Mali and Niger, but capacity and budget remain a challenge. The Sahel countries generally lack financial and non-financial incentives to attract teachers to rural or high-risk areas. In Mali for instance, the mobility bonus for postings outside the capital Bamako is very low, at between CFAF 5,000 and 15,000 across the country (equivalent to USD 10 to 30, and less than 1 percent of teacher salaries) without any other non-financial incentives. Niger lacks transparent procedures and criteria for teacher postings across regions, and school transfers tend to be haphazard. In Mali, teachers decide where they wish to move and trigger the transfer process, with little consideration given to the needs in the destination school. Teachers who transfer out are often not replaced for long periods, adding to unevenness in staff strength across schools.⁵⁴

Across the teaching career, a lack of performance management limits the support and incentives for teachers to maximize their effort. There is little to no teacher evaluation, prospects for career progression are not clearly merit-based, and poor performing teachers are rarely exited from education systems in the Sahel. In Mali, local pedagogical support centers are responsible for advising teachers on teaching and assessment, and to assess teachers. These support centers typically comprise 7 to 10 pedagogical advisers, often without consideration for the number of schools or teachers assigned to them. The centers therefore vary in their efficacy and impact. In practice, there are few supervision visits, pedagogical advice provided to teachers is inadequate, and

50 WDI. From the 2019 respective household surveys, the adult literacy rates in the Sahel range from 32 percent in Chad to 60 percent in Mauritania.

51 World Bank (2020j).

52 World Bank (2020d).

53 World Bank (2020k).

54 World Bank (2020j); World Bank (2020d).

training needs are poorly identified. The situation is similar in Niger, where teacher supervision and evaluation are largely absent. In both countries, although there are processes for terminating teachers in the event of prolonged absence or poor performance, it is rare for teachers to be dismissed.⁵⁵

Women are underrepresented in the Sahel's education workforce, particularly among secondary teachers and managerial staff. At the primary level, female teachers are noticeably scarce in Chad, Mali, and Mauritania but make up around half of the workforce in Burkina Faso and Niger, in line with the SSA average (Table 4). At the secondary level, the gender disparity is striking across the Sahel, with female teachers only representing between 8 percent (Chad) and 22 percent (Niger) of the teacher workforce. While data is scarce for education ministry staff, qualitative evidence indicates that women are also extremely underrepresented among inspectors as well as local and national managerial education staff.

These gender gaps likely affect student outcomes, particularly for girls. The idea that students perform better under teachers of the same gender is termed the “same-gender effect”, which could be driven by factors like role modelling, stereotyping and sexual harassment.⁵⁶ A study of PASEC 2014 results showed the same-gender effect at play.⁵⁷ While teacher gender does not affect boys' average test performance nor subject appreciation, it strongly matters for girls' performance. When taught by a female teacher, girls show a strong boost, particularly in test performance. By contrast, when taught by a male teacher, girls show lower test performance and subject appreciation than do boys in both reading and math. These effects are significant for both reading and math, but particularly strong for math. At the secondary level, making schools safe and accessible for girls is important for increasing their enrollment and closing gender gaps, and more female teachers is a critical component of such efforts.⁵⁸ Providing opportunities for female teachers to become school principals could also help, especially if biases or discriminatory practices currently limit their opportunities. Lowering those barriers would allow the emergence of more school leaders who understand the special challenges faced by girls, while also untapping an underutilized source of talent.⁵⁹ The same may be true for female officials in the education ministry.

55 World Bank (2020d); World Bank (2020j).

56 Beilock, Gunderson, Ramirez, and Levine (2010); Gunderson, Ramirez, Levine, and Beilock (2012).

57 Rudolf and Rhee (2019).

58 World Bank (2020c).

59 This concern about unequal rates of promotion to school principal appears in other regions too. In Latin America, 8 of 15 countries analyzed in a recent report show at least a 20-point gap in the percentage of female directors compared with female teachers (Adelman and Lemos (2021)).

Table 4: Proportion of female teachers in primary education in the Sahel countries with averages for Sub-Saharan Africa and countries by income level

Proportion of female teachers (%)		
Country	Primary	Secondary
Chad	18.8	7.9
Mali	31.7 (2018)	13.5 (2017)
Mauritania	35.4	11.2
Burkina Faso	47.9	17.4
Niger	53.7	22.4 (2018)
Sub-Saharan Africa	46.7	31.1 (2018)
Low-income countries	41.9	26.0 (2018)
Middle-income countries	66.3	54.4
High-income countries	81.7	60.6

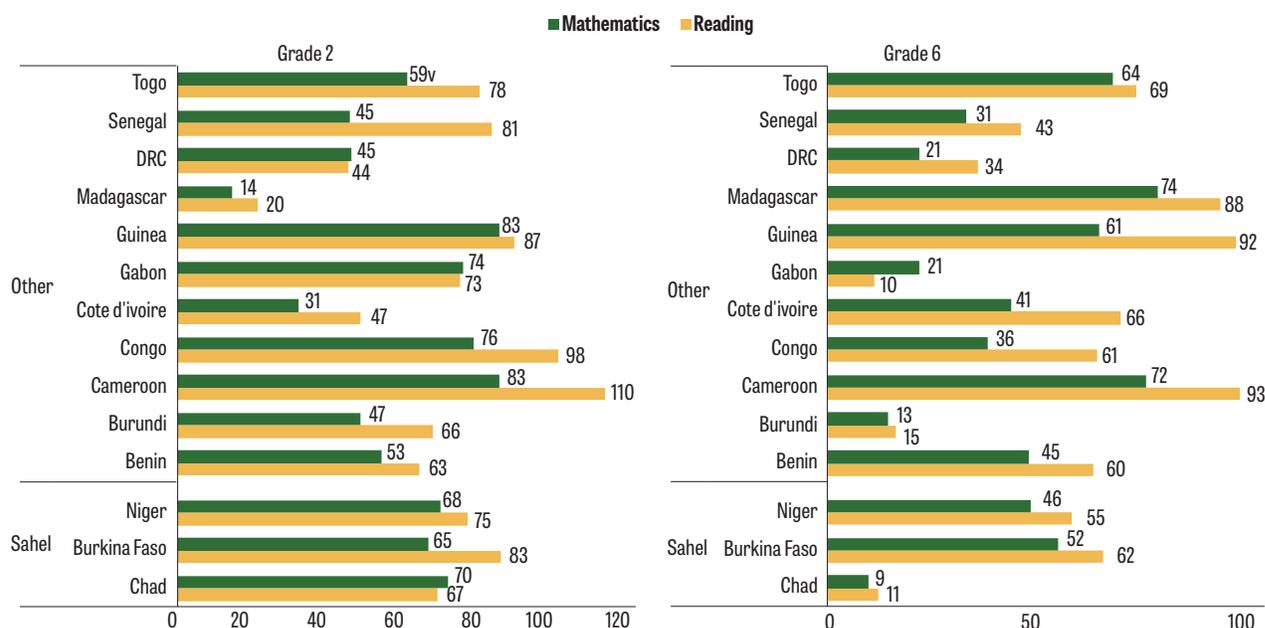
Source: UNESCO Institute of Statistics (data as of September 2020); data is for 2019 unless indicated otherwise.

1.4.3. Learning resources are insufficient and not well-adapted: materials, curriculum, and instructional policies

Low availability of teaching and learning materials continues to plague schools in the Sahel. In Mauritania, only 17 percent of students were found to have textbooks in the observed subjects. While just one student in three in private schools had a textbook, this ratio dropped to one in five in public schools. French textbooks were the rarest in public schools (less than 7 percent of students have a textbook at the national level and less than 3 percent in rural public schools). The situation in Niger was worse, with less than one in eleven pupils overall having textbooks for the class observed (8.9 percent). Private school students fared better than public school students, but even they had textbooks only a quarter of the time. Textbooks for French were more available than those for math in private and public schools irrespective of location. The general level of textbook availability was not significantly different across rural and urban schools in both countries. The root causes of these perennial shortages are systemic and include underbudgeting for educational materials, procurement weaknesses, and data system gaps that hinder timely information on needs.⁶⁰

60 Fredriksen, Brar, and Trucano (2015).

Figure 18: Average gap in reading and mathematics scores between students who always or sometimes spoke the Language of Instruction at home and those who never did, PASEC 2019



Source: Adapted from Bashir, Lockheed, Ninan, and Tan (2019), using updated data from PASEC 2019. Please note that the average early primary (Grade 2) score of all the countries that participated in the PASEC 2019 assessment is 503 in reading and 498 mathematics, while the average late primary (Grade 6) score of all the countries is 500 in reading and 486 in mathematics.

Beyond the physical availability of materials, their content is often inadequate, as the basic education curricula in the Sahel are outdated and inappropriate for the context. School curricula often date back to the 1960s or 1970s, soon after the Sahel countries became independent from France, and have not undergone fundamental reform since. The result is overly ambitious curricula, textbooks, and exams designed for a small, elite minority that does not cater to the broad range of students entering schools.

In the early grades, language of instruction (LoI) policies in the Sahel are impeding students' learning. World Bank (2021) cites global research showing that learning first in a first language or "L1" improves four types of learning outcomes: (i) it promotes better learning outcomes in the L1, (ii) it promotes higher learning outcomes in a subsequent second language or "L2", (iii) it promotes learning in other academic subjects, and (iv) it promotes the development of other cognitive abilities.⁶¹ In SSA, there is a clear correlation between learning levels and speaking the LOI at home, as seen from the average gap in PASEC scores for reading and mathematics in Figure 18.⁶² However, while policies in the Sahel

Table 5: Proportion of the population with the Language of Instruction (LOI) as their first language

Country	LOI	Share of population with LOI as L1 (%)
Burkina Faso	French	11 (2009)
Chad	French	0.0
	Modern Standard Arabic	10.2 [^] (2015)
Mali*	French	0.0
Mauritania	French	0.0
	Modern Standard Arabic	0.0
Niger	French	0.0

Source: Ethnologue, 2019

[^]The share of population reflected here is for Chadian Arabic, which is a local variant of Modern Standard Arabic.

* The table excludes the 11 local languages which Mali has been piloting as LOIs.

countries have evolved differently, there have been no large-scale attempts to teach in national languages except in Mali. French is the main LOI in Burkina Faso and Niger, with both French and Modern Standard Arabic used in Chad and Mauritania. Table 5 shows the share of each country's population

61 The learning outcomes described are drawn from World Bank (2021b).

62 Bashir, S., Lockheed, M., Ninan, E., and Tan, J.-P. (2018).

Table 6: Linguistic diversity in the Sahel countries

Country	Total Population (in Million)	Total # of Languages	# of Languages with a written form*	# of languages spoken by 80% of population	Share of languages spoken by 80% of the population	Total number of L1 speakers speaking 80% languages (in Million)	Share of population speaking 80% of languages
Burkina Faso	12.5	71	62	6	8.5%	10.1	80.4%
Chad	8.9	130	112	20	15.4%	7.1	80.1%
Mali	13	68	43	11	16.2%	10.5	80.6%
Mauritania	4.1	7	6	1	14.3%	3.6	86.8%
Niger	15.8	23	22	2	8.7%	13.6	86.0%

Source: Loud and Clear: Effective Language of Instruction Policies for Learning, World Bank, 2021

*Source: Ethnologue, 2019

with the LOI(s) as their first language. Nearly all students are raised in households speaking local languages and/or local variants of Arabic, and therefore receive primary school instruction in unfamiliar languages, making it difficult for them to learn.

Transitioning to instruction in national languages is technically feasible, despite the Sahel's linguistic diversity. As Table 6 shows, the five Sahel countries are all linguistically diverse, with the number of native languages spoken by the population ranging from seven in Mauritania to 130 in Chad. However, a far more manageable number of languages are spoken by at least 80 percent of the population: ranging from 6 in Burkina Faso to 20 in Chad. Countries can start with just a few of the most commonly spoken local languages to cover an appreciable proportion of their populations—in Burkina Faso, for instance, using Mòoré and Fulfulde can reach around half the population.⁶³ Therefore, significant proportions of the population could in principle be served with primary education in their native language through the development of materials and other resources in these languages. These interventions need to be implemented carefully to ensure that no groups are excluded based on LoI.

However, both political considerations and practical implementation challenges make changing LOI policy more difficult, with many relevant lessons from the region. Qualitative research on Mali's experience with national language instruction has found several key benefits, including a stronger nexus between school and community through the use of the local language, faster learning of reading and writing in the national language, and the promotion of local

language and culture.⁶⁴ However, there were several issues raised by stakeholders which mirror the wider issues in Mali's education system management, but are compounded by the complexity of introducing bilingual education in a linguistically diverse country like Mali. These include the choice of language at the local level (where data is patchy at best and decisions are contentious), aligning teacher hiring and deployment with language needs, the lack of sufficient materials in every language, abrupt transition to French in the second cycle of basic education (lower secondary) that undermines many students' success, and weak and intermittent institutional support, leaving many stakeholders with the perception of lack of high level commitment to the policy.⁶⁵ Niger has similarly accumulated significant experience in bilingual education, and has developed a strong base in terms of legal reforms and experiments in bilingual education. However, reforms to generalize bilingual education have been slow, and major challenges remain on aspects such as training of teachers, and convincing internal and external stakeholders of the value of a bilingual education.⁶⁶

1.4.4. School infrastructure: gaps in facilities and school climate

Physical inaccessibility continues to be a significant reason for students' non-enrollment, particularly in Chad.

63 Estimated using data from Ethnologue, 2019 for the number of Mòoré and Fulfulde speakers in 2009.

64 Mali's experiments in bilingual education using French and Bambara (first language for an estimated 80 percent of the population, and a commonly used language for commerce) date back to the 1980s. From October 2002 to June 2005 Mali piloted the use of four national languages (Bambara, Songhay, Fulfulde and Tamasheq). The government decided to generalize this approach using 11 national languages, with 2,550 schools coming on board by 2011.

65 USAID (2016).

66 Ministère des Affaires Étrangères et Européennes, Agence Française de Développement, Organisation Internationale de la Francophonie, Agence Universitaire de la Francophonie (2010). *To be updated with more recent information.*

Inaccessibility of schools varies across the Sahel countries, with fewer than 10 percent of households in Burkina Faso reporting distance as the main cause for primary-age children's non-enrollment compared to 10-20 percent in Mali and Niger, to over 40 percent in Chad.⁶⁷ In many cases, schools may exist but not offer a complete cycle of education; in Niger, for example, only 60 percent of primary schools, enrolling some 50 percent of students, offer a complete 6-year cycle of primary education. In the Sahel and across many developing countries, travel time to school is consistently negatively correlated with enrollment and completion.⁶⁸ In Burkina Faso for example, decreasing motorized travel time to school by 10 minutes is correlated with a 3.3 percentage point higher completion rate.⁶⁹

Even when schools are accessible, they tend to have poor infrastructure. The 2017 Mauritania SDI showed that in almost all public schools (19 schools out of 20), students do not have access to the minimal infrastructure (availability of functioning toilets and classrooms with enough lighting). The main constraint was around access to toilets that are clean and protect the students' privacy (enclosed spaces with separate facilities for girls). Almost half of rural schools and one quarter of urban public schools do not have functional toilets for students. Only 1 in 11 public schools (urban and rural) have toilets with adequate sanitary conditions. By contrast, all private schools have functional toilets for students, although only around a third have toilets that are sanitary. The situation seems to be slightly better in Niger, but there are large disparities between public and private schools there too. The minimum infrastructure indicator was met only in around 20 percent of public schools sampled in the 2015 SDI. Private schools were four times more likely to meet minimum infrastructure requirements than public schools, and two to three times more likely to have functional toilets.

In addition to physical infrastructure gaps, school climates are not always conducive to learning, and these factors may discourage families from sending their children. Primary teachers widely self-report using corporal punishment on students, from 25 percent in Burkina Faso to 72 percent in Chad. Data on the prevalence of bullying and sexual harassment are not available for the Sahel countries, but given the experiences of many other SSA countries, both are potentially also factors affecting students' educational trajectories.⁷⁰ A lack of basic infrastructure combined with widespread overcrowding in classrooms (related to the high

STRs discussed above) as well as negative practices like corporal punishment all affect students' well-being and ability to learn, and are likely to discourage many families from sending their children, particularly adolescent girls, to school.

1.4.5. System management: Low capacity and incoherence that contribute to school-level challenges

The Sahel's education systems—and capacities required for their functioning—are still emerging. In half a century, basic education across the Sahel has grown from small systems for the elite to national systems attempting to serve rapidly growing populations. At the same time, persistently high poverty and underdevelopment affect the quality of education service delivery. As a result, adequate policy, processes, and human and financial resources are not in place for these systems to effectively function. For example, while salaries absorb the vast majority of education budgets, payment systems are still incomplete and inefficient. As mentioned above, many teachers waste a great deal of time (and are absent from school) traveling to collect their salaries, and Niger just started utilizing its nascent post office network for salary payments in 2019.⁷¹

Systems lack key information—most importantly, on student learning—for goal setting, decision-making, and allocation of resources. In many Sahel countries, there is no systematic approach to assess student learning. Niger, for instance, does not have a national system with the appropriate structures, and skilled manpower to assess student outcomes at scale.⁷² The Ministries of Education have participated to varying degrees in international comparative assessments such as PASEC and SDI surveys, which are important and useful initiatives. However, without functional national mechanisms to diagnose, track, and act on student learning results, the Sahel's education systems are limited in their capacity to tackle learning poverty at every level. Given their generally low levels of skills, teachers in Sahel countries are ill-prepared to assess learning effectively in the classroom and to tailor pedagogy to suit the learning needs of students. School leaders and local administrators are rarely able to guide teachers in assessing classroom learning, or in collecting and using school-level assessment data to modify instruction. Other basic data—such as on school populations and needs—is not collected and transmitted by education management information systems in a timely and reliable manner, delaying or disabling data driven decision making at every level.

67 Results of the EHCVM 2018.

68 Bashir, S., Lockheed, M., Ninan, E., and Tan, J.-P. (2018).

69 World Bank (2021c).

70 Bashir, Lockheed, Ninan, and Tan (2018).

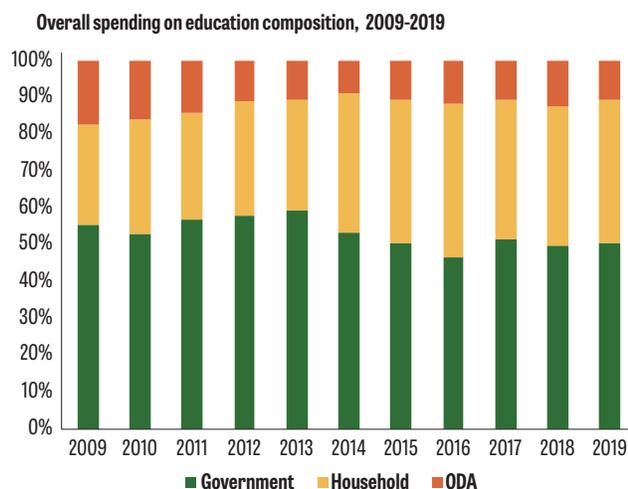
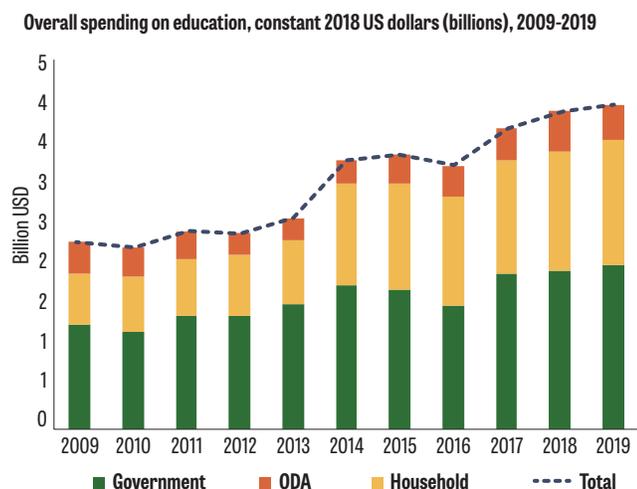
71 World Bank (2020j).

72 World Bank (2020b).

Figure 19: Sahel overall spending on education (constant 2018 US dollars), and composition of Sahel overall spending on education

(a) Sahel overall spending on education, constant 2018 US dollars, 2009–2019

(b) Composition of Sahel overall spending on education, 2009–2019



Source: World Bank Education Finance Watch database

Incoherence across different parts of the system reduces the effectiveness of initiatives and reforms. Misalignments across different levels of the curriculum, between the curriculum and textbooks, and between teacher training programs and basic education policy all contribute to undermining the success of reforms and negatively impact students. For example, in Burkina Faso there is a sharp discontinuity between the curricula for primary and lower secondary education.⁷³ Students who enter grade seven often find that they must learn new concepts for which they lack required preparation and this contributes to poor performance and dropout. In Mali, after a competency-based curriculum was adopted, some textbooks became incompatible but were not removed from the Ministry’s list of approved textbooks, and were therefore still considered for procurement.⁷⁴

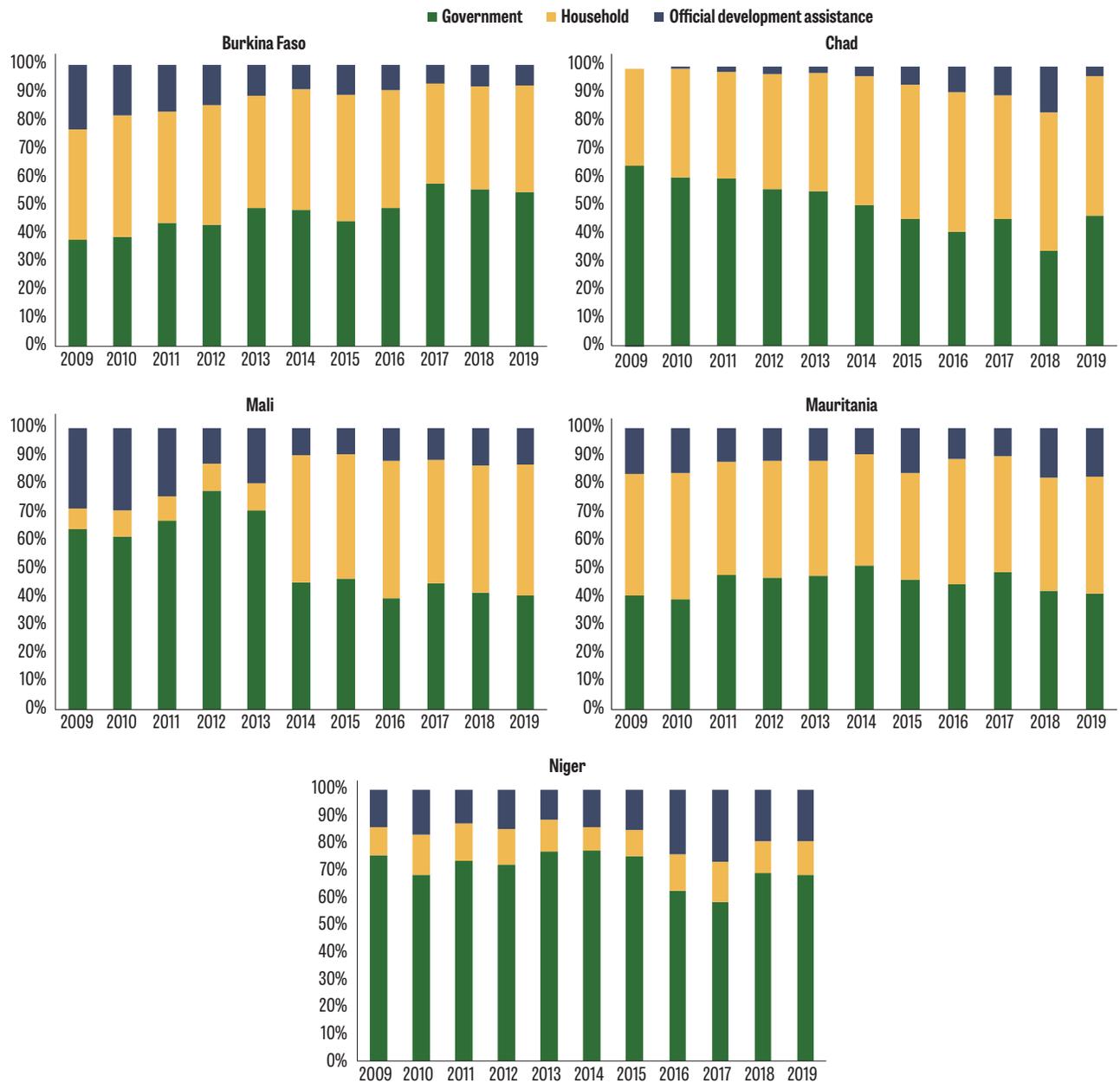
Finally, inconsistency and politicization of technical leadership distracts from education systems’ main goals and limits implementation capacity. The average education minister’s tenure is lower across the Sahel (26 months) than in Sub-Saharan Africa as a whole (36 months) or the world (35 months).⁷⁵ While the frequency of ministerial turnover itself may create instability, likely more detrimental are the accompanying diversion of focus to elections, frequent turnover of senior technical leadership, and system reorganiza-

tions. Moreover, politicization and turnover of technical positions at much lower levels, such as the political appointment of school directors, do not provide education systems with the technically capable and consistent management needed at every level.

1.4.6. Public financing: inadequate, inefficient, and at times inequitable spending

Governments, households, and development partners are the main funders of education in the Sahel, but their contributions differ significantly across countries. On average across the five countries, the contribution of households, governments and development partners to total education spending has remained relatively constant over time, with governments contributing around 55 percent, households 30 percent, and international partners about 15 percent (Figure 19). However, in Chad, Mauritania, and Mali the direct contribution of households to education spending has been greater than public spending in recent years, while in Niger contributions from households are on average lower than from partners. In 2019, for instance, households in Niger accounted for only 12 percent of total education spending compared to a 39 percent average across Sahel countries (Figure 20). At the same time, the importance of international aid (ODA) for education funding is also very different within Sahel region. In 2019, aid from partners represented 18.3 and 17.3 percent of total education spending in Niger and Mauritania, but only 7.3 percent in Burkina Faso.

73 World Bank (2015).
 74 World Bank (2020d).
 75 Lemos and Maloney (forthcoming). The authors calculate average tenure using data from January 2001 through June 2020.)

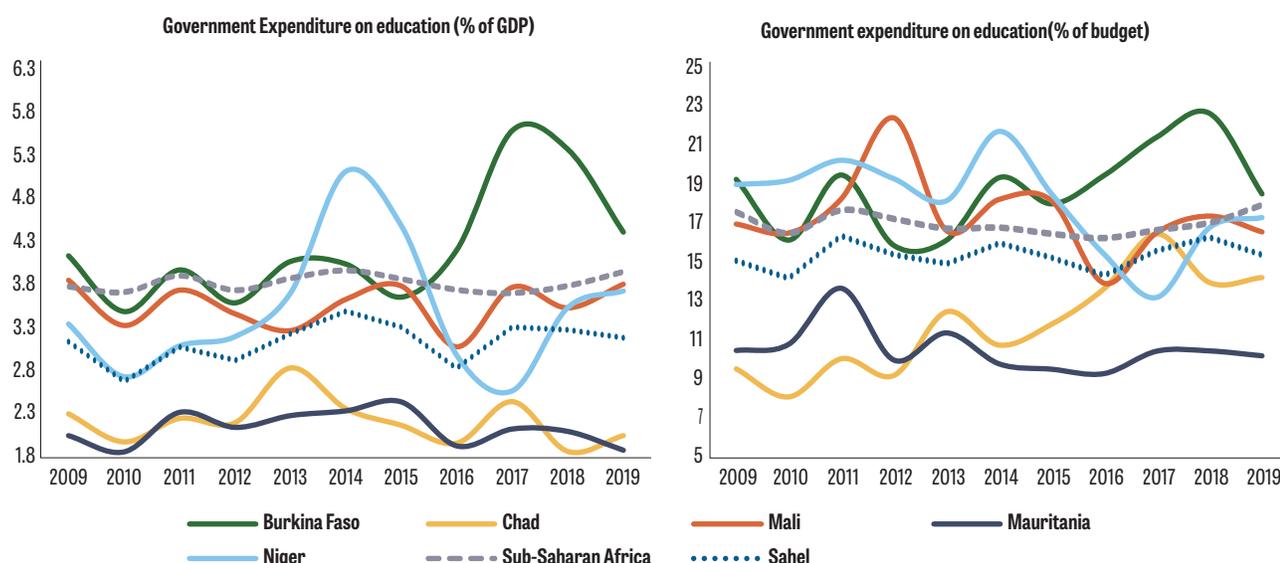
Figure 20: Education financing composition by country

Source: World Bank Education Finance Watch database

Over the last decade, the share of public spending on education as a percentage of GDP across the Sahel has averaged around 3 percent, with only Burkina Faso devoting a larger share than the SSA average. From 2010 to 2019, public expenditures on education increased from 2.8 to 3.2 percent of GDP on average, but the latest figure remains well below the SSA average of 4 percent and international benchmarks in the range of 4–6 percent of GDP (Figure 21). These relatively low shares reflect both low shares of overall budget allocated to education and the low share of government

spending in the economy. Not all Sahel countries are allocating this little: Burkina Faso's spending on education has hovered between 4.5 and 5.5 percent of GDP in recent years, above the SSA average, while the other Sahel countries' spending remained below SSA average. At the other end of the range, Mauritania spends the least at less than 2 percent of GDP. Even at the high end, Burkina's low per-capita income translates into very low absolute spending per child by global standards, as discussed below.

Figure 21: Public expenditure on education as share of GDP and total public spending for Sahel countries



Source: WBG staff estimates based on World Development Indicators, as of February 2021

As a share of government spending, education spending across the Sahel stayed stable at around 15 percent over the last decade. From 2010 to 2019, education expenditures in the Sahel’s public budgets remained at 15 percent on average, less than the SSA average of 17 percent and below the Global Partnership for Education’s (GPE) recommended target of 20 percent.⁷⁶ Among the five countries, however, there is substantial variation. Burkina Faso stands as the only country in the Sahel with education as a share of government spending above the SSA average, at 20 percent in 2020, while Mauritania is the lowest, at just 10 percent.

Within education, the allocation of resources by level reflects prioritization of primary education across the Sahel, but in all countries but Mali tertiary receives an outside share of the budget. Over the past several years, allocations to primary education have ranged between 40 and 50 percent for all Sahel countries (in line with the GPE’s recommendation of 45 percent) except Burkina Faso, which has consistently allocated 60 percent to this level. However, Burkina Faso and Chad allocate about as much public financing to tertiary compared to secondary education, while Mauritania and Niger allocate far more to tertiary than secondary. Considering both the low total tertiary student populations and enrollment patterns discussed above, tertiary spending is likely regressive and largely benefiting the top socio-economic quintiles.

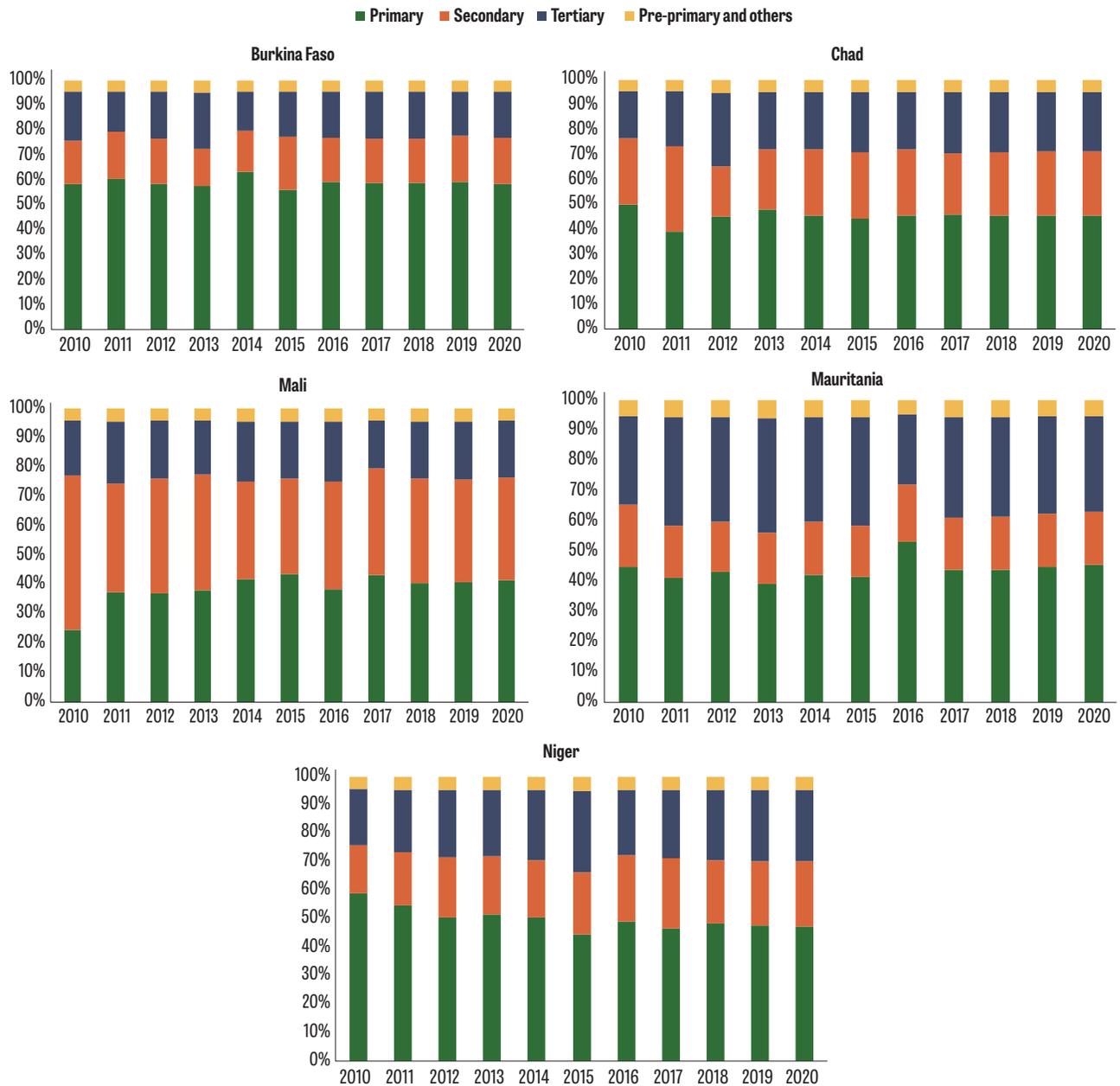
Governments have largely overlooked pre-primary education compared to other education levels. Investment in pre-primary education as a proportion of overall education expenditure is significantly below UNICEF’s recommended share of 10 percent.⁷⁷ Figure 22 shows the breakdown of education expenditure across the Sahel countries by sub-sector. Pre-primary expenditure has been categorized together with other subsectors such as TVET and teacher training. Burkina Faso, Chad, Mali, and Mauritania each allocated less than 2 percent of their public education budgets towards pre-primary education in 2018.⁷⁸ Niger has a somewhat higher level of commitment, spending around 5 percent of its education budget on pre-primary education (2016), with public pre-schools accounting for 72 percent of 2018 pre-school enrollment. In the absence of significant government expenditure, financing of pre-primary education is largely left to households and communities, and pre-school is delivered through the private and non-governmental sectors.

Despite prioritizing primary education in allocations, public financing is extremely inadequate for the Sahel’s needs and burdened by significant inefficiencies. Not only are spending levels per student in primary very low in absolute terms (Table 7), but even relative to per-capita income, they are near the bottom globally, due to overall low public spending on education. With coverage far from complete (as discussed earlier), the Sahel’s public systems are poorly

76 https://www.globalpartnership.org/sites/default/files/2019-02-gpe-domestic-policy-brief_web.pdf

77 UNICEF (2019).
78 UNICEF (2019).

Figure 22: Public expenditure by education level for Sahel countries



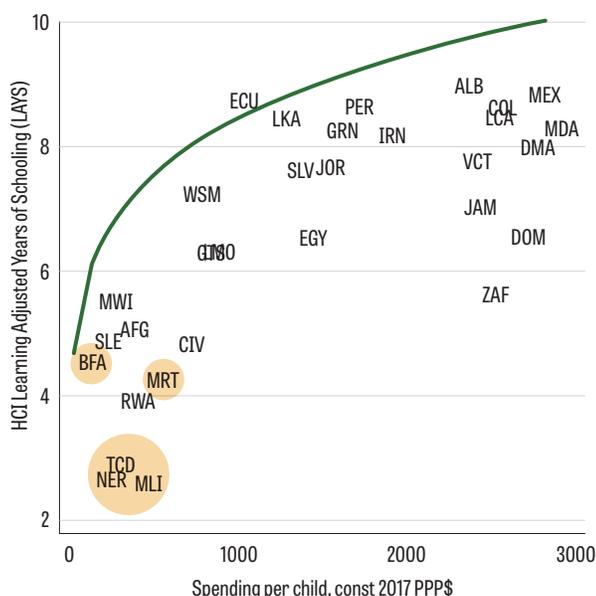
Source: WBG staff estimates based on World Development Indicators, as of June 2021

resourced to meet the massive demands for education at this level. At the same time, the countries lost about USD 450 million in total education spending (0.8 percent of GDP), due to school repetition and dropouts.⁷⁹ Looking at spending efficiency in a global context, the Sahel countries are produc-

ing fewer learning-adjusted years of schooling than would be expected given their levels of spending per child (Figure 23). However, there are differences among Sahel countries at similar levels of spending, with some countries getting significantly better outcomes for the same (or lower) levels of spending. Burkina Faso is the most efficient of the four Sahel countries for which data are available. It spends less per primary student than Mali, Niger, and Chad, but is able to translate that spending into about 4.7 learning-adjusted years of schooling, while in Mali, Niger, and Chad the corresponding

79 The USD 450 million comprises USD 317 million of losses in public schools, representing 19 percent of total annual public spending on primary and secondary education. Private-sector losses are around USD 134 million or 21 percent of total household spending on primary and secondary education. The estimates were calculated using the number of dropouts and repetitions per year by level of education and based on the per capita costs of public and private education.

Figure 23: Learning-adjusted years of schooling compared with spending per child, 2019



Source: Authors' calculations; data from World Bank Education Finance Watch database

figures are only 2.6, 2.7 and 2.8 years respectively. Thus, both the low level of spending and the inefficiencies in translating that spending into learning are major challenges for education finance.

1.5. Beyond the system: fragility and conflict drive challenges and shape demands on education

Deep poverty and persistent shocks limit public and private resources and undermine investments in human capital. Four of the five Sahel countries are in the bottom quintile of countries globally in terms of GDP per capita, and in the top quintile in terms of population share living in extreme poverty. As a result, parents have limited human capital themselves, and struggle with livelihoods, yet shoulder the burden of about one-third of education spending as discussed above. Climactic shocks are increasing in frequency and severity, threatening livelihoods, and exacerbating conflict. Over 70 percent of households in Burkina Faso, Chad, Mali, and Niger report having experienced at least one major negative shock in the past three years (climate, conflict, or idiosyncratic), and nearly half were forced into negative coping strategies that undermine human capital, such as re-

Table 7: Government education financing per student in 2019

	Government expenditure per student, constant PPP\$		
	Primary	Secondary	Tertiary
Burkina Faso	272	294	2100
Chad	99	358	3130
Mali	284	488	3527
Mauritania	380	528	3571
Niger	112	136	2202
Sahel (average)	229	361	2906
SSA	432	1049	2737
LMIC	763	1429	2756

Source: World Bank Education Finance Watch database

moving children from school.⁸⁰ These realities require more flexibility in education offerings, with more opportunities for non-linear progress and multi-grade approaches that can serve children and youth who may enter and exit the system repeatedly.

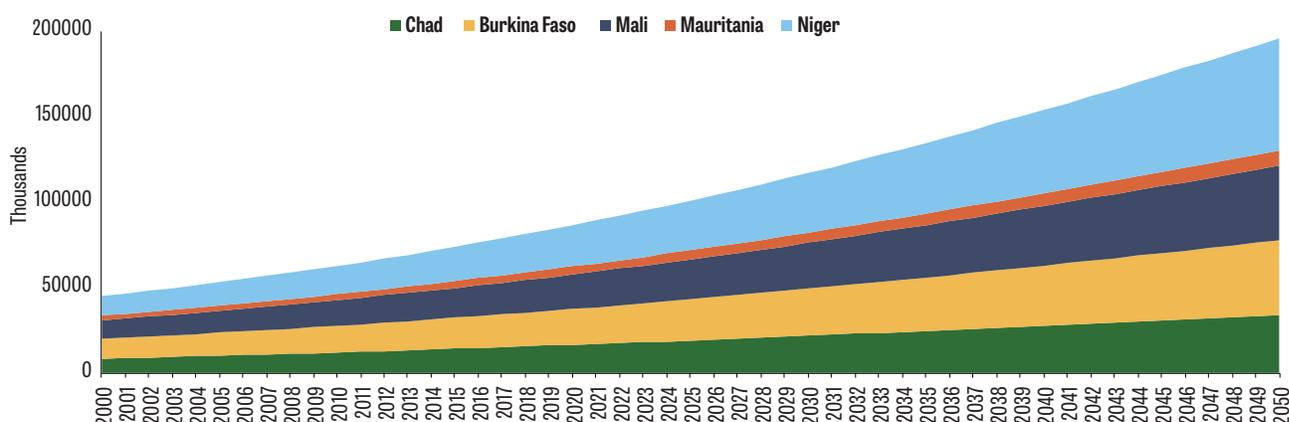
Rapid population growth forces education systems to “run just to stand still”, with the school-age cohort growing by nearly 1 million children per year. On average, the fertility rate in Sahel countries is 6.4 children per woman compared to the SSA average of 4.7, with Niger having the world’s highest rate and all five countries in the top 25 globally. Demographic trends show that the Sahel region’s population will more than double between 2020 and 2050, from over 86 million to nearly 200 million people (Figure 24). This growth will put even more pressure on nations that currently lack the capacity to govern their entire territories and to provide basic services to all their inhabitants. The school-age cohort (children and adolescents ages 6-18) is expected to increase from 29.8 million in 2020 to 38.8 million by 2030, increasing pressure on education systems that already face severe capacity constraints.

Based on the current supply trends in countries’ education systems—a “business as usual” scenario—primary education enrollment numbers will increase significantly but not GERs.⁸¹ The increase in enrollment figures between 2021 and 2030 is equivalent to 4.2 million more children studying, or an increase of 36 percent across the Sahel

⁸⁰ Brunelin, Ouedraogo, and Tandon (2020).

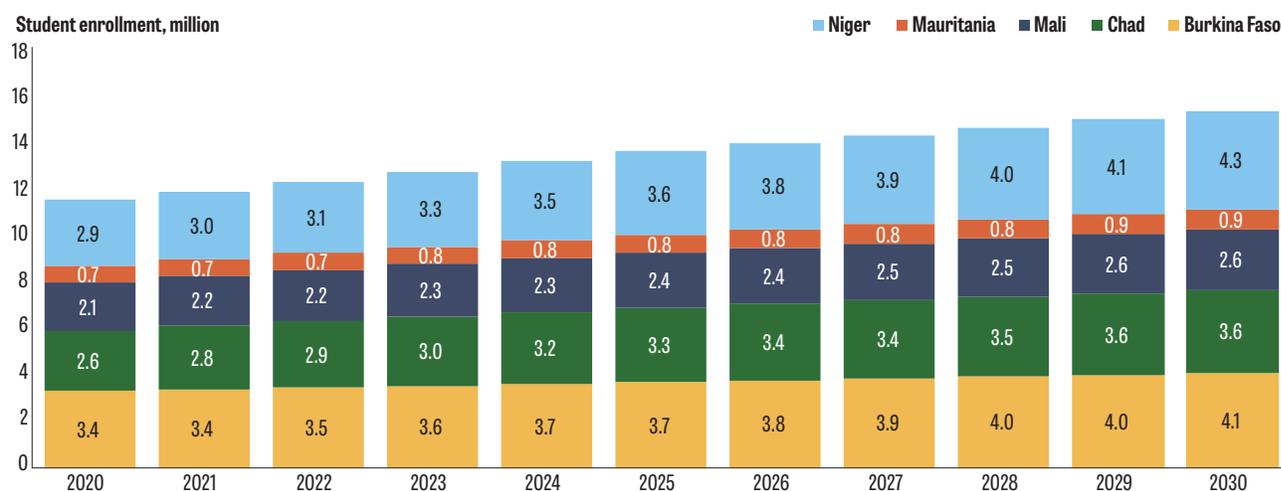
⁸¹ The methodological note used for the simulation model is presented in Annex B.

Figure 24: Population growth in G5 Sahel Countries



Source: Authors' estimates based on United Nations World Population Prospects (2019).

Figure 25: Student enrollment projections in primary education under the 'Business as Usual' scenario, million



Source: Simulation model

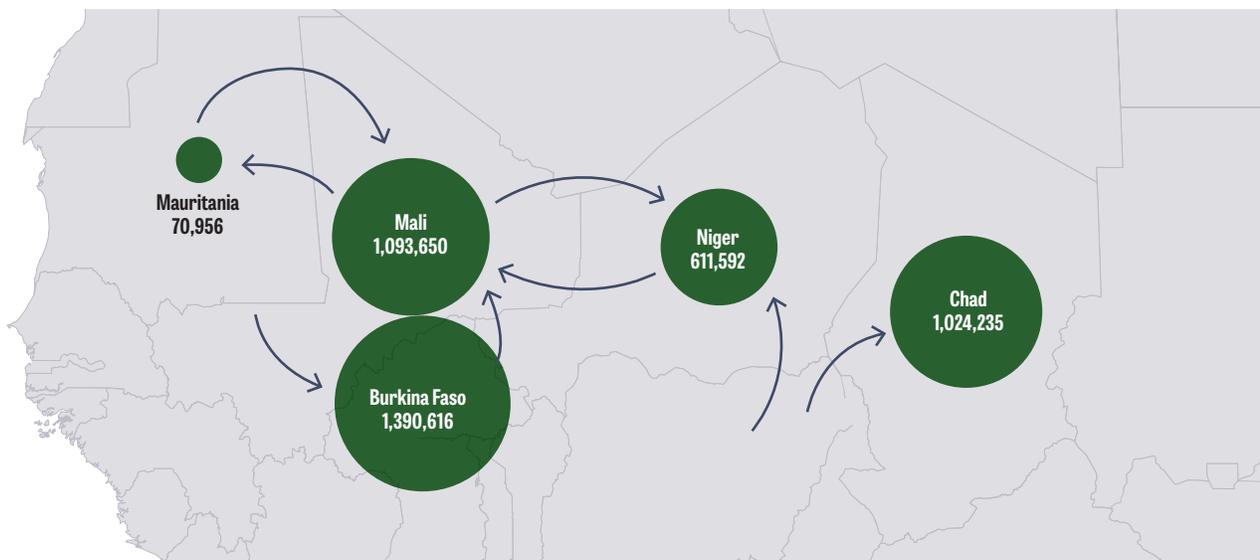
(Figure 25). The largest increase in the student enrollment is to occur in Niger (79 percent), followed by Mauritania (26 percent), Mali (24 percent), and Burkina Faso (23 percent). At the same time, it is expected that the GER will increase marginally, as population growth outstrips the expansion of supply. Only Chad, due to its high repetition rates, around 17 percent, will manage to reach the GER of 100 percent. In Mauritania, the GER in primary education was high already in 2018/19—98 percent, and it is expected to grow marginally by 3 percentage points. About 919,000 children (ages 6-11) will remain out of school in 2030, 27 percent more than the 724,000 children in 2019.

Conflict in the Central Sahel countries (Burkina Faso, Mali, and Niger) has seriously threatened children's care and

protection.⁸² Children in conflict-affected areas are prone to violence, and may be recruited and exploited by armed militias. UNICEF (2020) reported 571 serious violations against children in Mali in the first three quarters of 2019, an increase from 544 in 2018 and 386 in 2017. Over the same period, 277 children were reported killed and maimed, more than twice the number of 2018. Conflict accentuates access gaps in basic services such as sanitation, healthcare, and education. Scarce manpower and financial resources are rerouted from basic service delivery to addressing security threats. Routine immunizations are difficult to administer. Given the deficiencies in sanitation and health care services,

⁸² The figures and analyses in this paragraph and the next are drawn from UNICEF (2020).

Figure 26: Current number of refugees, asylum-seekers, refugee returnees, internally displaced people (IDP) and IDP returnees



Source: <https://r4sahel.info/en/situations/sahelcrisis>

children are at greater risk of contracting life-threatening illnesses such as measles, malaria, diarrhea, and acute respiratory illnesses. Conflicts also worsen food insecurity. UNICEF's food security projections showed that more than 4.8 million people may have faced food insecurity during the 2020 lean season (June–August), a 50 per cent increase over 2019 predictions. UNICEF estimated that over 709,000 children under age 5 are at risk of severe acute malnutrition in Burkina Faso, Mali, and Niger in 2020.

Across the Central Sahel, attacks on schools, teachers, and children are becoming more frequent, posing serious disruptions to education. UNICEF reported that between April 2017 and December 2019, school closures caused by violence increased by six times in Burkina Faso, Mali, and Niger. More than 3,300 schools were closed as of December 2019 affecting almost 650,000 children and more than 16,000 teachers. Schools were particularly targeted in some cases. More than 20 direct attacks against schools and education personnel had been reported during summer in Burkina Faso and around the start of the academic year in Niger and Mali, from July to October 2019.

Rapidly expanding populations, conflict and climate shocks, and a lack of basic services all contribute to high rates of internal and cross-border migration, placing significant demands on education. Large numbers of forcibly displaced people (IDPs, refugees, returnees), economic migrants, and migrants due to natural disasters are on the

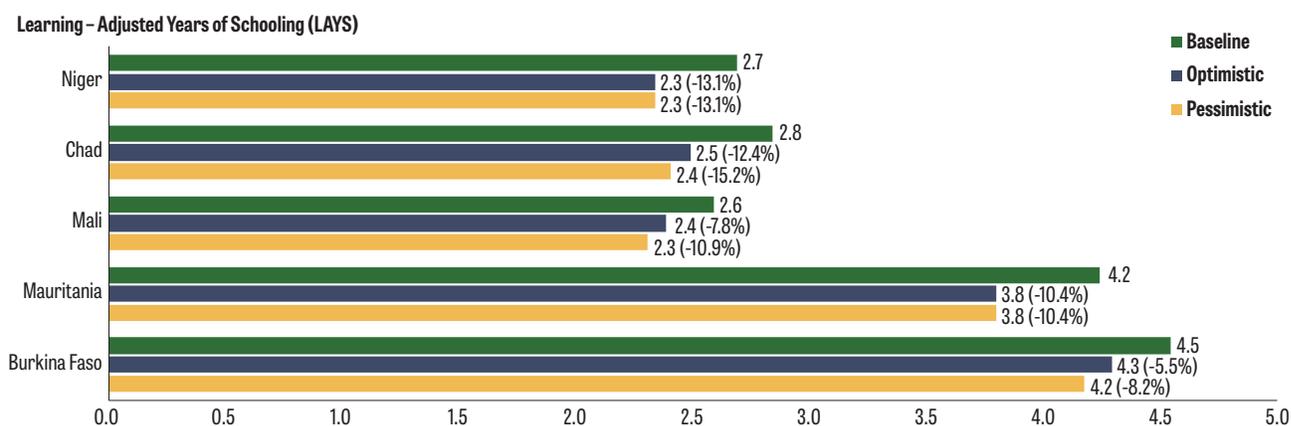
move within the Sahel and beyond (Figure 26). Refugee populations are often concentrated in peripheral border areas that offer limited opportunities, which puts additional strains on local populations. Displacement is often protracted. IDPs have more than doubled in the past 2 years, reaching 7 per cent of the population in Burkina Faso, with many living in secondary cities. This not only places additional burden on already weak education systems among host populations, but requires tailored responses, given observed lower enrollment among IDPs compared to their hosts or national averages in many parts of the Sahel. However, there are encouraging experiences to build on in the region—for example, integrating schools in refugee camps into national systems in Chad, or expanding access to education to refugees in Niger. In Burkina Faso, Mali, and Mauritania, rural-urban migration has been particularly rapid, with urban populations increasing by 45 per cent (Mauritania) to 67 per cent (Burkina Faso) between 2000 and 2019, and Mauritania now having over 50 per cent of its population living in urban areas. At the same time, 71 per cent of Sahelians continue to live in rural areas (driven by particularly low urbanization rates in Niger and Chad), including 20 million pastoralists. These diverse populations require contextualized and equitable education delivery models that effectively build relevant and portable skills.

The COVID-19 pandemic has further disrupted education in the Sahel and is expected to significantly reduce learning-adjusted years of schooling (LAYS), given limitations

Table 8: Distance learning interventions in the Sahel countries

Country	Mode of distance education			Levels targeted	
	Television	Internet	Radio	Primary	Secondary
Burkina Faso	✓	✓		✓	✓
Chad		✓		✓	✓
Mali	✓			✓	✓
Mauritania	✓	✓	✓	Grade 6 only	✓
Niger		✓	✓		✓

Source: Information from various internet sources combined by authors

Figure 27: Effect of COVID-19 on learning-adjusted years of schooling (LAYS) in the Sahel countries

Source: Authors' estimates, based on the World Bank's Learning Loss Estimation Tool

Notes:

LAYS is an index equal to the product of two elements: average years of schooling and a measure of learning relative to a benchmark.

Partial reopening of schools was not counted towards the duration of school closures in the optimistic scenario.

The optimistic scenario assumed a higher degree of effectiveness for the distance education modes compared to the pessimistic scenario, based on survey data from low-income countries (World Bank; UNESCO; UNICEF, 2020).

in distance education. Out of the full academic year 2020 of 8 months, COVID-19 related school closures ranged from 2 (Burkina Faso and Mali) to 4 months (Chad, Mauritania, and Niger) in the Sahel countries, with an additional month where schools were only partially open in Burkina Faso, Chad, and Mali. All 5 countries attempted some form of distance education for students, combining, television, internet, and radio (see Table 8). While Burkina Faso, Chad, and Mali extended these channels to primary and secondary students, Mauritania and Niger focused only on secondary students. The low television and internet penetration rates in these countries⁸³ mean that only a small proportion of students in these countries are likely to have benefitted from these efforts, worsening the inequity of outcomes by geogra-

phy and socioeconomic status. Given these limitations, LAYS in the Sahel countries was expected to decrease by as much as 15 percent in Chad in the pessimistic scenario as shown in Figure 27.

Learning losses are likely to be more pronounced among girls. A global study by UNESCO reported that school closures had adverse impacts on girls' health and well-being and significantly hampered learning.⁸⁴ Girls' increased time spent at home often meant increased responsibilities within the household. Adolescent girls between the ages of 15 to 19 were found to have used the internet (including for distance education) much less often than boys. For instance, in Pakistan, only 44% of girls surveyed reported owning a mobile phone, compared to 93% of boys. Similar disparities are likely present in the Sahel. Girls were also found to be less likely

83 Internet penetration rates vary from 5 percent in Niger (2018) to 21 percent in Mauritania (2017) (World Bank, 2021). Television penetration rates vary from 3 percent in Chad (2005) to 22 percent in Mali (2006) although the rates are likely to have increased since the 2000s (African Development Bank Group, 2017).

84 UNESCO (2021).

to return to school once they reopened. Lastly, the instance of gender-based violence against girls also went up significantly during the crisis, affecting their well-being.

In addition to service delivery disruptions, fiscal pressures from the global pandemic threaten already limited public and private spending on education. COVID-19 has sparked the first SSA recession in 25 years, with commodity price declines and other revenue losses expanding deficits, pushing more countries towards debt distress, and limiting the scope for social spending.⁸⁵ The economic contraction will also push more households deeper into poverty and the effects are expected to last for years to come. An additional 2.3 million Burkinabè and 3.8 million Malians could fall below the extreme poverty line by 2030 due to COVID-19 (around 8 percent⁸⁶ and 14 percent⁸⁷ of the respective populations).⁸⁸ In this context, the importance of protecting public spending for education and other basic service delivery becomes even more critical, and requires much greater attention to the effectiveness of resources spent.⁸⁹

1.6. Leveraging regional strengths to meet the Sahel's education challenges

1.6.1. Regional cooperation offers promise for improving education systems more efficiently

The Sahel countries enjoy a shared set of rich cultures and languages, as well as a history of regional cooperation with each other and beyond. The five countries share commonalities in terms of their languages (particularly the prevalence of French and Arabic, in addition to native languages spoken across borders), cultures, and religions, as well as development challenges. The Sahel also has an established history of regional cooperation platforms, dating back to soon after independence, such as the 1959 *Conseil de l'Entente*, which included Burkina Faso and Niger, and the 1964 Lake Chad Basin Commission, which included Chad and Niger. Each Sahel country is part of at least one broader regional economic or security focused platform, such as CENSAD (involving all five countries), ECOWAS (Burkina Faso, Mali, and Niger among others), and WAEMU (involving Burkina Faso, Mali, and Niger). In education, all five countries are part of CONFEMEN, which brings together the education

ministries in countries across West Africa. The Sahel's development partners are also taking an increasingly regional approach, with key bilateral and multilateral donors coordinating through the Alliance Sahel since 2017.

In education, countries could further leverage these assets for strategic collaboration and exploiting economies of scale, for example through coordinated development and production of teaching and learning materials, building regional learning assessment capacities, and joint investment in postsecondary education and research. In subject areas such as science, mathematics, and languages, countries could consider a continuum of cooperation options, from standardizing textbooks based on a shared curriculum and examination regime, through to co-creating a base set of materials which each country could then customize. These types of partnerships have been used in the past—for example, until the 1970s, Kenya, Tanzania, and Uganda used shared curricula and established a regional examination authority—and offer potentially significant economies of scale in the development, production, and printing of textbooks and teacher guides. CONFEMEN's PASEC assessment offers a strong basis on which to build (Burkina Faso, Chad and Niger participated in 2019). Mali and Mauritania's participation could be encouraged for the next wave, and efforts to build each Sahel country's national capacity to consistently monitor student learning could be coordinated to facilitate best practice sharing and benchmarking.

1.6.2. Strength of community commitment to education

Communities have traditionally played a key role in education in the Sahel, particularly in remote areas where the government's reach is weaker. In pre-colonial times, community-based koranic schools were the norm in the Sahel. In return for the education of its children, the community supported the needs of the master and the school (food, shelter, livestock, etc.). Colonial-era schools set up by the French were of a different character, more formal and distinct from communities, and generally did not garner as much trust. Connections between schools and the community may have eroded over time, especially in areas most affected by conflict and fragility, and in those seeing large inflows of IDPs or refugees. However, this can also be an opportunity to strengthen schools and state presence through partner support to education services for forcibly displaced populations that are also open to host communities. And community connections are still strong in many rural other areas without a large government presence, providing an opportunity for schooling

85 International Monetary Fund (2021).

86 UN Populations Fund (2012a).

87 UN Populations Fund (2012b).

88 Brookings (2021).

89 Al-Samarrai and others (2020).

improvements.⁹⁰ However, this can also be an opportunity to strengthen schools and state presence through partner support to education services for forcibly displaced populations that are also open to host communities.

Community schools across the Sahel have boosted access to education, but face severe resource constraints in the absence of state support. These schools are generally managed directly by rural communities when there is no public offer, creating strong local accountability mechanisms and likely more efficient use of resources.⁹¹ However, community schools are also financed directly by households, the vast majority of whom are in extreme poverty, representing an inequitable burden and often severely limiting community schools in terms of the inputs they can afford. In Chad, 39 percent of all primary schools were community schools, accounting for 27 percent of primary education enrollment in the country, in 2020.⁹² Communities in Chad also directly paid for 26.5 percent of the overall teaching workforce in 2020, and notably, 84 percent of teachers in rural areas are community teachers. Community schools are also prevalent in Mali, particularly in rural areas but also in poor urban areas that are overlooked for public services. Bagayako (2020) notes that the Malian government started the process of transforming community schools into public schools, but nearly two-thirds of community schools were still without government support as of 2019. The paper also documented the poor conditions and financial struggles of community schools in an area of Bamako.

Across the Sahel and Sub-Saharan Africa, community management of school construction is a consistently cost-effective and efficient approach to expanding or upgrading primary school infrastructure. As countries continue to struggle to expand their education systems quickly enough to meet rapidly growing demand, cost-effective approaches to construction are critical. At the primary education level, a careful study of experiences across SSA finds that community-managed construction is among the most cost-effective and efficient mechanisms, with more projects completed on time and to standards, at lower cost. The Sahel countries have several successful experiences that could be drawn upon. Mauritania for instance has successfully leveraged this approach over several decades. In 1989, the Mauritanian Ministry of Education made the bold decision of making parents' associations fully in-charge of school construction management. The approach bore results, with

communities building 1,000 classrooms a year, four times more than the 250 planned. Communities assess demand and submit proposals to the Ministry of Education, which in turn funds projects through financing agreements monitored by engineers. The model has lowered costs by two-thirds compared to centrally managed construction procured through international tenders. Communities far from the capital reportedly produced "masterpieces", with their high degree of social cohesion contributing to better governance and oversight. Construction quality was judged to be fair through audits.⁹³ Other countries in the region, such as Niger, have also tried this community-driven approach to construction more recently. For this approach to work well in all parts of a country, it needs to be adapted to the FCV setting. In areas characterized by higher insecurity, both community cohesion and community capacity for project management may be lower, and prices higher, so that investments in these areas may require a higher degree of technical and financial support by concerned line ministries where feasible. Additional attention also needs to be given to ensure inclusion of minority ethnic groups in these initiatives, so as to not inadvertently further increase their marginalization.

Communities can also be key contributors in efforts to boost learning, if given sufficient support. Some initiatives, in the Sahel and Western & Central Africa more broadly, to provide communities with supplementary resources in the hopes of improving student outcomes have not succeeded, due to community capacity constraints, power dynamics at the local level, and competing needs created by extreme poverty. For example, an initiative to provide school management committees with grants to improve their schools in Niger found that while parents' participation in school management increased, student outcomes did not, due at least in part to parents' extremely low levels of education and ability to effectively monitor teacher effort, as well as some SMCs' decision to invest grant resources in agriculture for the school.⁹⁴ However, another initiative in Niger supported by the Japan International Cooperation Agency (JICA), "School for All", provided both technical and financial support for remedial extracurricular activities in basic mathematics led by teachers, parents, and community members. This approach resulted in significant catch-up in number recognition and basic math operations for grade 1-4 students, and this model has been extended to over 40,000 schools in Africa (in Burkina Faso, Cote d'Ivoire, Mali, Madagascar and with GPE grant support in Senegal).⁹⁵ These divergent experiences suggest that communities can contribute to improving student learn-

90 See for instance Boyle (2019).

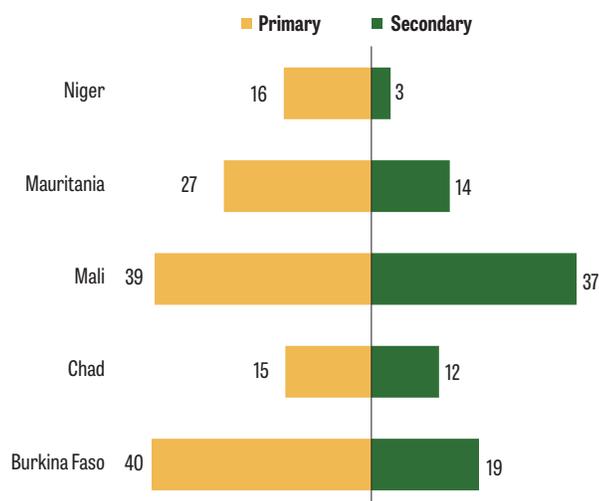
91 For evidence from Central America on the impacts of community management of schools, see Di Gropello (2006) and Ganimian Murnane (2016).

92 World Bank (2019a).

93 Theuynck (2009).

94 Beasley and Huillery (2017).

95 Maruyama (2018).

Figure 28: Share of students enrolled in private schools in 2016

Source: Authors' illustration based on data from UNESCO Institute of Statistics.

ing if provided tailored technical support based on local capacities.

Taken together, these experiences point to communities as a strong asset for education in the Sahel. Approaches to using that asset need to be adjusted to the level of fragility and social cohesion in an area, but it can be a powerful tool. While financial burdens should be shifted over time to the state, communities should continue to be leveraged to manage basic infrastructure expansion and the operation of schools. This approach—of public financing and community management—can help the Sahel deliver primary education to more children. In addition, communities may potentially be the most effective managers for pre-primary education services as well, a topic which will be revisited later.

1.6.3. Possibilities created by non-state education providers

Private education is increasingly prevalent in the Sahel. A significant proportion of primary and secondary students attend formally recognized, private secular or private faith-based schools in the Sahel countries (Figure 28). Mali and Burkina Faso have the largest formal private school sectors by enrollment share at the primary level. Mali has the largest at the secondary level, and the government provides publicly financed vouchers for students to attend private schools, as there is insufficient capacity in public schools. While significant governance and oversight issues have emerged in this arrangement, the government is addressing them actively,

with support of partners.⁹⁶ Across the Sahel, formally recognized private schools generally charge higher fees than public schools and therefore cater mainly to richer households. In Chad for instance, private education tuition costs in 2017-2018 ranged on average from \$100 in primary schools to \$166 at the secondary level annually, while average annual schooling costs in public school were \$3 for the primary level and \$42 in secondary.^{97,98}

Private schools in the Sahel seem to have better facilities and lower rates of teacher absence. The 2015 Niger SDI survey found that teachers in private schools are nearly 90 percent less likely to be absent from school and 57 percent less likely to be absent from class than their public sector counterparts. The 2017 Mauritania SDI similarly found that private school teachers were around 35 percent less likely to be absent than their public-school counterparts. Facilities are also generally better in private schools, with private school pupils in Niger being two to three times more likely to have a toilet that meets any condition, and around three times more likely to be in a school with the minimum teaching equipment.

However, global evidence on the effectiveness of private schools is inconclusive, including on initiatives to bring private providers into extremely low-capacity public systems. The WDR 2018 notes that the evidence comparing learning outcomes across public and private schools is inconsistent. Available evidence tends not to account for the generally better socioeconomic backgrounds of private school students. However, there have been several examples of rigorous evaluations of education sector PPPs in both developed and developing country contexts. In 2016, the Liberian government introduced the Liberian Education Advancement Program or “LEAP”—a PPP for school management. The government engaged eight private players to manage 93 public schools, covering 8.6 percent of the total public school student population. The government financed providers on a per-capita basis and disallowed ability-based selection or school fees, although providers could fundraise. The government continued to pay teachers as civil servants. Schools had to follow the Liberian national curriculum, but had flexibility in running their operations, as long as they covered any additional costs. An impact evaluation showed mixed results.⁹⁹ Private management produced better literacy and numeracy outcomes than public schools, but costs

96 See World Bank (2021d).

97 World Bank (2016).

98 Calculations for average annual schooling costs are based on Chad EHCVM, 2018.

99 Romero and others (2020).

were high and the largest provider pushed excess students and teachers out of the schools it managed. Sexual abuse of students was also a problem in the case of at least two of the providers.

Recognizing and incorporating Koranic schools into the formal education system

Koranic schools are an integral part of the school landscape in Sahel countries. Koranic schools aim to prepare children to be good citizens, understood in the sense of becoming good Muslims with strong moral values in the service of their communities. This “traditional” vision is quite different from the “modern” economic view, according to which good citizens are individuals with the necessary skills to lead their professional and personal lives in a largely secular context. Koranic schools have been a feature of Sahel countries since pre-colonial times and reflect the Islamic character of these countries, whereas secular public schools were introduced by French colonists. Following their independence from France in the 1960s, Sahel governments continued to espouse secular values in their constitutions, even as they presided over largely Muslim populations, with only Mauritania choosing to declare itself an Islamic republic. Accordingly, the countries mostly retained the legacy secular public-school systems, while Islamic schools have continued to operate in parallel without broad support or recognition from governments.¹⁰⁰

Koranic schools are not formally recognized by most Sahel governments but are estimated to serve over 20 percent of currently out-of-school children and youth. The term “Koranic schools” is generally used to refer to informal schools which focus on the memorization of the Quran. These schools are generally not recognized or supported by governments, except in Mauritania where they are recognized but not financially supported.¹⁰¹ There is little to no oversight on Koranic schools, with most countries placing them loosely under the charge of their religious affairs ministries, rather than education ministries. They are typically located in the community, and vary in size from a few students taught by a single teacher to larger schools with several teachers. Koranic schools generally use Arabic or local languages as their medium of instruction. Arabic is often taught to the extent necessary for the memorization of the Quran, but not as a functional language that students can use in their daily lives. Rote memorization is the dominant pedagogy, but instruction also tends to be individualized, relying on the teacher’s assessment of each student’s progress. The best

students are awarded the *Ijaza* or “license” which grants its holder the authority to teach Quran recitation or memorization. Several governments have attempted programs to modernize Koranic schools, to bring them a step closer to public schools, giving rise to “modern” or “renovated” Koranic schools. There is large variation in the curriculum in these schools, as it depends on the initiative of the religious teachers. Most retain the memorization of the Quran as their mainstay, but add Islamic sciences, Arabic, a national or official language, and some mathematics and life skills. Some Koranic schools may also start the process of modernization hoping for eventual recognition by the State, which could come with financial aid or subsidies.

The landscape of schools offering Islamic religious instruction has evolved over time and is now fairly varied. Post-independence, the region saw the establishment of “Arabo-Islamic schools” (also called “medersas” or “mahadras”) which are typically formal private schools affiliated with Arabic religious institutions. These schools act as a bridge between an Islamic and secular education, and teach regular curriculum subjects such as mathematics and literacy in addition to Islamic religious studies. The focus of the religious component is more on understanding and interpreting the Quran and less on rote memorization. Arabic is typically the medium of instruction, but French is also offered as a second language. These schools are generally overseen by the ministries of education, which dictate their non-religious curriculum. Students typically receive primary school completion certificates which are generally recognized by the governments, as well as private diplomas which may or may not be recognized by governments. To cater to the demand for a dual secular and Islamic religious education among parents, Sahel governments have also set up public “Franco-Arab schools” overseen by the ministries of education. These schools typically adopt the national secular curriculum, but also include some religious studies in the curriculum. The medium of instruction tends to be French, with Arabic offered as a second language. Students receive diplomas and primary school completion certificates which are recognized by governments.¹⁰²

Data on Koranic school enrollments is patchy. None of the Sahel countries include Koranic schools in annual statistics published by education ministries, with Niger including information on only renovated Koranic schools. However, household survey data suggests that large shares of out of school children and youth (ages 6-15) are in fact attending informal Koranic schools—from roughly 10 percent in Burkina Faso

100 See for instance Lozneau and Humeau (2014) or Roy and Humeau (2018).

101 Roy and Humeau (2018).

102 Roy and Humeau (2018).

and Mauritania to over 40 percent in Chad (Table 9). Some children attend Koranic schools prior to joining the formal education system, which could help explain the particularly low rates of enrollment among 6- and 7-year-old children discussed earlier. In addition, some children also attend Koranic schools before or after the school hours of official schools, suggesting that these Koranic schools serve an even larger share of children overall.

Faith and values are key reasons why parents choose Islamic schools, formal and informal. In a 2010 fieldwork study in Burkina Faso, 83.9 percent of participants with children in Islamic schools cited the opportunity to receive a religious education as a key reason for their school choice, with smaller proportions listing academic (25.8 percent) or teacher (12.9 percent) quality. In public schools, location (70 percent), academic quality (46.7 percent), and costs (30 percent) were key drivers. Around one-third of Islamic and Christian school parents cited education on moral values as a driver, whereas none of the public-school parents did so.¹⁰³

While parents increasingly recognize the value of secular education, not all parents are willing to relinquish an Islamic religious education in favor of secular public schools. The large growth in public school enrollment rates across the region is a sign that parents see the utility of a secular education. However, there is still some resistance to secular education, in part due to its associations with the colonial era, lack of religious or spiritual education, and often poor conditions and learning outcomes.¹⁰⁴ These dynamics are playing out differently in each Sahel country. In Mali for instance, between the academic year 1999-2000 and 2015-2016, the public-school enrollment in the first phase of basic education (ages 6-12) doubled from around 750,000 to 1.5 million students, whereas the enrollment in Madrasas (Arabo-Islamic schools) increased five-fold from around 68,000 to 360,000 students.¹⁰⁵

Koranic schools will need to be recognized as partners to reach children who are unlikely to participate in the formal education system, although the process of recognition is challenging. A first step towards such partnerships requires the introduction of content from the official curriculum, particularly language and math, into Koranic schools. There are different models for this introduction, including “integration” of Koranic and secular education within the same schools, as well as “articulation”, whereby children

Table 9: Share of out-of-school children and youth (ages 6-15) reported as enrolled in informal Koranic schools across the Sahel

Burkina Faso	10%
Chad	42%
Mali	23%
Mauritania	13%
Niger	26%

Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2019 for Mauritania.

spend some time in Koranic schools, followed by some time in formal schools to cover the primary school curriculum in an accelerated fashion.¹⁰⁶

Attempts to integrate secular elements in Koranic schools have not yet succeeded at scale. There have been several experiments in modernizing Koranic schools in the Sahel countries over the past two decades, but most are too new, short-lived, or small-scale to be evaluated thoroughly. An example is the renovation of selected Koranic schools in Niger with the support of the Islamic Development Bank. While this experience showed some encouraging results, the model has not been extended widely as success often came at significant cost.¹⁰⁷ Several hundred modern Koranic schools in Niger receive some form of monetary support from the government, but these represent only a small proportion of all Koranic schools in the country.

Consultations towards developing a formal framework for recognizing Koranic schools have often been very slow and failed to build consensus within society. For instance, Mali held a national forum on Koranic schools in 2008, and this resulted in the setup of a Reflection Commission on the Integration of Koranic Schools. The government also showed some commitment to the Koranic school sector between 2010 to 2013, but Islamic schools were not mentioned in its subsequent 10-year plan.¹⁰⁸ Even if there is political will, results are limited given the high degree of social and political sensitivity of the issue, as well as the difficulty of securing buy-in and commitment from stakeholders. The reluctance of many Koranic teachers and communities to accept the concept of modernization continues to

103 Wodon (2014).

104 Lozneau and Humeau (2014).

105 World Bank (2019b).

106 Lozneau and Humeau (2014).

107 World Bank (2020e).

108 Lozneau and Humeau (2014).

Box 1. Key government initiatives for more and better learning: Examples from Mali, Mauritania, and Niger

Student level

- Remote-learning solutions to address school closure: continuous learning programs through the use of television, radio, community radio, and high-speed internet for online learning (Mali, Mauritania, Niger)
- Enhanced focus on girls' education: holistic approach to support girls' attendance and completion of secondary education through a full package of interventions to remove social barriers and build social-emotional skills (Mali, Mauritania, Niger)
- Student performance tracking: using digital solutions to regularly collect and analyze detailed information on what students have learned in the classroom for providing remedial education (Mali)

Teacher level

- Digital innovations for schools in crisis: distance training programs for community-volunteers in conflict-affected areas to address school closure, coaching of teachers at a distance. (Mali, Niger)
- Based on an audit's recommendations, implementation of a package of policies and interventions to improve the curriculum, training method, and organizational environment at ENI-ENS (Mauritania, Niger)
- Integration of the existing computerized teacher training monitoring system into a harmonized Education Management Information System (EMIS) (Mali, Niger)

System level

- Technological solutions to strengthen education management (Mali, Mauritania, Niger)
- Digitalization of educational resources (Mali, Mauritania, Niger)
- Digitrucks in school and teacher training colleges (Mali, Niger)
- Introduction of simple results-based financing mechanisms in the education system (Mali, Mauritania, Niger)

be a major stumbling block.¹⁰⁹ One source of reluctance among many Koranic teachers may be that because they lack formal schooling, there is no pathway for them to become civil servants.

Pathways to allow students to articulate from Koranic schools to formal schools tend to be marginal. Mauritania is exceptional in allowing students to crossover from informal Koranic schools to formal Arabo-Islamic schools, provided the schools are recognized by the government and the student can demonstrate competency in Arabic, an official language. However, this is difficult in practice as children crossing over are much older (sometimes 11-13-years-old). Elsewhere, private initiatives have also led to the establishment of "bridge schools" which enroll 9-12-year-old children who have memorized the Quran and assist them to complete the equivalent of primary school education in 3 years. The children can then enroll in formal Arabo-Islamic or Franco-Arab schools after fulfilling any entry criteria. These schools are premised on children having developed their cognitive abilities through the memorization of the Quran (rote memorization and concentration particularly), which would enable them to acquire knowledge and skills in formal

schools more quickly. However, these initiatives remain very marginal to date and have not been scaled. The schools also tend to serve a small minority of children, since most Koranic school children do not successfully memorize the Quran. Lastly, the insufficient teaching of French or Arabic in Koranic schools makes it challenging for children to transition successfully into formal schools where these languages are essential.¹¹⁰

1.6.4. National reform initiatives in the region

At least in terms of initiatives and high-level announced commitments, there is substantial ownership and communication around education in the region. For example, in Niger the President has committed after meeting with stakeholders to introduce a compulsory two-year National Civic Service for all higher education graduates. One goal of this program is to make available to the education ministries a cadre of graduates with a high level of competence. In Mauritania and Burkina Faso, the governments have recently launched inclusive national consultations around education to address the key issues through new policy reforms. In

109 Roy and Humeau (2018).

110 Roy and Humeau (2018).

Mali, a holistic ten-year national education program (*Programme Décennal de Développement de l'Éducation Deuxième Génération, 2019-2028*) aims to revamp the education system to improve service delivery. It also takes on the problem of school closure due to conflict and insecurity, which continues to be a significant challenge for the government and education stakeholders.

High-level statements of commitment and national plans offer a promising start, but they need to be translated to more action and outcomes. Given the extent of the challenges laid out above, improving education outcomes needs to be a much higher priority in day-to-day decision-making, and high-level commitments and projects need to be tai-

lored to the FCV context and translated into implementation at school level. Too often, high-minded policies fail to overcome the barriers that block change (especially change to improve quality) throughout the system.

The rest of this White Paper discusses how the region can build on these strengths and high-level commitment to make real progress and thus claim the future. It opens by proposing a set of focused and ambitious goals—in learning poverty, girls' secondary education, and adult literacy—combined with game-changer policies to achieve them over the next few years. It then describes the long-term system strengthening that will be necessary to sustain progress in these areas.



2. A NEW STRATEGIC APPROACH FOR WORLD BANK SUPPORT—QUICK WINS, SUSTAINED PROGRESS

PHOTO BY: © OLLIVIER GIRARD / WORLD BANK

2. Increase girls' education, to break the intergenerational cycle of low human capital

- *2025 target: Increase girls' secondary gross enrollment rate (GER) by 12 percentage points, from 31 percent to 43 percent*
- *2030 target: Increase girls' secondary GER to 52 percent*
- *Impact by 2030: Total of 3.3 million girls in secondary school, or an additional 2.0 million girls*

3. Raise the young adult literacy rate, with a focus on young women, by providing them with basic literacy and numeracy skills that could improve labor force productivity and foster empowerment by complementing job-focused skills training

- *2025 target: Raise the young adult literacy rate by 10 percentage points, from 51% to 60%*
- *2030 target: Raise the young adult literacy rate to 68%*
- *Impact by 2030: Total of 26.5 million literate young adults, of which 11.8 million are female; this will be an additional 13.4 million young adults, of which 6.5 million are female*

The methodology for setting the three targets is based on and in line with the approach used in World Bank's forthcoming Western & Central Africa Education Strategy. The projection of the adult literacy and girls' secondary education targets was limited to two scenarios: (a) the “three fastest” scenario, in which the average yearly growth rate for the three of the five Sahel countries with the fastest growth are applied to the 2019 rates, and (b) the “four fastest” scenario, in which the average yearly growth rate for the four of the five Sahel countries with the fastest growth are applied to the 2019 rates. Only the results from the “three fastest” scenario are currently reported in the report. On the learning poverty target, the simulation used several scenarios based on the rates of improvement between 2014 and 2019 PASEC assessments. The detailed methodological note and assumptions are presented in the annex.

The first step toward achieving these ambitious targets is to build strong political commitment. Commitment should start from the top with clear signals from senior political leaders that real education—meaning schooling with learning—for all is a top priority. “All” must be understood to include marginalized populations and those affected by conflict; these populations suffer the most from failings in the education systems, and their unique challenges require special attention.

And to make this high-level commitment actionable, experience suggests that it needs to be concrete, not general—for example by focusing on the goal of having all children in safe schools and reading by grade 4. Achieving all this calls for courageous leadership and not just rhetorical commitment to the sector. As such, political engagement needs to be shared by and reflected in the choices of officials throughout the bureaucracy, to support shared commitment by the overall society. But fostering a societal commitment requires that stakeholders understand the objective. Therefore, signals coming not just from the minister of education, but also from the president or prime minister, will be most powerful, especially if they go along with clear support from the minister of finance.

At the same time, this top-down commitment should be accompanied by bottom-up support from communities.

Catalyzing this requires engaging communities with messages about how the government is improving education and holding itself accountable for all children learning. This is especially warranted in fragile and conflict-affected settings like the Sahel, where rebuilding or strengthening trust between the state and communities may require more effort and investment from governments. As efforts are mobilized to reinstate the social contract, it might also help to involve communities in the management of schools by giving parents and other community members a greater stake in the success of the reforms. Given the historical social constraints on the involvement of women and minority socio-economic groups in managing schools, one priority in this engagement should be to ensure that these populations are well represented and engaged in community management. Building sustained community involvement is a longer-term objective (see below), but it can start during the initial campaign to signal commitment.

This combination of top-down and bottom-up political commitment can begin to build accountability for results.

Making political leaders, teachers, principals, and the society in general accountable is crucial as it provides the best chance of shifting the political economy calculations of key actors and orienting the system toward better education and learning. This can furthermore support the longer-term goal of improving the professionalism of teachers and principals which are at the front line in education delivery and therefore are key actors to move education systems in the Sahel towards achieving higher quality.

Then, in the short term—especially over the next year—it is critical to use this political commitment to reverse the impacts of the COVID-19 school closures. Learning losses and increased dropout risk reversing years of progress.

Unless the Sahel countries focus on minimizing those costs over the next year or two, then when they set out to tackle the problems that already existed before COVID-19, they will find themselves having to climb out of a much deeper hole. Key policies for doing this are:

- Tracking which students have not returned to school and devising outreach measures targeted at groups that are at greatest risk
- Equipping teachers to do basic assessments of students' learning levels, to shine a light on learning losses
- Giving teachers the pedagogical tools and learning materials needed to recover foundational skills

Speed is essential for these measures, to prevent longer-term “scarring” through dropout and lost learning. Evidence from past school-closure shocks indicates that girls and women are at especially high risk of dropout; in Sierra Leone, when schools reopened after the Ebola crisis cost nearly an entire academic year, girls were 16 percentage points less likely to be in school.¹¹¹ Forcibly displaced populations and marginalized socio-economic groups are also at particular risk of not returning to school. Even when students do return to school, evidence from Pakistan (after a major earthquake closed schools) shows that learning gaps can continue to grow substantially after school reopening if they are not remediated quickly.¹¹²

This approach can turn the “building back better” slogan into reality. There has been a lot of talk since the pandemic hit about “building back better” or “rebuilding better.” This can be more than a slogan: many of these policies designed to reverse learning losses are also those that can strengthen student outcomes over the longer term if they are sustained. Recovery and system strengthening are not two separate activities to be implemented in sequence; they are intimately related, and the former, if well designed, can contribute to the latter.

Building on these immediate measures, a set of game-changers can deliver substantial progress over the short term—that is, the next 3 to 5 years. Once leadership has signaled its commitment in the short term, both rhetorically and with immediate post-COVID-19 response, that signal can create a climate for medium-term policies to deliver results over the next 3 to 5 years. These game-changers include interventions aimed at each of the three targets, as well as an overall game-changer that is essential to support

all the others. The following sections describe the what, why, and how of each game-changer, laying out guideposts which each Sahel country could utilize to develop its specific initiatives.

2.2. Game-changers: Policies and programs that can quickly make progress towards the three goals

2.2.1. Reducing learning poverty

Reducing learning poverty in the next 3-5 years will require immediate and concerted action on 3 major fronts: improving early childhood development, efficiently expanding access to decent primary school, and improving the effectiveness of early-grade teaching. To make a difference quickly in each of these areas, it will be important to track progress against measurable goals in such areas as children's cognitive and physical development, and teaching practices in classrooms.

Improving early childhood development

Governments need to set children on high-development trajectories through early childhood nutrition, stimulation, and care. Two sets of priorities stand out from successful experiences. First, targeting mothers and their babies with health and nutrition interventions during the first 1,000 days to improve maternal and infant outcomes, reduce malnutrition, and foster physiological development. Second, increasing the frequency and quality of stimulation and opportunities for learning at home to improve language and motor development, as well as to cultivate early cognitive and socioemotional skills.¹¹³

In the short term, parenting interventions through cash transfer programs offer a direct way to support poor families. The Niger Government launched a nationwide safety net program in 2011, which has since reached over 100,000 households. The program provides small, regular unconditional transfers to women in poor households, and trains women on parenting practices related to nutrition, psycho-social stimulation, health, and sanitation. The behavioral change intervention was implemented with community support at a relatively low cost of around 20 percent of cash transfers. Premand & Barry (2020) observed significant changes on all these aspects of parenting among beneficiary households, and spillovers in proximate non-beneficiary

111 Bandiera and others (2019).

112 Andrabi and others (2020).

113 World Bank (2018).

households. However, cash transfers alone, without the behavioral change intervention, did not improve parenting behavior. There were only moderate improvements in socio-emotional development, and no observable impacts on children's physical (height and weight), and cognitive development. The authors suggest that this could be due to the extremely low baseline nutrition levels and the absence of child stimulation activities, such that even the improvements in these parenting dimensions were unable to move the needle in terms of children's human capital development.

Building parenting education and behavior change interventions into the Sahel Adaptive Social Protection Program could reach large numbers of poor and vulnerable children quickly. In the Sahel, Adaptive Social Protection (ASP) could help poor and vulnerable communities to build resilience against shocks such as climate change and the COVID-19 pandemic. The Sahel Adaptive Social Protection Program (SASP), supported by the World Bank and partners, reached 2 million people across the Sahel in its first phase and is now in its second phase.¹¹⁴ A multi-country randomized control trial of the SASP is underway, and has found promising results in Niger on key indicators of livelihoods.¹¹⁵ Sustained improvements in beneficiaries' livelihoods could be strongly complemented by effective parenting interventions, learning from Niger's experience described above.

To foster children's cognitive development, children should have access to reading materials and caregivers that are able to guide them. More and better interactions between caregivers and children, and efforts to read to children in early years could help boost language ability and cognitive development, and positively impact school preparedness and learning outcomes downstream. Children need a supportive home reading environment even beyond their early years, to complement the teaching of literacy in school. The World Bank's Read@Home initiative supports efforts in this direction with the delivery of reading and learning materials to remote areas, and advice for parents and family members to enhance their child's learning. The initiative could be coordinated with the SASP to target beneficiary families with a strong set of parenting resources and supports.¹¹⁶

For large-scale reach at relatively low cost, radio communication campaigns for behavior change offer a potentially promising approach. Radio remains one of the most widespread communications technologies across the Sahel and has consistently been shown to be an effective approach to

distance education in low-resource settings. More recently, sparked in part by the COVID-19 pandemic, several countries are utilizing radio to reach as many parents as possible with information and encouragement to support their children's development at home.¹¹⁷ In the Sahel, lessons could be drawn from successful experiences with radio campaigns under the Sahel Women's Empowerment and Demographic Dividend (SWEDD) Project to develop and deploy effective content on parenting. Given the high rate of penetration of mobile telephony in the region, parents of young children could also be given tools and encouragement through messages sent to their mobile phones.

Beyond parenting supports, Sahel countries must also begin investing seriously today in clean water and health services. Child development requires coordinated interventions across multiple sectors. Interventions in education or parenting behaviors, without improvements in sanitation and health services are unlikely to improve child development. Some participants in the Niger study discussed above complained of health clinics rejecting requests to treat children for malnutrition, or the lack of access to clean water access giving rise to diseases in children.¹¹⁸

Efficiently expand access to decent primary schools
Two priorities hold promise for efficient and rapid expansion of access to decent primary school: increasing the supply of public infrastructure through community-managed construction and upgrading, and integrating informal students through results-based partnerships with Koranic schools. These approaches would leverage existing strengths in the Sahel, as discussed above, and offer ways to expand the critical public service of primary education within the constraints of the state. However, neither is a panacea, and both require substantial commitment of public financing as well as effective governance arrangements to work.

As discussed earlier, community management of school construction is a consistently cost-effective and efficient approach to expanding school infrastructure. Successful community-managed construction programs require governments to empower communities with information, resources, and technical support. Community-managed construction works when different stakeholders work in concert. The government needs to establish norms for school planning and school models (for instance, home to school distances, classroom and school sizes, and minimum infrastructure provisions and facilities for each school). Pref-

114 World Bank (2020f).

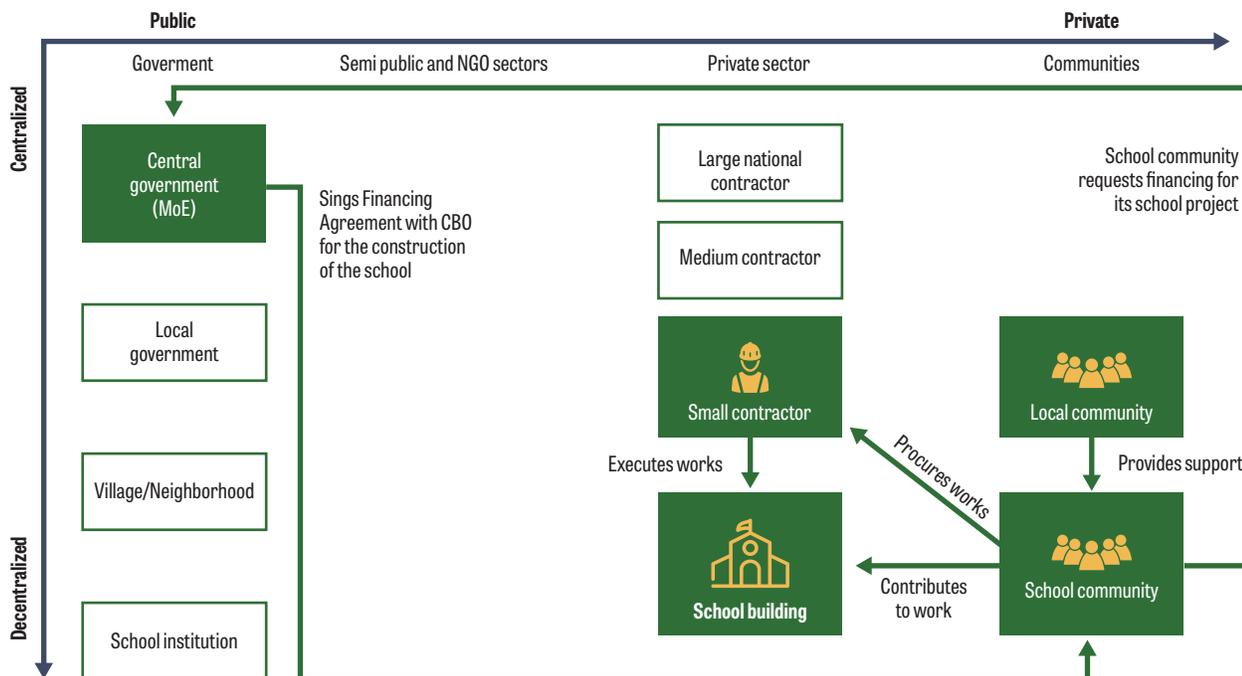
115 Bossuroy and Premand (2021).

116 World Bank (2020g).

117 Zacharia Sharon (2020).

118 Berman (2017).

Figure 30: Delegation of school construction management to local communities is the most cost-effective approach to primary school construction

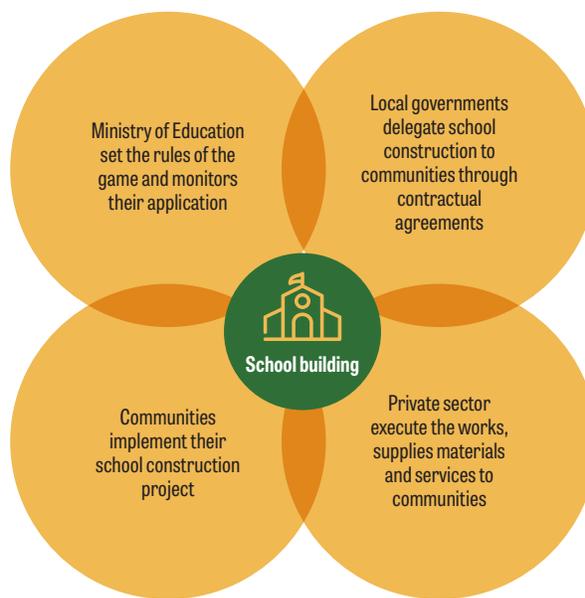


Source: Theunyck (2009)

erably, local authorities should sign contracts with the local communities, monitor and evaluate the progress of construction regularly. Entities such as parents’ associations or school management committees that involve key community members should undertake the responsibility of managing construction activities on behalf of the community, as seen from Mauritania’s example. The private sector could be involved in actual school construction and technical oversight. Streamlined procurement processes with standard school specifications, simplified contracts, and local competitive bidding are the other essential components of this model.

Recognizing Koranic schools as a key part of the education landscape is an important first step. Governments should legally recognize Koranic schools and acknowledge their role in society. They should also start including Koranic schools in censuses and annual statistics published by education ministries. Statistics should be granular enough to identify the specific school type, and differentiate between students that attend only Koranic schools from those who attend both Koranic and formal schools. This will give a better picture of school demand patterns and allow governments to track the impact of education policies on these patterns.

Figure 31: Key stakeholders must work in collaboration for community-managed construction



Source: Theunyck (2009)

Sahel countries also need to redouble their efforts to engage religious leaders and teachers to jointly create a vision for the future of dual education. Religious leaders may not support an interventionist state, and may instead prefer to retain autonomy over the running of Koranic schools. An open engagement process could go a long way in formulating policy options that could address such tensions. Engagements should not be limited to prominent figures, but should extend to religious teachers running Koranic schools, and parents of children attending the full range of Islamic schools. Through these engagements, governments should understand religious leaders' and parents' views on education options, and the reasons underlying their school choices. Governments should also identify any impediments to the integration of the formal curriculum in Koranic schools or the successful articulation of children from Koranic schools to formal schools.

With a shared vision established, governments can work to modernize Koranic schools using performance-based contracts. Financial incentives could be tied to the introduction of the official curriculum determined by the ministries of education, alongside the Islamic religious curriculum in the Koranic schools. The contracts would build trust between the governments and the religious community, in that the government would support any efforts by the community to modernize schools. Governments could start with schools that are more inclined towards reform—those that are looking to boost employability of their graduates through foundational and job-oriented skills, for instance—before extending the approach further. The World Bank's Quality Improvement and Equity of Basic Education Project in Senegal has supported a daara (traditional Koranic schools in Senegal) improvement program, in which daaras receive funds through performance-based contracts, on condition that they provide foundational skills (reading and numeracy) to students. The original project benefited around 14,000 students in 100 daaras and is being scaled up to 500 daaras under a second phase to reach 36,000 students. The World Bank's Learning Improvement for Results in Education Project in Niger uses a similar mechanism, but also includes targets for health provisions such as deworming within the contracts. Beyond the Sahel, relevant lessons could be learned from Indonesia's well-established governance and financing systems for religious schools, based on the fundamental requirement that they teach the national curriculum.¹¹⁹ To sustain such arrangements, Sahel governments will need to expand avenues for teachers in Koranic schools to receive some form of pre-service or in-service training, as most are unlikely to

be trained in teaching the formal school curriculum. If there is enough buy-in from the community and religious leaders, governments could also consider twinning Koranic schools with formal public schools as an interim step, so that children can obtain some basic literacy and numeracy education alongside their religious education.

Government capacity to oversee and support Koranic schools effectively will need to be strengthened. Alongside the recognition of Koranic schools in the law, governments should transfer the responsibility of Koranic schools to their ministries of education. Such direct oversight would facilitate modernization efforts. Mali for instance already has a directorate of religious education within its education ministry which looks after formal Islamic schools, and could expand its mandate to also cover Koranic schools. Education ministries may need to tailor their approaches to support Koranic schools in view of their unique nature. For instance, governments may need to streamline curricula given the split of the school day across religious and secular subjects, and work with the use of Arabic or local languages as the medium of instruction in these schools. Where possible, governments should leverage strengths of Koranic schools instead of force-fitting formal school models into the Koranic school context. For instance, the high degree of personalization of instruction in Koranic schools could be leveraged to teach to the level of the student. This will take strong collaboration between education ministries and the Koranic schools, but with potentially rich payoffs.

Articulation pathways from Koranic schools to formal schools also need to be established. To ease the transition, governments can consider expanding existing structures such as bridge schools, or where there is critical mass, have separate catch-up classes in formal schools before children join regular classrooms. Such catch-up classes should be targeted and pitched to the level of the student in order to maximize the use of time, and in view of the possibly wide variance in age and knowledge level of Koranic school students as they transit to the mainstream school system. Governments should also open examinations at key junctures to children from all backgrounds, including those from Koranic schools. These could serve as entry points for children from Koranic schools into formal education.

Strengthening the existing Franco-Arab and Arabo-Islamic schools could prompt Koranic schools to modify service delivery to service the demand for a dual education. We earlier recognized the need for a dual education among parents. Franco-Arab and Arabo-Islamic schools in the Sahel service the demand from parents for the inclusion of religion

119 See for example World Bank (2019c).

in their children’s education, and are under the governments’ purview to a greater extent than traditional Koranic schools. Competition that results from expanding and strengthening these options could prompt Koranic schools to reform their approaches to maintain their reach. In Bangladesh, many traditional Koranic schools (called Quomi madrasas) have started introducing formal school curriculum elements alongside a religious education, to keep pace with other schools with similar offerings - Alia madrasas (overseen by the government and similar to the Franco-Arab or Arabo-Islamic schools in the Sahel), and other public and private schools. A survey showed that significant proportions of Quomi madrasas, including those in rural areas, teach secular subjects such as English, science, Bengali (a widely spoken local language), and math.¹²⁰

Koranic schools could also be provided with financial incentives for the admission of girls, to promote girls’ education in traditional communities. This approach was very successful in a World Bank supported stipend program introduced in 1993, targeted at girls at the secondary level in Bangladesh’s Alia madrasas. Under the program, girls did not have to pay school fees, and schools that admitted girls were given financial incentives. This opened up the traditionally male-only institutions to girls, and led to a many-fold increase in the proportion of girls in Alia madrasas, from 7.7 percent in 1990 to 52 percent in 2008 (effectively gender parity). Madrasas were responsible for 35 percent of the increase in girls’ education participation over that period and contributed significantly to efforts at achieving gender parity in education nationally. The spillover effect on Quomi madrasas is also noteworthy. In order to compete with Alia madrasas, many traditional Quomi madrasas have started admitting girls in their midst.¹²¹

Improve effectiveness of early-grade teaching of literacy and other foundational skills

Governments should focus on early-grade teaching of literacy and other foundational skills as an urgent priority, recognizing it as critical for human and economic development. Literacy is critical for further progress in learning and skills acquisition, but too many children in the Sahel leave primary school without having gained foundational literacy (or numeracy) skills. To effectively change this reality requires a comprehensive set of interventions, including the use of local languages for instruction where feasible, guidance to teachers in the form of scripted lessons, practical and regular coaching for teachers through technology,

boosting the availability of quality textbooks and reading materials, and increasing time for learning to read.¹²² For rural schools in particular, teacher support should be adapted to effectively manage classroom realities—large, multi-age and multi-grade groups of children who will learn most effectively when taught at the right level. While the first White Paper target focuses on learning poverty and literacy—because ensuring that all children are in school and able to read is an easily understood goal for society to rally around—this does not imply ignoring other foundational skills. Improving foundational numeracy is also essential for further schooling and future human capital, and it is a goal that countries should track and work toward. Fortunately, many of the interventions proven to improve literacy will also improve teaching and learning of numeracy. Beyond that, systems that ensure that all children can read typically succeed in helping them learn other subjects as well, and empirically, across countries and schools, proficiency rates in reading are highly correlated with proficiency in math and other subjects.¹²³

Sahel countries could achieve significant learning gains by using local languages for instruction, especially in the first few years of schooling. Well-designed language of instruction (LoI) policies has been shown to result in a host of benefits. Teaching children in a language they understand, supported by good age-appropriate reading materials in that language, helps them learn better and leaves them well-disposed to learn other languages. It greatly enhances the over learning experience and induces children to remain in school longer. Appropriate LoI policies also promote equity, improve internal efficiency, and avoid excluding populations based on language or culture.¹²⁴

While the Sahel countries are linguistically diverse, it is technically possible to reach the vast majority of their populations through relatively few L1s, and there are recent successful experiences to learn from. Building consensus and ensuring implementation follow-through may be challenging, but attention to those issues combined with selectivity can make this approach technically feasible. As seen in Table 6, a relatively small number of languages, ranging from 1 language out of 7 (in Mauritania) to 20 out of 130 (in Chad) are the first languages for 80 percent of the countries’ respective populations. This is consistent with global patterns, where another 220 languages could serve around 270 million students. To succeed, language-of-instruction policies need

120 Adams, Herzog, and Marshall (2016).
121 Adams, Herzog, and Marshall (2016).

122 These interventions are all key elements of the 2020 World Bank Literacy Policy Package.
123 World Bank (2019d).
124 The discussion on LoI draws heavily from the policy approach paper *Loud and Clear: Effective Language of Instruction Policies for Learning*, World Bank (2021b).

to be based on a thorough appreciation of the local context. The community needs to be engaged comprehensively to understand the languages spoken at home and in the community, the dynamics between different linguistic groups, and local implementation capacity in terms of manpower and community resources. Forcibly displaced populations may require separate assessments to understand whether they would benefit more from L1 or L2 instruction, depending on their areas of origin and the often-protracted nature of displacement in the region, as discussed below. Ineffective stakeholder engagement and inconsistent implementation can easily derail such initiatives, as discussed above in the Mali experience, and could result in unintended consequences such as the exclusion of linguistic minorities. It is critically important for policymakers to understand the context and consult widely with stakeholders during policy development and implementation. Stakeholder consultations would help policymakers understand the diversity of the language context and allow those most affected by policy to articulate their goals and concerns. This would ensure that LoI policies are implemented in a way that strengthens rather than strains the social fabric. Still, despite the conflictual context that prevails in DRC, the introduction of mother-tongue instruction was successfully piloted across the country in 2020. Among the 200 languages spoken in DRC, four—namely Kikongo, Lingala, Chiluba and Swahili—were selected as national languages and used to develop textbooks for the first four years of primary school. These textbooks are now being distributed across the country.¹²⁵

Where it is possible to build agreement, local languages (L1) should be used for instruction in the first few years of schooling, with transition to a second language (L2) in later years.¹²⁶ There are a few key principles in using L1 for instruction. First, children should be taught in their L1 through at least the first six years of schooling. It is critical that instruction be in the language most students speak and understand best. Second, L1 should be used for instruction in academic subjects beyond reading/writing, which allows students to master reading and writing in a broad range of disciplines and in all school subjects. Third, L2 (French or Arabic in the Sahel countries) should be introduced early as a foreign language with a focus on oral language skills. Instruction should advance to L2 literacy and content area instruction only after students have achieved a level of proficiency in L1 literacy and L2 oral language. If instruction and

sequencing are optimized, students can master multiple languages even in basic education. Fourth, L1 instruction should continue even after an L2 becomes the principal language of instruction. Lastly, countries should continuously plan, develop, adapt, and improve the implementation approach for language-of-instruction policies based on their unique goals and contexts.

LoI policies should be matched to the specific contextual challenges within the Sahel, in particular, internally displaced people and refugees. The large numbers of refugees and IDPs in the Sahel was earlier discussed. Studies have noted that such displacement may be long term, with refugees spending 10 to 25 years outside their country or region of origin on average.¹²⁷ The experiences of countries such as Chad, where donor-financed schools in refugee-camps have been integrated into the national system, and Niger, where national education services are accessible to refugees, offer important lessons learned that can be expanded throughout the region. However, implementing LoI policies for displaced children is challenging and involves considering a range of factors. The L1 for displaced children may be different from those of host communities, and it may be difficult to hire teachers that can teach in that language. Displaced children may have been out of school for several years, so they may need remediation or condensed catch-up programs before they can rejoin school. Any political sensitivities, or antipathy from host communities towards the presence of, and the need to serve, displaced children should also be addressed to facilitate integration. Lastly, there is a need to coordinate efforts of donors or international actors to ensure a consistent approach.

Additional challenges to implementation exist in FCV settings that require a unique approach to LoI. Fragility and conflict often result in long-term population displacement. A large influx of displaced populations into host communities requires strategic planning to ensure that children participate in instruction in a language they know. Additional challenges can include gaps in schooling that result in lower-than-expected L1 literacy levels, lack of alignment between LoI in the host country and the displaced children's country of origin, socioemotional challenges requiring additional support, and a lack of teachers fluent in children's L1. It is important to consider political sensitivities as well, including community perspectives on newly arrived children, the perceived responsibility of host communities to offer and customize education services to the displaced population,

¹²⁵ World Bank (2021f). For effective implementation, over 45,000 teachers and school directors were trained in reading and writing in the 4 national languages, as of February 2021.

¹²⁶ This paragraph quotes heavily from the principles for improving LoI and learning outcomes from the policy approach paper, *Loud and Clear: Effective Language of Instruction Policies for Learning* - World Bank (2021b).

¹²⁷ Crawford et al. (2015); Devictor and Do (2016); Milner and Loescher (2011), cited in World Bank (2021b).

and the roles of international actors assisting with the provision of schooling.

Regardless of language, effective literacy instruction requires quality, contextualized teaching and learning materials (TLM). Given the low average content and pedagogical knowledge of teachers across the Sahel, teacher guides should detail both what (content) and how (pedagogy) teachers should teach in a lesson-by-lesson, easy-to-understand “scripted lesson” format. Regional cooperation can be leveraged to jointly develop and procure materials at lower unit costs, as discussed earlier. Technology also offers many new resources to support the development of high-quality, low-cost, and contextualized supplementary reading materials, including multilingual digital libraries like the African Storybook and the Global Digital Library. However, at a basic level, Sahel countries must address the budgeting, procurement, and distribution challenges that contribute to perennial delays, misallocations, and shortages of TLM.¹²⁸

Regular coaching that helps teachers stay on course and effectively manage their classrooms can significantly improve the quality of teaching in the near term. To provide it, Sahel countries will need to leverage technology. Global evidence demonstrates that traditional forms of in-service training, where teachers passively receive information far removed from their classroom contexts, is ineffective.¹²⁹ In the Sahel (and much of Western and Central Africa) most teachers do not receive even this form of ineffective in-service training, and local resources, like school directors and inspectors, are usually not equipped to provide effective pedagogical guidance. However, an increasing body of evidence is showing that in-service training *can* be effective in contexts with low-capacity teachers when it is regularly provided, tailored to teachers’ needs, and focused on practice—in other words, coaching. Coaching programs can work through multiple channels (including school directors, pedagogical advisors, or other education staff) but requires human resource capable of providing quality support directly to teachers. In the Sahel countries, where capacity is constrained at all levels and many teachers and schools are in hard-to-reach areas, technology can help by enabling high-quality coaches to support large numbers of teachers virtually. Successful experiences in Brazil and South Africa show that such approaches can be cost-effective, even if they are not as impactful as in-person coaching.^{130,131}

The design of teachers’ guides, distribution of TLM, teacher coaching, and overall management of schools in the Sahel should also be adapted to the multi-grade and multi-age realities of many primary classrooms. As described earlier, many of the children who access education do so late, repeat grades, or experience disruptions in their education due to household livelihoods (such as pastoralists), climate or conflict shocks, and other factors. Consequently, many classrooms in primary schools across the Sahel, particularly in rural areas, are filled with children of varying ages and varying skill levels. Tailoring instruction to each student is a nearly impossible task, but the Teaching at the Right Level (TARL) approach pioneered by the Indian NGO Pratham has shown strong results in rigorous evaluations in India and is now being implemented and assessed across SSA.¹³² TARL involves assessment of each student’s actual learning level, time devoted to students learning in groups according to their levels (rather than by age or grade), and regular monitoring.¹³³ The approach is flexible, and can be implemented by teachers or volunteers, during or after the school day, and for short or long periods of time. In addition to TARL, the Escuela Nueva model, first developed in rural Colombian schools for children of agricultural households and now implemented in several other countries, offers relevant innovations for the Sahel. In Escuela Nueva, students work primarily in groups, supporting each other and working at their own pace, and students and their families take very strong roles in managing their schools. This approach allows for great flexibility within the classroom and over time, for example enabling students to successfully return to school after disruptions.¹³⁴

2.2.2. Increasing girls’ participation rates in secondary education

Eliminating gender gaps in education is not only the right thing to do; it also makes economic and strategic sense for countries, allowing them to fulfill their development potential. Leaving girls behind in education has a range of consequences for the girls themselves, their families, and societies. Girls exiting school early are more susceptible to early marriage and childbirth, which in turn increases the risk of children being undernourished or dying before age five. Lack of education also makes girls more susceptible to violence and lower empowerment in the household.¹³⁵ Societies could face greater poverty, and slower development given

128 Fredriksen, Bar, and Trucano (2015).

129 Popova and others (2018).

130 Bruns, Costa, and Cunha (2018).

131 Cilliers and others (2021).

132 Banerjee and others (2016).

133 See <https://www.teachingattherightlevel.org/> for more detail.

134 See for example Psacharopoulos, Rojas, and Velez (1992) and Parandekar and others (2017).

135 Wodon et al. (2018).

Table 10: Benefits from ending child marriage

Domain	Estimated potential benefits
Earnings and standards of living	Expected earnings in adulthood more than doubled Increase in labor force participation or working full time by up to one tenth Gain in perceptions of standards of living of up to one tenth
Child marriage and early childbearing	Virtual elimination of child marriage Reduction in early childbearing by up to three fourths
Fertility and population growth	Reduction in total fertility by about one third Increase in contraceptive use by a third from base Reduction in population growth by 0.6 percentage point
Health, nutrition, and well-being	Increase in women's knowledge of HIV/AIDS by one tenth Increase in women's decision-making ability for health by more than a fourth Increase in women's psychological well-being Reduction in under-five mortality rate by up a fifth Reduction in under-five stunting rate by almost half
Agency and decision-making	Women more likely to be able to make decisions in the household Women possibly more likely to better assess the quality of basic services Increase in likelihood of birth registration by one third
Social capital and institutions	Women more likely to report altruistic behaviors Women more likely to report ability to rely on friends when in need Women possibly more likely to be more able to assess institutions/leaders

Source: Wodon et al, 2018

lower lifetime earnings, higher fertility, and worse health and education outcomes for their children associated with lower girls' educational attainment.

Achieving universal secondary education for girls in the Sahel would have a range of potential benefits. Table 10 summarizes results from a World Bank study prepared ahead of the second African girls' summit on ending child marriage organized by the African Union in Ghana in 2018. While these estimations are based on data from countries across SSA and North Africa, similar benefits likely apply to the Sahel countries.

Increasing girls' secondary participation at scale requires a strategic combination of demand and supply-side interventions. Reducing learning poverty will have ripple effects

in secondary schooling and beyond, as girls (and boys) progress through the levels of education with better skills and more confidence in their abilities. But there is also much that can be done in the short term to lower other barriers to the secondary schooling of girls, both by increasing demand and improving supply.

On the demand side, one of the most effective set of approaches to closing education gender gaps is to reduce the costs of schooling and incentivize participation through eliminating fees and providing scholarships or cash transfers targeted at girls from disadvantaged families. Evidence from across developing countries points to these types of cost-reducing approaches as being among the most effective for increasing girls' participation in school.¹³⁶ Many examples of these initiatives exist in the Sahel and across SSA. For example, in the DRC, early indications suggest that girls are disproportionately benefiting from the country's 2019 free schooling policy, with gender parity improving at every level of basic education.¹³⁷ In Niger, the SWEDD project has financed a program enabling disadvantaged girls to temporarily move closer to secondary schools when there are none in their home areas. Girls completing primary were provided scholarships to fund their school fees and lodging with a host family for three years, as well as given tutoring. Results from a rigorous evaluation indicate that the program was very impactful, increasing the probability that girls were still in school after three years by 21 percentage points (35 percent more likely relative to the control group) and reduced the probability that they were married by 7 percentage points (49 percent less likely relative to the control group).¹³⁸

The community-based approach of the SWEDD project combines multiple initiatives to empower girls and young women, and to promote behavior change among all stakeholders. The high focus of the SWEDD project on behavior changes is well suited to address key drivers of girls' exclusion from secondary education. As mentioned in paragraph 25, most girls that drop out right before or within secondary school did so for pregnancy and/or marriage reasons (Figure A8 and A9 in annex). The initiatives fostered by the SWEDD project are likely to improve enrollment in both lower and upper secondary since there is no systematic difference in the reasons for girls' dropout within lower secondary and within upper secondary (Figure A9 in annex). Indeed, beside the scholarship program described above, two other key education-related elements of SWEDD

¹³⁶ Morgan and others (2012); Bashir and others (2018); Evans and Yuan (2019).

¹³⁷ World Bank (2021e).

¹³⁸ Giacobino and others (2019).

are the strong social and behavior change communications (SBCC), and safe spaces both within schools, and for out-of-school girls and young women. Through SBCC, the project has addressed social norms, attitudes, and practices at the regional and local levels with the support of governments, NGOs, and religious leaders. Under the patronage of influential religious leaders such as the Grand Imam of Al-Azhar, Muslim leaders have received guidance to use theological arguments in favor of girls' secondary education, delayed childbearing to adulthood, and birth spacing and against gender-based violence (GBV). Key messages on these issues are woven into Friday and Sunday prayers, diffused in mosques, churches and during community gatherings and dialogue. National campaigns in local languages have been launched to complement regional messaging, with a focus on sustained community dialogue. In addition, SWEDD supports the strengthening of legal frameworks across countries and the capacities of regional platforms to promote girls' and women's rights, and discourage harmful practices. School and community-based safe spaces have been built to allow girls to interact with each other in the absence of men, and have also been used to educate girls.

To maximize impacts on girls' secondary participation, further scale-up of successful SWEDD programs can be complemented by supply-side interventions that expand secondary school supply. To expand supply and reduce the costs of participation, building schools closer to communities has shown to be an effective approach in the Sahel. For example, in Burkina Faso, the Burkinabe Response to Improve Girls' Chances to Succeed (BRIGHT) initiative successfully increased girls' and boys' primary school participation and completion through construction of primary schools in communities and a set of complementary interventions from 2005 through 2012. Subsequently, a similar approach proved effective in the Education Access and Quality Improvement Project, which increased access to lower secondary and upper secondary education, for girls and boys alike, through the construction of schools that are closer to disadvantaged communities.¹³⁹ Construction of public schools can be complemented by public-private partnerships (PPPs) whereby public funds are used to finance private provision to expand access more quickly. While this approach has contributed to enrollment growth in Mali, Uganda, and other SSA countries, it requires strong governance arrangements to be effective. In Mali, public oversight of private secondary providers is

being revised and strengthened, while in Uganda, the government chose to shift away from PPPs in 2018 to building its own schools due to equity and accountability concerns.¹⁴⁰

Although evidence shows that girl-targeted interventions may make the most sense when addressing constraints that are especially binding on girls, the most effective investments to improve girls' educational outcomes may be a mix of targeted and non-targeted investments. Gender-neutral interventions hold great promise for girls' learning as well as for boys' learning. For instance, Duflo et al. (2020), in their evaluation of targeted instruction interventions in Ghana, find larger impacts for girls despite the fact that girls are not specifically targeted by the intervention. Indeed, a review of the evidence suggests that interventions focused exclusively on girl's education will often not be the most effective or efficient way to improve educational outcomes for girls.¹⁴¹ This is particularly true in weak, fragile states that are struggling to address multiple developmental crises simultaneously. Considering the limited resources that education systems in most low- and middle-income countries possess, the most practical approach to help girls learn may be to make schools better for all children and youth. Countries can do that with non-gender-targeted interventions that are highly cost-effective in building foundational skills, which are still very needed in lower secondary school in the Sahel; these include interventions like structured pedagogy and programs to teach children and youth at the right level.¹⁴² In some settings, this non-targeted approach may also be more politically palatable to voters than programs that restrict their benefits to girls.

In addition to expanding supply and adapting proven cost-effective pedagogical tools, countries can experiment with newer technologies that could rapidly improve student learning and thereby increase the value of staying in school for girls as well as boys. As described earlier, low learning while in school is widespread at the primary level across the Sahel. While many of the weakest students drop out, many others advance to secondary school still lacking key skills and struggle with more advanced material. At the same time, the brightest students may be unable to fulfill their full potential due to a lack of teacher skills and appropriate materials, particularly in math and science. One approach, where conditions allow it, could be to use adaptive learning software. This software can serve children at all learning levels, by using artificial intelligence to assess each student's skill level and present tailored, interactive lessons

139 The boarding school model, while widespread in parts of Anglophone Africa, has been found to be too costly to use at any scale and should therefore be reserved for specific circumstances where other options are not feasible. In addition, ensuring student safety is a serious concern. See Bashir and others (2018) for a detailed discussion.

140 World Bank (2020); World Bank (2021d).

141 Evans and Yuan (2019).

142 Global Education Evidence Advisory Panel (2020).



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to teach them from there. Rigorous evaluations of such software are starting to show significant impacts on student learning and cost-effective implementation, but basic technology infrastructure and school staff capacity need to be in place, which is not the case for fragile and high-poverty contexts.¹⁴³ One major barrier is the high cost of connectivity in the Sahel region. Design also matters: initiatives that use low-quality software or simply put traditional content onto tablets or computers have shown little impact.¹⁴⁴ For the Sahel, effectively deploying high-quality adaptive learning software therefore presents a serious implementation challenge. So, while these approaches are promising, governments should be cautious in adopting them and should prioritize lower-tech interventions for which there is a stronger evidence base. For these reasons, it may make sense to try such software first at the secondary level, where the infrastructure will often be better, and to evaluate their impact carefully before scaling up. In such cases, software designed for this context could substantially increase girls' (and boys') learning and encourage them to stay in school. And there have been efforts to tailor foundational literacy and numeracy software to challenging contexts. In 2019, for example, the Global Learning X Prize initiative awarded its \$10 million grand prize to two innovative open-source software programs after they were proven to accelerate learning in field trials in Tanzanian villages.¹⁴⁵

To increase girls' chances to complete their studies in a safe and healthy environment, hence improving their chances in the labor market, it is crucial to end school-related gender-based violence (SRGBV). SRGBV is any act or threat of sexual, physical, or psychological violence occurring in and around schools, perpetrated as a result of gender norms and stereotypes, and enforced by unequal power dynamics.¹⁴⁶ SRGBV must be incorporated into national action plans that recognize the need for prevention, impact mitigation, and accountability. Governments should demonstrate leadership at the national and local levels with laws and policies on SRGBV; strengthening connections between education and child protection systems; and applying system-wide reforms to ensure that state education institutions comprehensively address SRGBV. Also, whole-school approaches are needed to make schools safer (from all types of violence) and better environments for children to learn in. Whole-school approaches aim to create safe and welcoming spaces, promoting strong messages that SRGBV

is not acceptable and enforcing codes of conduct that detail norms and standards of behavior for all school staff, and potentially also students and their parents. There should also be clear, safe, and accessible mechanisms in place for reporting incidents anonymously, assisting victims with counseling and support, and referring cases to the appropriate authorities.

2.2.3. Increasing young adult literacy rates, with a focus on young women

Alongside efforts to improve basic education for children, increasing the literacy rate of the labor force, especially women and youth, is necessary for economic and human development. The extremely low levels of adult literacy among women in the Sahel countries affects their empowerment and economic engagement, as well as their capacity to invest successfully in their children, perpetuating the intergenerational cycle of poverty described earlier. Thomas et al (2020) similarly note that investing in female literacy makes economic sense on its own and could also have positive externalities for development more generally. For the many youth and young adults who never had the opportunity to participate in formal education, illiteracy will burden them throughout their working lives, limiting the effectiveness of technical training and other investments in the labor force and dragging down overall economic productivity.

There are several reasons why Sahel countries need to invest smartly in young adults' literacy and skills. First, more than half of young adults (15–34 years old) and about 59 percent of young women in the Sahel region are illiterate, meaning that the basic skills deficit among young adults is too large to be ignored. Consequently, the stock of unskilled workers is very large, and these young unskilled workers still have long working lives ahead of them. Second, investments in the foundational and technical skills of young adults can bring important economic and social benefits. These skills can improve livelihoods, enable mobility out of low-productivity jobs, improve productivity in existing jobs, and enhance social cohesion, since jobs are about more than just incomes. A substantial literature has demonstrated that basic literacy and numeracy skills allow people to operate better in the labor market and, ultimately, to access better jobs.¹⁴⁷ Moreover, improvements in adult literacy and skills can both directly and indirectly increase the next generation's human capital. Parental literacy, particularly of mothers, and the resulting improvement in adults' incomes can enhance children's skills

143 Muralidharan, Singh, and Ganimian (2019); Wang and others (2020).

144 Habyarimana and Sabarwal (2018).

145 <https://www.xprize.org/articles/global-learning-xprize-two-grand-prize-winners>

146 Women, U. N. (2016).

147 Arias and others (2019).

development by improving child health, early stimulation, and the learning environment at home. While the first reason applies to illiterate adults of all ages, the latter two reasons point toward the reason to focus on young adults. On top of that, younger adults may feel a greater incentive to learn and may thus learn faster.

Adult education programs have not been studied as extensively as school education, but there is some strong evidence on how to design successful programs, including from the Sahel. Importantly, adults of all ages are capable of learning, but younger adults are likely to respond better. Scientific¹⁴⁸ evidence suggests that there are no severe biological factors limiting adult literacy acquisition. While adults face some reduced brain plasticity¹⁴⁹ compared to children, they benefit from strengths in other cognitive areas such as executive function and memory.¹⁵⁰ These tend to peak between the ages of 18 and 30, which would therefore be the optimal window for adult literacy interventions.

Teachers need to be specifically trained in techniques that support language acquisition among adult learners. In the absence of such training, teachers may default to ineffective teaching strategies such as didacticism. Adult learners would benefit from actively engaging with lesson material, and from quality, contextualized learning materials. Teachers from the local community with appropriate qualifications and adequate compensation are also key success factors.¹⁵¹

Mobile phone technology can support adult learning at low cost. Aker et al (2012) assessed the impact of an intervention in Niger that taught adults how to use mobile phones (Project *Alphabétisation de Base par Cellulaire*, or ABC), on top of a regular adult education program focusing on literacy and numeracy. ABC, together with the adult education program, helped students acquire reading and math skills to a greater extent, compared to just the adult education program. The authors suggested that the outcomes may be attributed to greater student motivation and effort in class, and more opportunities for practice outside. The study also underlined the importance of teacher quality, with better educated teachers being able to use the mobile phones to greater effect. The use of mobile phones by participants could have spillover effects such as improved access to digital services such as electronic payments, and information.

Learner motivation is key. Many adult education participants tend to dropout early in the course. Efforts to boost continued participation for instance through rewards, social engagement and goal-setting could be important to sustain participation. For instance, the ABC program in Niger offered food vouchers contingent on regular attendance. Offering childcare support could free up women to participate in programs, in the same way that provision of subsidized childcare has been shown to substantially increase the employment rates of mothers (for example in Kenya).¹⁵²

Successful programs satisfy the needs of learners and the community. Similar to the concept of teaching at the right level for school children, adult literacy programs have to be pitched appropriately to enable learners to move up the literacy continuum. Programs have to be culturally appropriate and contextualized to the local environment in order to have lasting outcomes. Teaching and learning materials should be relevant and meaningful in the local context, and logistics such as timings and locations should also be decided based on context. Involving the community in course planning, and reinforcement of learning after the fact could make interventions more sustainable.

Rapid and large increases in adult literacy at a national scale are possible in a young, conflict-affected country grappling with widespread poverty. The experience of South Korea shows how.¹⁵³ From 1945 to 1959, South Korea reduced its adult illiteracy rate from 78 to 22 percent, despite just emerging from Japanese occupation and WWII, followed by the Korean War from 1950 to 1953. This breathtaking transformation came about through strong political commitment to rebuild society based on human capital and recognition of the need to equip both children and adults with basic skills. Under a five-year plan to eradicate illiteracy, South Korea built on a long legacy of religious and community organizations providing informal instruction such as “night schools” for farmers, and deployed tens of thousands of literacy teachers (existing schoolteachers and others with basic skills) to teach courses to adolescents and adults, separated by gender, scheduled to accommodate the agricultural calendar, and promoted by local leaders. There is no reason why, in principle, the Sahel countries could not replicate the South Korean experience and spark an economic transformation.

148 Lessons summarized here are drawn from Bendini, Levin, and Oral-Savonitto (2019).

149 Brain plasticity refers to the ability of the brain to change in response to the world around it.

150 Executive function refers to a set of cognitive skills that includes sustained attention, planning and meta-cognition.

151 Thomas et al (2020).

152 Clark, Laszlo, Kabiru, and Muthuri (2017).

153 Byun and others (2012).

2.2.4. M&E: A game-changer to support all the others

In addition, there is a meta-game-changer that will make it possible for these others to succeed: better monitoring and evaluation. This is necessary both to implement the game-changers and to learn what is working. For example, structured support to teachers relies on frequent feedback on student learning from well-designed learning assessments. And while we know the basics of how to teach early literacy, good evaluation can help in adapting those approaches to make them as effective as possible in the Sahel context. Similarly, keeping girls in secondary school requires systems for tracking attendance and learning systematically, given that frequent absence and low marks are early warning signals for dropout. Indeed, a review of all the game-changers above will show that each one depends on good data and the ability to interpret it.

Here too, starting out right over the next year would make a difference. As governments work to bounce back from COVID-19 in the immediate future, the patterns they set can either help or hinder the medium- and long-term responses. If they track the participation and learning of each child to guide learning recovery effectively, that will create a jumping-off point for a deeper integration of M&E into the other game-changers and the long-term system strengthening.

2.3. System strengthening: What needs to change for sustainable improvements

Implementing the game-changers would be a major step forward but building high-quality education systems will require concerted and sustained effort that must begin now. The serious work of system strengthening should begin now, because building up the pillars of an education system takes time. Action is needed on each of the four proximate drivers of a strong education system: prepared learners, effective teaching, adequate resource materials, and safe and inclusive schools. The approaches needed to support each driver will need to be adapted for more fragile and conflict-affected contexts, to ensure these areas do not fall further behind.

2.3.1. Strengthening pre-primary education to give children a head start

Pre-primary education can put learners on high-development trajectories and reforms can help keep them in school. It is possible to provide early nutrition, care, and

high-quality pre-school education even in low-capacity settings. As discussed above, nutrition and care will require high-level political leadership and concerted action of other ministries beyond education, because it depends on support—including financial assistance and advice—to households with infants and young children well before they enter formal schooling. Finding cost-effective ways to expand pre-school education is also important; without it, disadvantaged children find themselves well behind by the time they arrive at primary school. Finally, getting children into school is not enough; it is crucial to adopt measures to keep all of them, especially girls, in school through basic education and beyond. This all requires building on the game-changer policies for ECD and girls' education described in the previous section, by institutionalizing the reforms and steadily increasing quality.

Context-appropriate, affordable early childhood education models can be developed to strengthen young children's foundational skills and school readiness. To start with, Governments could use the internationally benchmarked 10 percent of the education budget towards pre-primary education as a medium- to long-term target. The focus should be on expanding access to pre-primary education to poor and vulnerable children who are unlikely to have stimulating home environments. Expanding pre-primary education may not be easy in practice, given the scale of the Sahel countries, rapid population growth, and the widely dispersed and often nomadic populations. However, the recent gains in primary school enrollment rates suggest that progress is possible. To begin, governments could explore service delivery models such as co-locating pre-schools with primary schools, and leveraging private, community and religious institutions, where possible.

Effective, low-cost service delivery models for pre-primary education focus on local hiring, provision of structured and practical training, and supply of appropriate teaching and learning materials. In India, a randomized controlled trial tested the impact of hiring dedicated pre-school teachers in early childhood centers under the Integrated Childhood Development Scheme (ICDS). The ICDS has 1.35 million anganwadi centers (AWCs) offering free education to 36 million 3- to 6-year-olds, many of them poor. AWCs cut costs by having just two staff – an anganwadi worker (AWW) providing health and education services, and an anganwadi helper (AWH) in charge of cooking, feeding children, and cleaning. The intervention added a facilitator focusing on teaching in the state of Tamil Nadu, to boost staff capacity at the AWCs. Facilitators were female, over 18, hired locally, and at least secondary-educated. They received targeted training and a lesson package with daily activities, and paid half

the salary of an AWW, much lower than civil service teachers. The intervention doubled the time spent on education and nearly tripled time spent on nutrition, resulting in better education (math and language scores), and health (height and weight) outcomes for treatment children relative to their control peers. With an estimated benefit-to-cost ratio of 12x, the intervention offers hope that early childhood outcomes can be improved in a cost-effective manner at scale.¹⁵⁴ In Kenya, the Tayari preschool program also aimed to develop a cost-effective and scalable model of early childhood development and education to enhance the cognitive, health and social-emotional readiness of children joining primary school. A randomized controlled trial tested the impact on pre-primary school children of different packages: support to teachers to improve instruction, instructional materials, and a health intervention. All three treatments had a positive impact on learning outcomes, with the latter two being especially effective, and the cost per learner was relatively low (ranging from US\$8.47 to US\$19.40 over two years).¹⁵⁵ Beyond improving children's outcomes, programs like these benefit women as well, especially younger women. They provide training and skills to current or future preschool teachers (who are mostly women), making them more employable. Sending children to preschool also frees up the time of mothers and other caregivers in the home, so that they can enter the labor force.

The quality of pre-primary education matters a lot and should be prioritized. To be cost-effective, interventions should provide substantially more stimulation and care than the status quo. Achieving this goal can be challenging, which is why—although work to expand access should start now—pre-primary is categorized here in the longer-term system-strengthening section rather than as a quick win. Still, there is much that governments can do now to begin giving children a better start in learning. They can promote quality improvements by offering operating subsidies to private, community or religious pre-school education providers that fulfill baseline quality (curriculum, proportion of trained staff) and affordability requirements. Governments should also undertake efforts to professionalize the pre-school sector by introducing pre-primary training programs in teacher training institutes. Structured pedagogy approaches such as Interactive Audio Instruction (IAI)¹⁵⁶ are cost-effective means to boost the quality of instruction in pre-schools and could double up as in-service training for existing staff. IAI

has been used to good effect in Burkina Faso, and in a wide variety of other contexts such as in Guinea (for preschool and primary school children in rural and urban areas), Zambia (for orphans and vulnerable children, Ethiopia (for Somali refugees in camps), and Nigeria (in Koranic schools).¹⁵⁷

Improvements in pre-school and primary education should ideally go together, to start children off on a high learning trajectory that makes staying in school worthwhile. As pre-primary education is being developed in the Sahel, children will continue to arrive at primary school with low levels of cognitive and language development, creating challenges in the classroom from the earliest grades. To bridge these gaps, early primary education should focus on developing basic literacy and numeracy skills for all children, to enable them to keep learning and benefiting from staying in school. This would necessitate teaching literacy and numeracy skills in the first years of primary school as if children have no prior exposure to these concepts, instead of assuming a high level of preparedness at the outset.

2.3.2. Keeping children in school and offering second chances for youth to build skills

For school-age children and youth, intensive remediation during transitions across levels could help students catch up with their grade level and reduce the risk of repetition or dropping out. To address the issue of youth lacking foundational skills when leaving basic education, it may be necessary to provide remediation before continuing education and training. Remediation in school would be ideal. After school, the more successful programs provide bridging courses in real-life contexts, which allows learners to build foundational skills in the workplace. Accelerated, flexible pathways as opposed to sequential courses over multiple semesters are also associated with better retention and completion rates.¹⁵⁸

Retention targets youth in school and aims to reduce the instance of dropping out. Retention programs should begin before secondary school, as this is the level at which students commonly dropout. Retention policies should be carefully designed to avoid unintended consequences. For example, compulsory education in Uganda and Kenya led to higher initial enrollment, but also reduced the quality of education, which is a push factor for students. Four out of five Sahelian countries (Niger is the exception) currently have compulsory education up to lower secondary. Financial aid

154 Ganimian, Muralidharan, and Walters (2020).

155 Ngware et al. (2018).

156 IAI lessons involve instruction provided by an "audio teacher" to "audio students", with pauses for responses and actions by in-classroom teachers and students. Following the completion of the audio lesson, the classroom teacher will conduct a lesson building on the instruction provided by the "audio teacher".

157 Murphy Paud, Stephen Anzalone, Andrea Bosch, and Jeanne Moulton (2002); Ho, J. and Thukral, H. (2009).

158 World Development Report 2018.

and scholarships can improve enrollment and retention, as discussed above in the context of improving girls' education outcomes. Remediation and mentoring could be a cost-effective means of encouraging youth to stay in or return to school. For instance, the Girls' Education Project in Eritrea reports improved grade promotion because of tutoring.

Remediation targets out of school youth, with second chance education programs bring school-age children back to school, and equip youth with basic literacy and numeracy skills necessary for employment. Programs with flexible entry and exit and close links to the formal education system have demonstrated success. Uganda's Basic Education for Urban Poverty Areas (BEUPA) Program is an example. The program targeted youth aged 9–18 with an accelerated, three-year basic education curriculum compared with the regular five-year basic education cycle.¹⁵⁹ A 2002 review of the program found that of the more than 3,000 students served through 54 centers in Kampala, 55 percent were girls, more than a quarter transferred to formal schools, and only about 10 percent dropped out.¹⁶⁰ The following success factors were identified: integration with a formal curriculum, coverage of both academic and life skills, career guidance, and strong involvement of the community in the education centers. Such second-chance programs are crucial in the Sahel, where exclusion rates are very high.

The Sahel region offers several examples of programs for reintegration of out-of-school children and youth. Senegal has three such models. First, the Basic Community School (ECB) model which lasts 4 years with a bridge to the lower secondary schools or to professional training at TVET schools. Second, the School/community support is a popular education initiative that cares for thousands of young boys and girls excluded from school or with no schooling. The initiative also provides remediation for children from disadvantaged neighborhoods who are enrolled in public or private schools through tutoring in the evenings or at times when these children are not in school. Finally, the Socio-professional integration model offers training for out-of-school children and youth or the disadvantaged, that enables them to find a lasting place in the working world. Another example is the unified model implemented in Burkina, Niger and Mali. This strategy, *Stratégie de Scolarisation Accélérée avec la Passerelle (SSA/P)*, has been initiated by organizations such as the Stromme Foundation and UNICEF. SSA/P is an alternative school that offers a second chance to children between the ages of 9 and 14 who have not been able to ac-

cess formal schooling or who dropped out at an early age for various reasons. The program offers an accelerated version of the first three years of basic education, and culminates in a placement test for the 3rd or 4th grade. Teachers in this program have received specific training, and the program covers French, mathematics, life skills and aesthetic subjects (singing, drawing, poetry), delivered over 34 hours and 6 days per week for 34 weeks of classes per year.

Youth who are unlikely to return to formal education require practical skills training for integration with the labor market. Filmer et al. (2014) suggest two broad areas for government intervention in terms of skills training: (1) providing information and facilitating access to training, and (2) intervening to ensure the availability of better-quality training options.¹⁶¹

Interventions that provide targeted financial incentives to increase participation in training have been shown to help. In northern Uganda, a program providing large cash grants to self-created groups increased the proportion of youth enrolled in vocational training from 15 to 74 percent, and recipients also engaged in more intensive training. Youths engaged in training without being obliged to, suggesting that programs that help to finance access to training could be effective. Voucher programs that give students greater choice in training opportunities can be effective. In Kenya, the Technical and Vocational Vouchers Program offered young people vouchers worth approximately US\$460 to encourage them to enroll.¹⁶² Half of the voucher recipients were randomly chosen to receive restricted vouchers to public institutions, while the other half could choose either public or private schools. 69 percent of restricted voucher recipients attended vocational training, compared with 79 percent of unrestricted voucher recipients. Winners of unrestricted vouchers were also more likely to complete training. Voucher programs can also stimulate training supply as was the case in the Jua Kali in Kenya, a large program that provided vouchers to workers in the informal sector.

Providing information on employment and training opportunities may be a cost-effective way of boosting participation in training. Providing timely and accurate information could dispel misconceptions regarding employment and training opportunities, and may be a cost-effective means of boosting participation in training. Research in Kenya found that youth chose differently once provided with wage information, including salary differentials between traditionally

159 Thompson (2001); Lamichhane, Prasad, and Wagle (2008).

160 Ilon and Kyeyune (2002).

161 The following paragraphs on training draw from Filmer et al. (2014).

162 Hicks et al. (2011).



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male (e.g., electrician) and female (e.g., seamstress) dominated professions. Armed with such information, more women, as well as young, educated girls, chose to enter male-dominated professions.

Governments need to use public financing selectively to support training programs. The training landscape tends to be varied, with a multitude of options ranging from formal TVET targeted at the primary or secondary educated, formal private training, and informal training such as apprenticeships. Governments should support programs that offer good value for money. Quality can be measured in terms of outcomes such as translation to employment, program completion rates, or feedback from employers, or even trainees themselves. Formal TVET tends to be more expensive and apprenticeships the cheapest, whereas formal private training costs vary. Given that a large share of the economy remains informal in the Sahel and Sub-Saharan Africa more generally, informal apprenticeships are a key mechanism for out-of-school youth to learn skills and find employment, but may be difficult to scale up.

2.3.3. Focusing on teachers to strengthen the backbone of the education system

To strengthen teaching throughout basic education, Sahel countries need better attraction and selection policies for new teachers, and practical training and support for existing teachers.¹⁶³ As noted above, it is important to support teachers while focusing on improving the quality of teaching as the goal. Part of this will come from making teaching a more attractive profession for potential teachers, especially for high performers, and from selecting them based on merit. But given that many of those who will be teachers a decade from now are already in the teaching force, helping them teach more effectively is paramount. This means shifting to more practical, classroom-based in-service training, with more coaching and mentoring—while at the same time making pre-service education more practical, so that new teachers don't start out with so little classroom experience.

In addition, motivation can be strengthened through improvements in teachers' career and salary frameworks. One practical example is ensuring that teachers can get their

163 This section draws heavily on Breeding, Bêteille, and Evans (2019).

paychecks more easily, to avoid demotivating teachers and keep them in the schools. In Chad, a mobile-based payment mechanism was launched in 2018 for the community teachers (CTs) who make up 60 percent of the primary school teaching force. As of October 2021, the electronic payments made through mobile companies reached about 11,000 CTs for salary disbursements, and 8,500 CTs in scholarship payments for teacher training.¹⁶⁴ A 2020 monitoring report revealed that for 75 percent of CTs, the new mechanism of payment improved teachers' punctuality and engagement; for 80 percent of them, the mobile payments increased teachers' presence in class. Female teachers view this slightly more positively than the average, as 82 percent of them believe mobile payments improved teachers' punctuality and engagement. Appointing principals who can provide pedagogical guidance may also strengthen teachers' motivation through the resulting support and mentoring. Strengthening their ability to play this role is an important part of the school leadership agenda discussed below.

As education systems are rapidly growing, the Sahel needs a sufficient pipeline of teachers ready to be effective in primary and secondary classrooms. Effective pre-service training and recruitment criteria can help. Pre-service training curricula should be updated to prepare teachers to facilitate cognitive and socioemotional learning, personalize instruction, and provide support for teaching to the level of the student. The training should also include remediation to address any deficiencies in content knowledge. Training should also avoid being overly theoretical and include a substantial internship or practical component in schools. This will enable new teachers to enter classrooms with confidence by teaching them to apply pedagogical skills, manage classrooms, and respond to personalized feedback. Efforts are underway in Mali for instance, to exclusively recruit at the Baccalaureate level (completion of high school), increase the duration of initial teacher training from 2 to 3 years, and align teacher training curricula with those of primary and secondary education. Given the limited capacity of teacher training institutes, regular short-form programs or “bootcamps” delivered in partnership with non-governmental organizations or foreign universities can help ensure that all new teachers have at least some basic, quality training before entering the classroom. Studies based on test score data for Togo and Guinea find that while teachers need some pre-service training, short four-to-six-month courses provided to teachers with good general education, together with support in the first year on the job, could be as effective

as longer programs.¹⁶⁵ Using programs like this can enable governments to draw on pools of potential teachers to expand supply of schooling more quickly, at a time when demographic pressure on schooling is intense.

Teacher selection should be based on merit. Merit-based selection practices have been shown to produce better student results even when the quality of teacher assessments is not ideal, given difficulties in evaluating adult competencies at scale.¹⁶⁶ Where possible, authorities should also assess candidates' effectiveness as learning facilitators, rather than just their content knowledge. This could be done as part of interview processes. Probationary periods are crucial since it is difficult to predict if a teacher would be effective simply based on interviews. Probation should include strong teacher evaluation, to ensure that only teachers that make the mark enter the system. One promising approach is to frame the probationary period as a three- to five-year apprenticeship, during which teachers earn performance-based credits towards being hired permanently.¹⁶⁷ Tenure should be based on performance and measurable characteristics such as attendance, instead of being based solely on seniority or qualifications, which may not equate to performance. Poor performers should be supported to improve or exited otherwise, and the same should apply even after teachers are placed on tenure.

In addition to merit, teacher recruitment in the Sahel should also consider gender and geography to equitably serve all students. Specific efforts to recruit more women for primary and secondary teaching positions, as well as school leadership positions, would help make schools more welcoming particularly for adolescent girls across all five countries. Given the scarcity of basic services outside of urban areas, as well as insecurity that is plaguing many parts of the Sahel, local teacher recruitment is likely the only viable option for ensuring that children in all parts of each country have access to education. Global experiences suggest that while monetary or career incentives have helped in some settings, the levels of spending necessary to close access and quality gaps affecting rural and disadvantaged areas are not sustainable for public budgets¹⁶⁸; moreover, they may be especially unlikely to be effective in deploying teachers to conflict-affected and insecure areas. Instead, recruiting from local communities may be the most effective way to ensure that teachers work where they are needed, even if it means adjusting standards and providing more support. In

164 World Bank (2016b).

165 Majgaard and Mingat (2012).

166 Estrada (2019).

167 Muralidharan (2015-2016).

168 Evans and Acosta (2021).

parallel, initiatives such as in Niger to provide career incentives for teacher deployment in conflict-affected and at-risk areas should be closely monitored for impact and potential relevance for other countries in the Sahel.

For teachers already in the system, the priority should be to provide support through on-going, structured, focused, and practical training that leads to better teacher-student interactions, as opposed to one-off training events which are unlikely to have a sustained impact. A recent study of 33 rigorously evaluated programs in low- and middle-income countries concluded that programs that positively impacted student learning outcomes were subject-specific, linked to professional incentives (e.g., promotion), at least partially in-person, and practice-oriented.¹⁶⁹ Although such programs are likely to be more expensive, and may therefore reach only a smaller number of teachers per year, they are more likely to deliver value for money.¹⁷⁰ As community hiring of teachers is prevalent in the Sahel, particularly in remote areas, governments could explore the remote delivery of teacher training, where it is not possible for teachers to travel to teacher training institutes mostly located in urban centers.

Where teacher knowledge is low, structured pedagogy with appropriate teaching and learning materials, training, and monitoring can improve learning outcomes. Structured pedagogy is predicated on a curriculum that is well-designed and pitched at the right level. Such an approach could help teachers improve their pedagogical approaches, and spend more time catering to students' individual learning and socioemotional needs. A randomized controlled trial (RCT) across 169 villages in The Gambia using structured pedagogy showed dramatically improved learning outcomes, as did another RCT in Guinea Bissau across diverse settings.¹⁷¹

Technology, where available, can be leveraged to connect teachers with each other and with skilled coaches for sustained engagement and behavior change. As discussed earlier, there are demonstrated successes of using technology to improve the effectiveness of teachers. In Brazil, increases in student learning were achieved by providing coaching to pedagogical coordinators over Skype, which helped them better support teachers. In South Africa, instructional coaching to teachers via phone calls, instant messages, and WhatsApp groups was just as effective as face-to-face instructional coaching after one year. Similar approaches can be leveraged by local pedagogical

coordinators in the Sahel, to provide more regular feedback and coaching to teachers. The high rates of mobile phone penetration in the region should make this feasible: by 2018, three of the countries (Burkina Faso, Mali, and Mauritania) already had penetration of well over 80%, and rates in Chad and Niger were also substantial.¹⁷² Interactive radio instruction could be another potentially effective pedagogical intervention; although less rigorously tested, it works on the same principles as other programs that do work effectively.

Finally, teacher career and salary frameworks need to improve, to raise motivation and make teaching a more attractive career. Sahel countries must address contract-tenure disparities as a source of ongoing dissatisfaction among teachers. This is no easy task, given stark budgetary pressures, but clear commitment from government and strong stakeholder engagement can help identify a fair and sustainable path over time. For all teachers, lightening the burdens of obtaining their salaries, through improved payment routing and reforms to improve timeliness, as well as leveraging mobile money technology wherever possible, can eliminate an important source of teacher absenteeism and increase teachers' motivation. In addition, initiatives that improve basic school infrastructure (as discussed earlier) can have the added benefit of improving teachers' daily working conditions.¹⁷³ Finally, promotion to school principal and local system leadership positions should emphasize pedagogical leadership and managerial skills, as part of a clear and fair career structure that incentivizes strong performance, rather than purely seniority.

2.3.4. Building infrastructure that enables and supports learning

If game-changers are successfully implemented, Sahel countries will soon face spikes in demand for secondary education as more children successfully complete primary. Improving secondary access cost-effectively—whether through school construction or through measures to reduce travel times to existing schools—will become a more urgent priority. Although the unit costs of secondary education tend to be higher than primary, building schools near communities is generally more cost-effective than approaches that bring students to schools (such as boarding schools).¹⁷⁴ While boarding schools may be the best approach in certain situations, such as enabling students from insecure

169 Popova et al. (2019).

170 World Bank (2020h).

171 Fazio, et al. (2020).

172 World Bank (2020m).

173 Evans and Yuan (2018).

174 Bashir and others (2018).

areas to live and go to school safely, research from across Sub-Saharan Africa suggests that they are in general not cost-effective and raise a set of challenges for exploitation and abuse. In addition to building schools, improving transportation options and reducing travel time can have significant impacts, as has been shown with the provision of bicycles to adolescent girls in India.¹⁷⁵ As in the case of primary schools, these alternative approaches can be more cost-effective than constructing new schools in some settings.

Governments should also continue programs to upgrade school sanitary facilities, especially given recent public health crises such as COVID-19. Building such facilities could make school a safe place for teachers and students. In Burkina Faso, a program to construct schools with modern amenities increased enrollment by a large margin, with the biggest impacts for girls. Even beyond building entire schools, building latrines—particularly gender-specific ones—significantly increased enrollment of adolescent girls in India.

Beyond early-grade literacy discussed in the game-changers, expanding access to quality teaching and learning materials in every grade is a necessary step for the Sahel countries. However, increasing inputs alone, without complementary changes are likely to be ineffective. This is based on examples from a variety of settings involving the provision of additional textbooks, the addition of teachers to enable more manageable class sizes, school construction, and provision of libraries, to name a few. Structural issues such as the curriculum, assessment systems and pedagogical approaches also need to be addressed. Good materials, including appropriate-level textbooks and instruction at the right level, provided alongside pedagogical improvements, can make a big difference in learning outcomes. This is especially true in the Sahel, where even minimal levels of resources are often lacking.¹⁷⁶

Sahel countries can explore several strategies to boost the availability of teaching and learning materials. First is to **streamline curricula** as recommended earlier in this paper. This could involve a combination of reducing the number of subjects, and reducing content within individual subjects, to reduce the number and length of textbooks, thereby reducing costs for governments and families. Sahel countries could also consider adopting **single textbook policies**, whereby education ministries develop standardized textbooks based on national curricula. This would allow for economies of scale, ensure standardization, and simplify

textbook upgrading during curriculum revisions. Libraries could be used to provide additional reference materials. Where local printing capacity is low, governments could consider **international competitive bidding** to cut costs. Where possible, governments should also **leverage the private sector for textbook distribution**, especially to remote areas, and make payments contingent on successful delivery.

The use of e-textbooks accessible on computers or mobile phones could help expand access to materials at low cost.

While the lack of infrastructure will make it unfeasible to use digital materials everywhere, governments could promote their use in urban areas with better electricity and internet connectivity, and focus on physical learning materials as the primary mode of delivering content in rural areas.¹⁷⁷

Sahel countries should empower local authorities and schools to make decisions based on their unique contexts.

This can solve two issues. First, giving local school leaders and parents the power to influence teachers and other school representatives could help ensure that teachers respond more immediately to student needs. This would not be possible if supervision was left to ministry officials from afar. Second, decision-making power and the discretion to deploy resources should rest with schools and communities with better information about local needs, and therefore greater ability to meet those needs.¹⁷⁸ For example, providing local options for adjusting school calendars can allow communities to adapt to local priorities (such as agricultural growing seasons and local holidays) and thereby increase attendance when the schools are open.

Involving the community in school management could strengthen oversight, and the nexus between school and community. As explored in [section 1.6.3](#), the community

has often played an important role in education in the Sahel countries. GEEAP (2020) notes that the evidence on involving communities in managing schools is mixed, although successful interventions have been cost-effective. The community could in theory improve school accountability, advocate for better teaching and learning practices, and support children's learning even outside the classroom. However, interventions that involve providing community feedback to schools or collecting teacher and student data have had little impact. Successful programs seem to be those that boost the authority and legitimacy of school management committees. An RCT in Indonesia tested combinations of four interventions in rural schools - providing funding and training to

175 GEEAP (2020).

176 GEEAP (2020).

177 Fredriksen et al. (2015).

178 World Bank (2018).

committees, community election of school committee members as opposed to appointment by school principals, and involving the village council in school management. While funding and training did not have significant impacts on learning outcomes, the combination of an election and the linkage to the village council did, possibly due to the school committee being seen by principals, teachers, and parents, as having greater legitimacy by virtue of being elected, and the involvement of influential members of the local community in overseeing school operations.¹⁷⁹

2.3.5. Curriculum and assessment reforms at the heart of teaching and learning

Sahel countries need to reform school curricula to make them focused and age-appropriate. Shifting curriculum and assessment away from the academic elite to reflect the distribution of skills in the wider student population is a major cross cutting element of education system reform, which is often difficult to evaluate. Sahel governments need to update curricula to focus on foundational skills such as literacy and numeracy in the initial years, before introducing higher order knowledge and skills. School curricula for older children should better suit labor market needs. Curriculum reform efforts are already underway in the Sahel countries. Governments should monitor and accelerate such efforts where possible, and introduce regular curriculum review cycles to ensure relevance.

Governments need to strengthen assessment systems at all levels. Assessment systems in the Sahel countries tend to be nascent. The focus should initially be on classroom assessments, followed by sample-based, low-cost national assessments, and finally regional or global assessments. Teachers should be equipped to conduct regular assessments in class to check students' learning progress, to identify and support students that lag. Programs in Liberia and Malawi that did this were effective.¹⁸⁰ With better developed assessment systems, schools with sufficient teachers may be able to group children by ability and facilitate teaching to the level of the student. In school systems with very low learning levels, ability grouping has had positive impacts on both lower- and higher-performing students. In Kenya, grouping students into classes by ability led to improved outcomes across the board, with the highest impacts among learners with more motivated teachers.¹⁸¹ In India, schools reorganized classes by group for just an hour a day and ob-

served major gains in learning.¹⁸² Computer-assisted adaptive learning technology, as discussed under the girls' secondary education game-changer, can be deployed wherever enabling conditions are in place and further support efforts to teach to the level of the student.

Well-designed national assessment systems share some common features. First, national assessments should be designed to allow the disaggregation of data along key dimensions such as gender, geography, disability status, and socioeconomic status. This would allow governments to identify and support vulnerable populations. Second, assessment methodologies should be consistent across years, to facilitate comparisons across time, and test the effectiveness of policy and process interventions. Third, students should be assessed at the right time when interventions would be effective. For instance, assessments of basic skills such as literacy and numeracy should be done early in children's schooling, to address any learning deficiencies before they fall further behind. Household testing should complement school-based testing, to cover out of school children, and allow a deeper appreciation of household factors that affect children's progress. Fourth, governments should be cautious with linking incentives such as salaries or school budgets directly to test scores, at least where the governance and monitoring framework is not well-developed. Doing so could drive undesirable behaviors such as teaching to the test, or trigger a backlash from stakeholders. (Note that this does not preclude linking pay and career progression of educators to longer-term performance, including performance in improving learning; this can be an important pillar of a merit-based system.) Fifth, policies should be informed by assessment results. Results should be distributed in a timely fashion to schools or local administrations to facilitate follow-up action. Lastly, regional and international assessments tend to yield high returns. Some Sahel countries—Burkina Faso, Chad, and Niger—already participate in regional assessments such as PASEC. The remaining countries could also consider participating in these assessments to benchmark their education systems against the region, and use the results to drive policymaking.¹⁸³

2.3.6. Service delivery in FCV context

Achieving the targets will require strong, resilient, and inclusive education systems that promote learning, life skills, and social cohesion in the region due to the FCV

179 Pradhan et al. (2011).

180 Bolyard (2003); Piper and Korda (2010); cited in World Bank (2018).

181 Cummins (2016); Duflo, Dupas, and Kremer (2011); cited in World Bank (2018).

182 Banerjee and others (2016); cited in World Bank (2018).

183 World Bank (2018).



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context. It will especially require tailored analysis and adjustments to proposed approaches depending on the type and level of FCV in more conflict-affected and at-risk areas in the Sahel. This entails, among others, taking into account factors such as: security considerations, which require designs that do not increase risks for teachers and students; deteriorating social fabric, with frequent marginalization of some socio-economic groups and their consequent lower capacity for community involvement; and higher costs and more complex implementation. The delivery of education services is more complicated in fragile settings, where institutions are more limited in their ability to function and where conflict and violence can impede project implementation and equity. Fragile settings also tend to have fewer resources, which makes investments in human capital even harder. In these contexts, exclusion and inequities could aggravate fragility but education also plays a singular role to prevent violence and to also help mitigate the risks associated with such adversities and help children and youth to succeed despite severe challenges. Countries should work to provide education services for all ages and for all socio-economic groups through more inclusive and equitable systems. In addition, those suffering from discrimination, exclusion, and violence, including gender-based violence, need additional support and empowerment.

It is therefore critical that, whenever possible, interventions to address the education challenges in the Sahel region be paired with interventions that address FCV barriers and increase resilience. Sahel countries' engagement should follow a multi-pronged approach aimed at addressing both short- and long-term drivers of instability in the region. In the medium to longer term, governments should seek to increase access to economic opportunities, particularly through agriculture and basic education, while ensuring greater resilience and inclusion for the most vulnerable populations. They can do this by helping to diversify the rural economy, broaden access to markets, promote women's empowerment and youth inclusion, further expand and strengthen critical infrastructure, and provide basic school education and professional training.

Challenges in service delivery and local governance, as well as weak accountability, limit the state's ability to maintain a positive presence across the territory, thus aggravating grievances against institutions. At the local level, the distribution and quality of basic services are uneven, reinforcing feelings of exclusion and marginalization and thereby increasing risks of conflict. These weaknesses are particularly significant in areas that are affected by violence, where limited capacity of local institutions curtails their ability to

prevent and respond to crises, as well as ensure the social cohesion and resilience of the population.

Despite this difficult environment, Sahelian countries can build on resilience factors to slow the deterioration of the situation by preparing and adopting a strategy for the mitigation of conflict and violence risks. For instance, countries could adopt a spatially differentiated approach that distinguishes between three zones, with implications for how they provide education services. First, the “unstable zones” are the areas of departure of displaced people and/or areas of violence. In these areas, the priority is essentially security and safety, the return of the State's presence and the resilience of populations and territories. Second, the “pressure zones” are areas hosting displaced persons, where priority is given to humanitarian emergencies, in particular support to IDPs and local development issues. Lastly, the “prevention zones” are areas facing risks of conflict extension. In these areas, emphasis should be placed on preventive actions to consolidate social cohesion and the resilience of public institutions and populations through more inclusive local governance and service delivery. This categorization of zones should be regularly updated, so that governments can respond to the evolution of the situation on the ground by adjusting planning and implementation.

Governments can adjust interventions to the level of fragility in each zone, adapting programs and policies in areas like teacher recruitment and the deployment and use of appropriate EdTech. The sections above have already identified a number of interventions that may be best suited to overcoming constraints in the more FCV-affected zones, such as local recruitment of teachers. Governments can also consider using EdTech programs to facilitate learning in FCV settings. Children living with the effects of armed conflict currently have little or no access to education. These children live in environments where classrooms are inaccessible or dangerous. And where schooling is accessible, it is often of low quality, because teachers are overburdened, and classes are made up of children with different and conflicting needs. These challenges have resulted in a growing education gap. To help close this education gap for conflict-affected children, Sahelian countries can consider using EdTech programs tailored to these contexts. One example is the Can't Wait to Learn Initiative, which uses gaming technology to deliver education to conflict-affected children in both formal and out-of-school settings in Sudan, Uganda, Lebanon, Jordan, Chad, and Bangladesh. The program partners with ministries of education, and it uses a delivery system designed to operate well in low-infrastructure environments.

2.4. Beyond the system: financing and technology for education transformation

Expanding access while implementing the game-changers and systemic improvements outlined above will require Sahel governments—especially Chad, Mali, Mauritania, and Niger—to spend far more on education than they do today. Figure 32 below shows how far Chad, Mali, Mauritania, and Niger are below the lower-middle-income country averages of both total government spending relative to GDP and education’s share of spending (represented by the vertical and horizontal lines, respectively). Moreover, the dashed curve in Figure 32 outlines the combinations of total government spending and the share going to education that are equivalent to public spending on education of 6 percent of GDP, the global target for low-income countries that have not yet achieved universal primary education.¹⁸⁴ In the Sahel, only Burkina Faso is approaching this benchmark.

At the same time, international development assistance, while playing an important role in sector financing, is limited and unlikely to increase significantly. Globally, the share of education in allocatable aid has remained steady around 10 percent over the last decade, and for SSA is projected to stay at or below about 0.3 percent of the region’s annual GDP.¹⁸⁵ For the Sahel, as discussed earlier, international development assistance accounts for about 10 percent of total spending on education, less than a third of what households spend. For the World Bank specifically, education investments in the Sahel have been falling on a per-capita basis since the 1990s and have been lower than in other countries in West and East Africa (Table 11).

Sustainably increasing education spending will therefore require a combination of raising education’s share of total public spending, improving the efficiency of education spending, and most fundamentally improving domestic revenue mobilization and creating more fiscal space. Without a coordinated effort across these three fronts, none of the four countries (other than Burkina Faso) can be expected to achieve the 6 percent spending target (Figure 32). For example, given current level of public spending, Mauritania would have to devote more than a third of its overall budget to education to reach that target. Given competing priorities, including the security sector, such allocations are improbable at best. In addition, all five of the Sahel countries are at moderate or high risk of debt distress, constraining

Table 11: World Bank financing of education in the Sahel

	IDA/IBRD Investments in Education, USD (2010) per capita per decade			
	1980s	1990s	2000s	2010s
Burkina Faso	0.74	0.85	0.74	0.37
Chad	0.53	1.13	0.70	0.46
Mali	0.42	1.68	1.07	0.34
Mauritania	1.28	4.54	3.36	0.63
Niger	0.80	0.93	0.35	0.22
Sahel 5	0.67	1.35	0.86	0.35
Benin	0.93	0.63	0.44	0.59
Cote d'Ivoire	0.31	2.48	1.01	0.18
Ghana	0.38	3.13	1.22	0.65
Guinea	0.48	0.52	1.97	0.22
Senegal	0.81	1.09	1.15	1.21
Other W. Africa	0.51	1.98	1.16	0.55
Ethiopia	0.30	0.17	0.27	0.76
Kenya	1.00	2.54	0.43	0.14
Rwanda	0.25	0.49	0.53	1.01
Tanzania	0.39	0.35	2.24	0.40
Uganda	0.38	1.23	1.17	0.60
East Africa 5	0.46	0.84	0.85	0.55

Sources: [World Bank Group Financial Data](#) and World Development Indicators

their ability to borrow in order to fund public spending.¹⁸⁶ Therefore, concerted efforts around domestic resource mobilization will be critical in the medium term to realize the improvements needed in education.

Moreover, Sahel countries could reconsider their sub-sectoral allocations within education. In particular, Burkina Faso, Chad, Mauritania, and Niger should reassess the large allocations to tertiary education, which mainly benefits the highest socioeconomic classes, in contrast to the limited public financing that goes to secondary education. Under-financing of secondary education is also likely to become a more significant constraint as more children complete primary and aspire to continue their education.

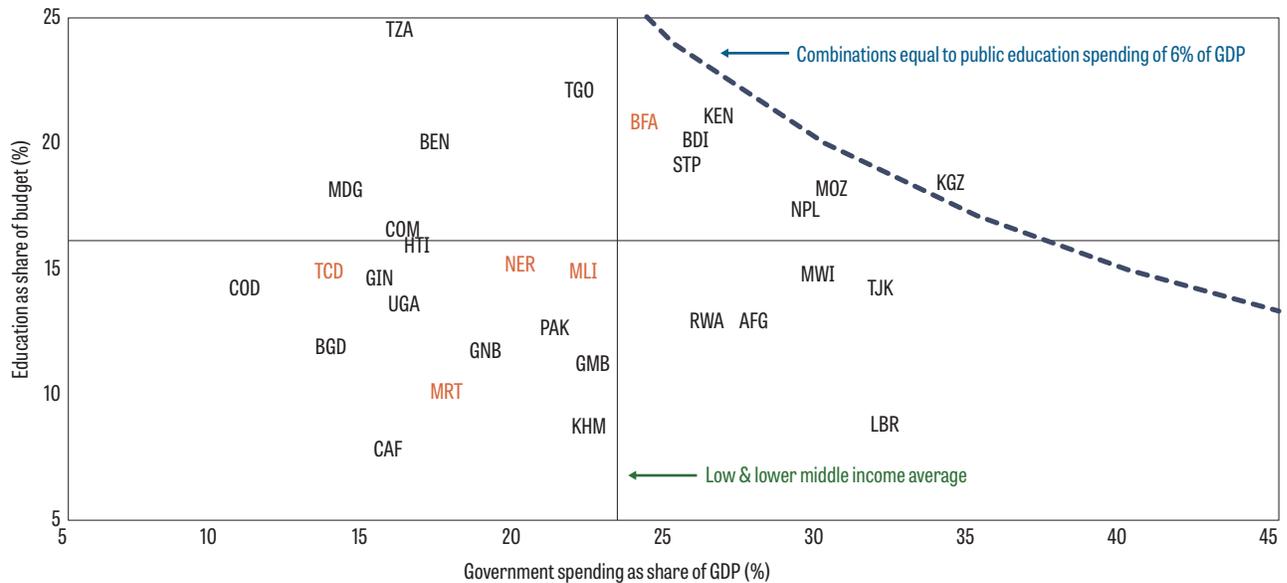
To illustrate the magnitude of the financial challenge, in order to absorb the enrollment increases driven by im-

184 UNESCO (2016).

185 Lewin (2019); Al-Samarrai and others (2019).

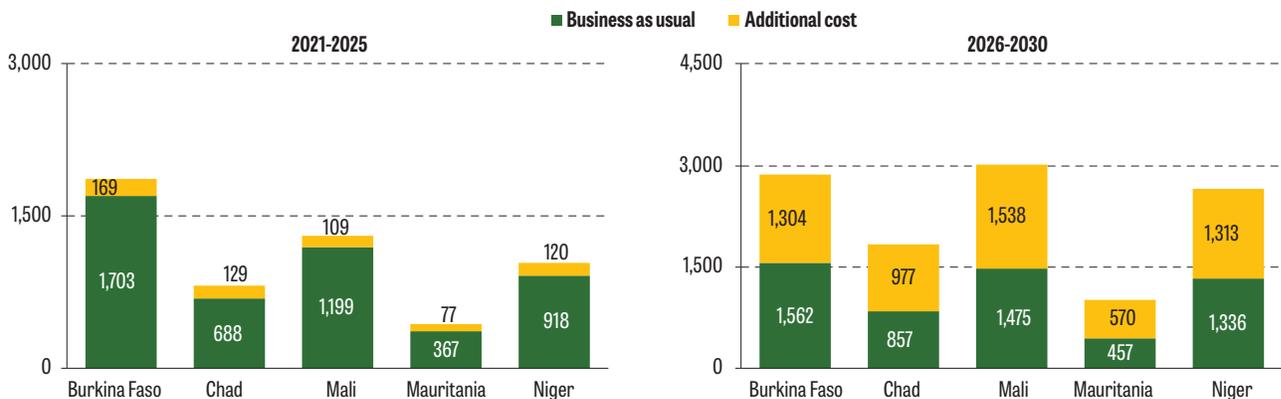
186 <https://www.worldbank.org/en/programs/debt-toolkit/dsa>

Figure 32: Education as a share of total government budget and government spending as a share of GDP in low-income and lower-middle-income countries (%), 2017-19



Source: World Bank calculations based on World Development Indicators, UIS and IMF.
 Note: BFA=Burkina Faso; MLI=Mali; MRT=Mauritania; NER=Niger; TCD=Chad.

Figure 33: Additional cost of primary education delivery for 2021-2025 and 2026-2030 (million US\$)



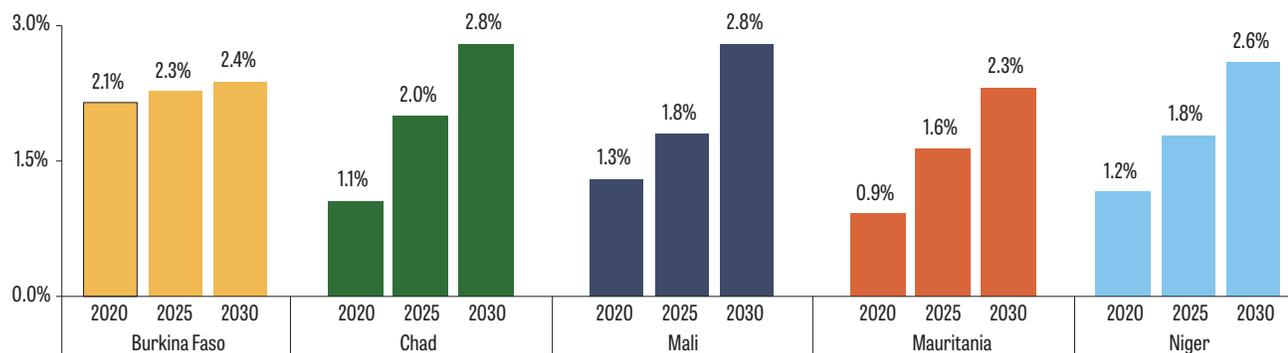
Source: Authors' simulation model.

proved quality and student flow in primary education will likely bring additional cost. Results from simulations show that based on the current development trends in countries' education systems—a “business as usual” scenario—primary education enrollment numbers will increase significantly. The increase in enrollment figures between 2021 and 2030 is equivalent to 4.2 million more children studying, or an increase of 36 percent on average. Absorbing the enrollment increases driven by improved quality and student flow in primary education will likely bring additional cost: from US\$ 70.4 million in Mauritania to US\$ 175.9 million in Burkina Faso on average per year in 2020-2030 (Figure 33). Meeting this challenge would require some countries to double public

expenditures on primary education relative to GDP (Mali, Niger), while Chad will have to almost triple its public spending on primary education (Figure 34). The methodological note used for the simulation model is presented in Annex B.

Finally, as more technological infrastructure comes online across the Sahel—in particular solar energy and digital connectivity – more rapid transformation will be possible at every level of the education system. Throughout this paper, examples of promising uses of technology have been cited with the caveat of limited applicability, given the scarcity of electricity and connectivity across the Sahel. However, there is reason for hope, as ambitious initiatives

Figure 34: Cost of primary education, as % of projected GDP



Source: Simulation model

to bring all Sub-Saharan Africans online gain momentum, like the African Union’s Digital Transformation Strategy, the GIGA Initiative, and the forthcoming Global Declaration on Connectivity for Education.¹⁸⁷ Reliable and affordable connectivity could enable schools and systems across the Sahel to break through multiple constraints, and obtain more effective teacher support, utilize software that targets learning at the right level, access more and better learning materials, and leverage insights from accurate management data systems. Estimates suggest that if school connectivity in Niger improved to the level of Rwanda (with the high-

est school connectivity level among developing countries), learning-adjusted years of schooling could increase by 10 percent and boost GDP per capita by up to 20 percent.¹⁸⁸ This of course assumes that energy and connectivity are effectively leveraged for learning, including to enable the reforms throughout this paper. They need to be combined with other learning-focused improvements—for example, teacher support, pedagogy and curriculum, and governance—for countries to reap the full benefits of those investments. But if this happens, it could ignite a truly transformative cycle of change.

¹⁸⁷ <https://gigaconnect.org/updates/>; <https://au.int/en/documents/20200518/digital-transformation-strategy-africa-2020-2030> <https://globaleducationcoalition.unesco.org/home/flagships/connectivity>

¹⁸⁸ https://connectinglearners.economist.com/data/EIU_Ericsson_Connecting.pdf

3. CONCLUSION



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The education challenges facing the Sahel region are many and daunting. Understanding these constraints and how they hold back progress is a crucial first step, which is why this White Paper opened with an in-depth diagnosis. Poverty, fragility, conflict, and climate change create an environment in which even a well-managed and well-resourced school system would struggle to deliver good outcomes. On top of that, there are many challenges in the school system. At the school level, there are large gaps in all the major elements of effective education—children and youth in school and prepared to learn, teachers who are prepared and supported, learning resources well adapted to the context, and school infrastructure that provides a safe environment conducive to learning. In addition, low levels of capacity and poor accountability mean that management is weak, both in schools and at the system level. And the very low levels of education financing and inefficiency at translating money into outcomes mean that systems lack the resources that could make reforms easier.

But opportunity abounds too, and the region has many successes and strengths to build on. It has managed to enroll many more children into school in recent decades, increasing enrollment rates even in the face of very rapid population growth. The region can draw on the strengths of its communities, which can compensate for weaknesses in government capacity. Another potential strength is the vitality of the non-state education sector, which could be a powerful force for progress if policy can orient it toward achieving societal goals. In addition, regional cooperation can help in building the future. All of this opens an opportunity for building education into not only a fount of prosperity and peace for the future, but a place of rich experiences and growth for today's children and youth.

Seizing this opportunity requires political will. The political will cannot be just that of enlightened leaders, although leadership is necessary. Instead, society as a whole must commit to building its future through education. This means a commitment to prioritizing schooling and learning for all children and youth, and making decisions that affect education with that goal in mind.

But beyond a clear-headed diagnosis and political will, countries also need a good game plan. This White Paper has proposed a two-part strategy for progress. First, focus action on a small number of game-changer policies and programs, aiming to achieve explicit targets in key areas—cutting learning poverty, increasing secondary education for girls, and increasing adult literacy. Prioritizing these areas could lead to measurable advances by 2025 and 2030. Second, begin immediately to carry out longer-term system strengthening in key areas, such as building up pre-primary education, strengthening teacher preparation and governance, and reforming curriculum and assessment. Finally, to make all this possible, increase education financing from its very low current levels and make better use of technology.

These ideas are meant to catalyze action and inform countries' own strategies. They are informed by the region's own efforts, the World Bank's extensive experience in the region and around the world, and by the experience of many partners. But making progress will depend on countries taking these ideas and using them to develop the strategies that will work best for them, which will be possible only if there is political will to make learning of all children and youth a true priority.

Strengthening education and human capital is the region's only real choice—and that's a good thing. The region's population continues to surge, with the number of children and youth growing faster than in any other region. The countries of the Sahel therefore face a choice that is not really a choice: Do they want their communities and workplaces in a decade or two to be filled with a huge cohort of young people who either haven't gotten an education or who have discovered their credentials do not translate into actual skills, productivity, or employment? Especially given the higher aspirations of today's youth, which are fueled by an awareness of what is happening elsewhere in the world, this is a recipe for disillusionment and strife. Or will the Sahel countries commit themselves—at a societal level, not just within the ministries of education—to nurturing the human mind, which is the most powerful driver of prosperity, poverty reduction, and human flourishing?



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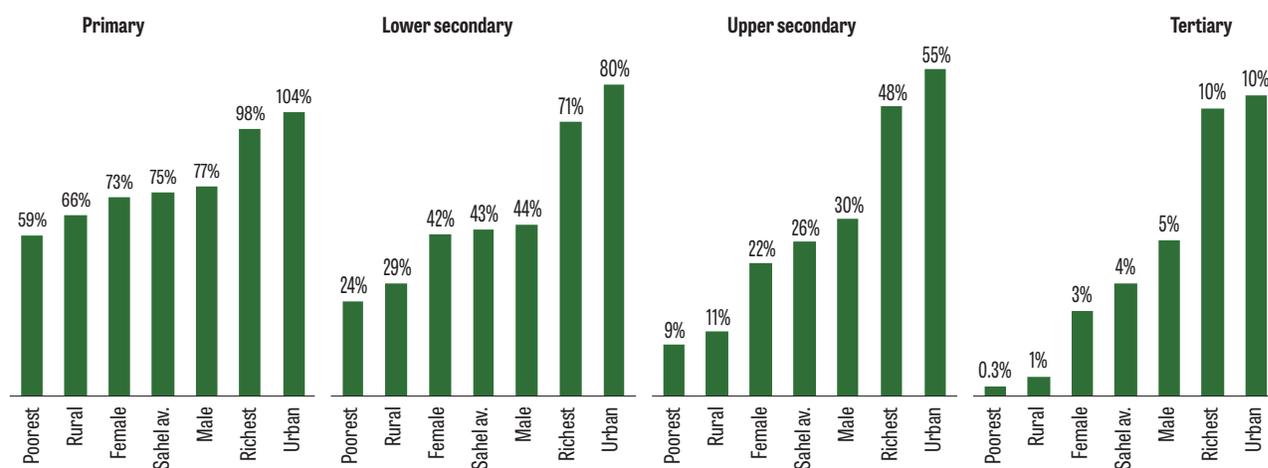


4. ANNEXES

PHOTO BY: © VINCENT TREMEAU / WORLD BANK

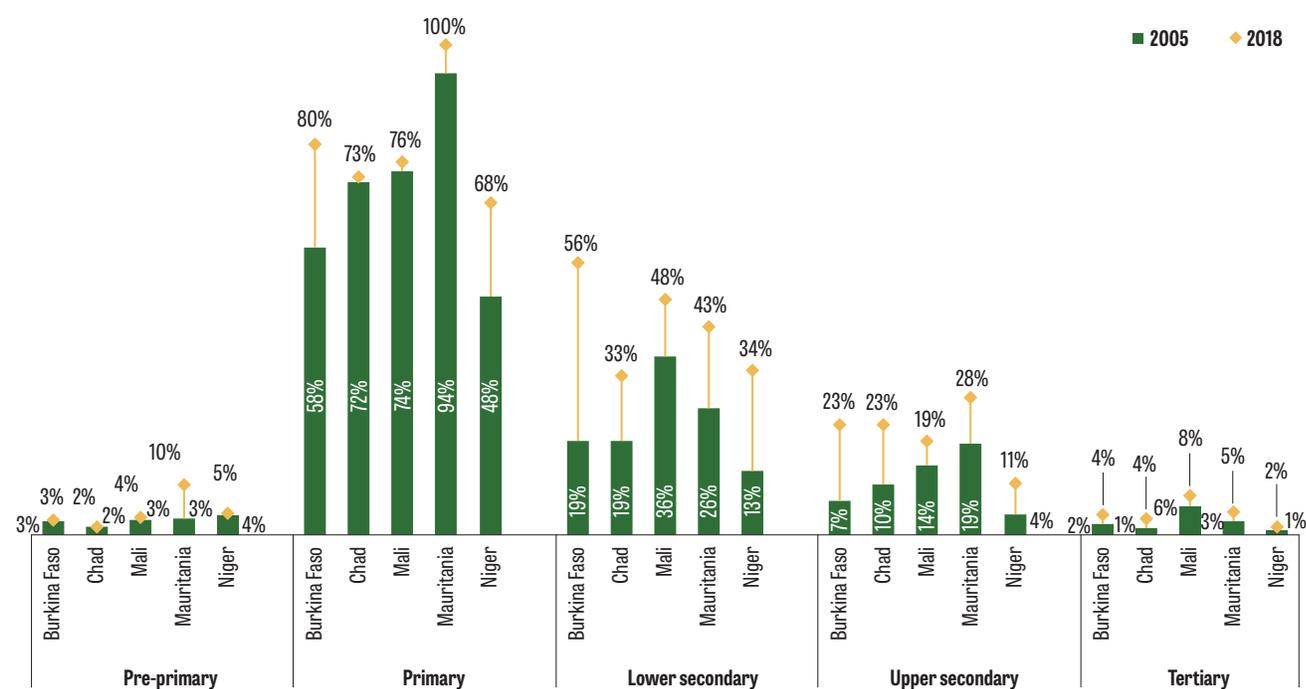
Annex A. Figures

Figure A 1: GER by level of education, gender, area, and wealth quintile



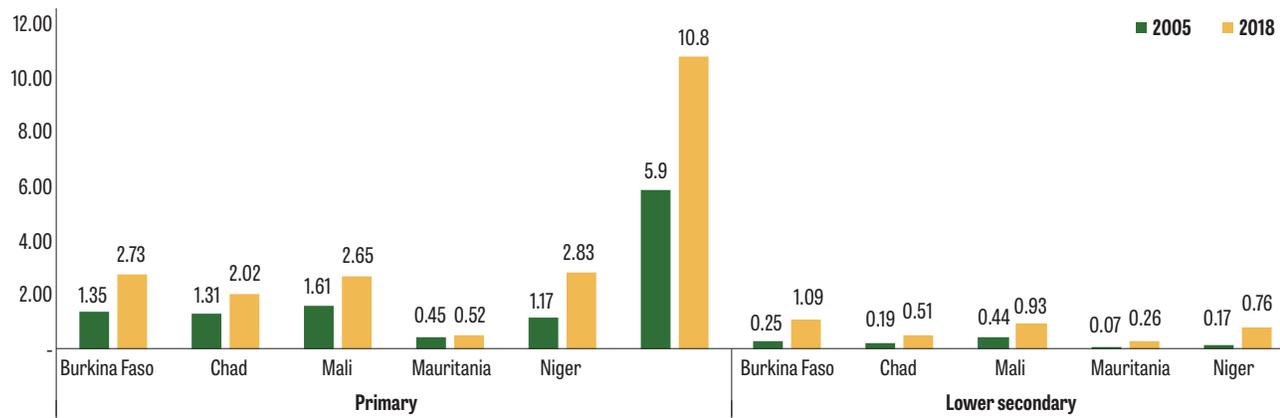
Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2014 for Mauritania.

Figure A 2: Trends in Gross Enrollment Rate (GER) by level of education and country



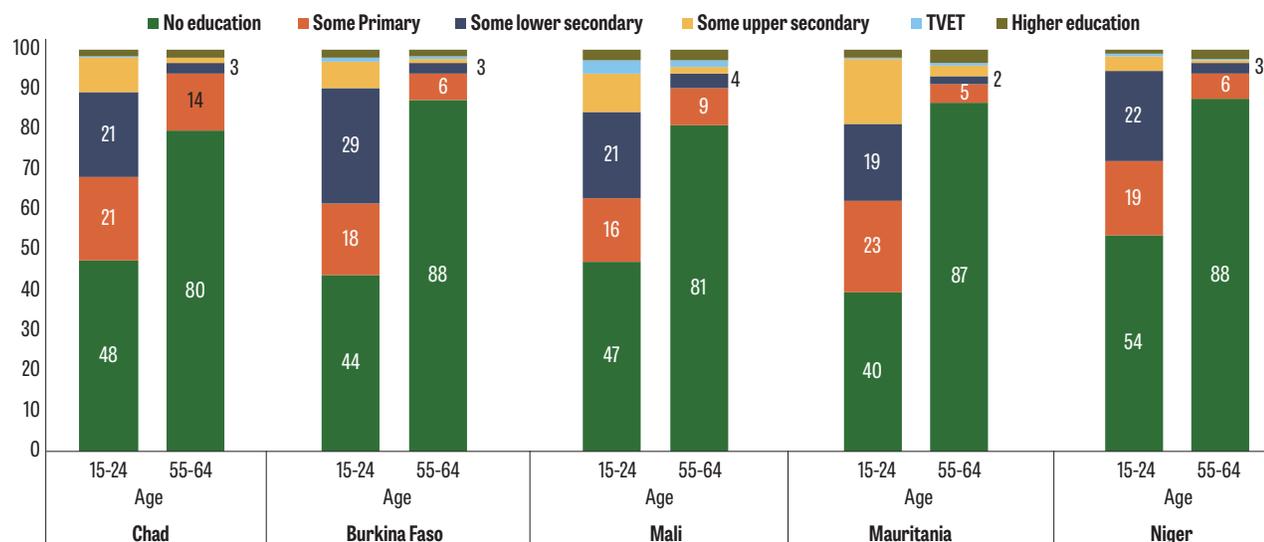
Source: EdStats and authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2019 for Mauritania.
Note: The base year for the Pre-primary GER is 2010. The base year for Tertiary GER for Mali is 2008.

Figure A 3: Trends in actual number enrolled in basic education (in millions)



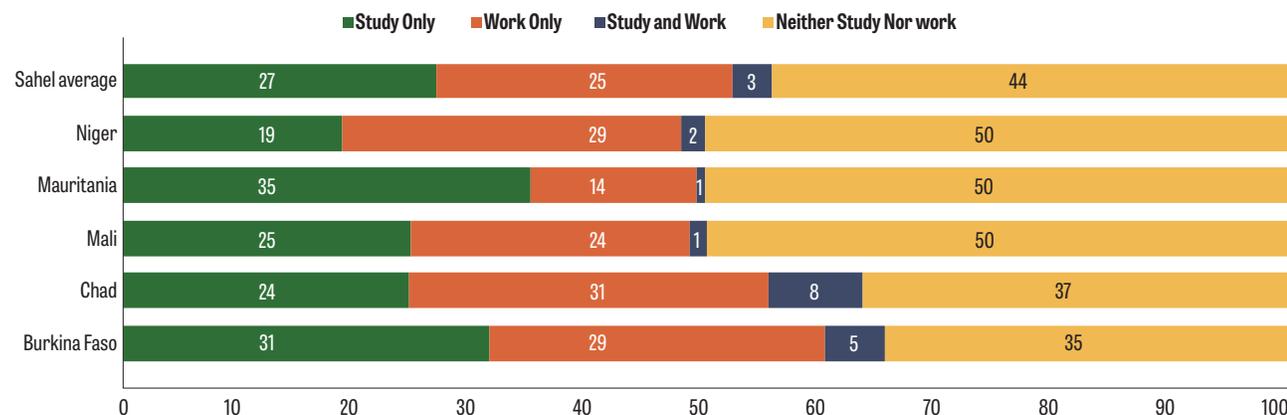
Source: EdStats and authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2019 for Mauritania.

Figure A 4: Average education of the labor force, for younger and older cohorts by country

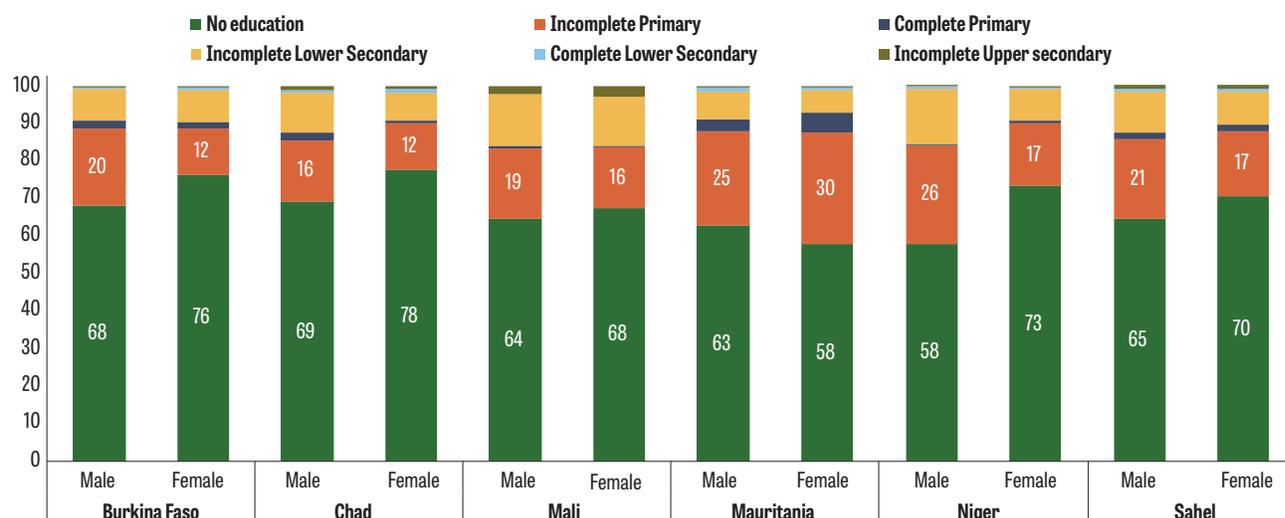


Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2019 for Mauritania.

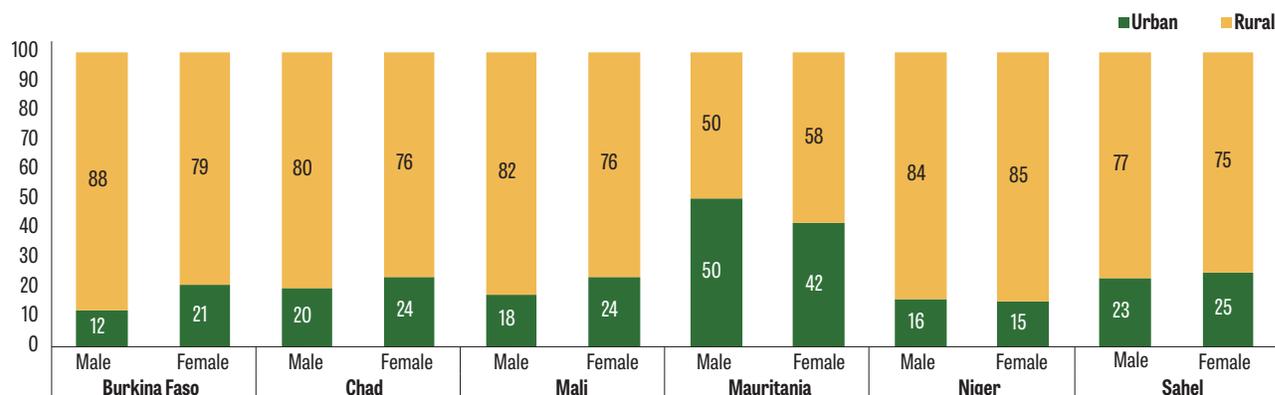
Figure A 5: Youth activity (ages 15 to 24) in Sahelian countries, both sexes



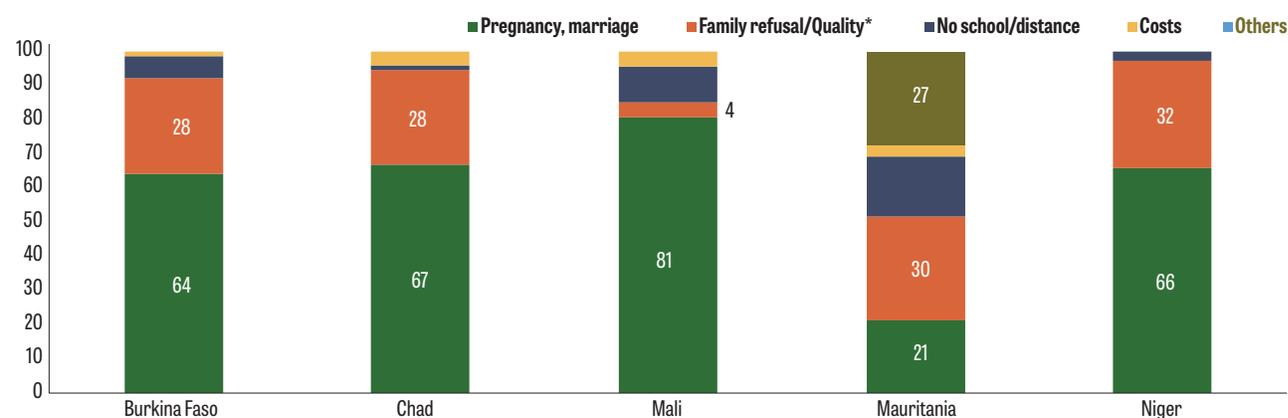
Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger and EPCV 2014 for Mauritania.

Figure A 6: Educational attainment of inactive youth (15-24)

Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2014 for Mauritania.
Note: *That neither Study nor Work

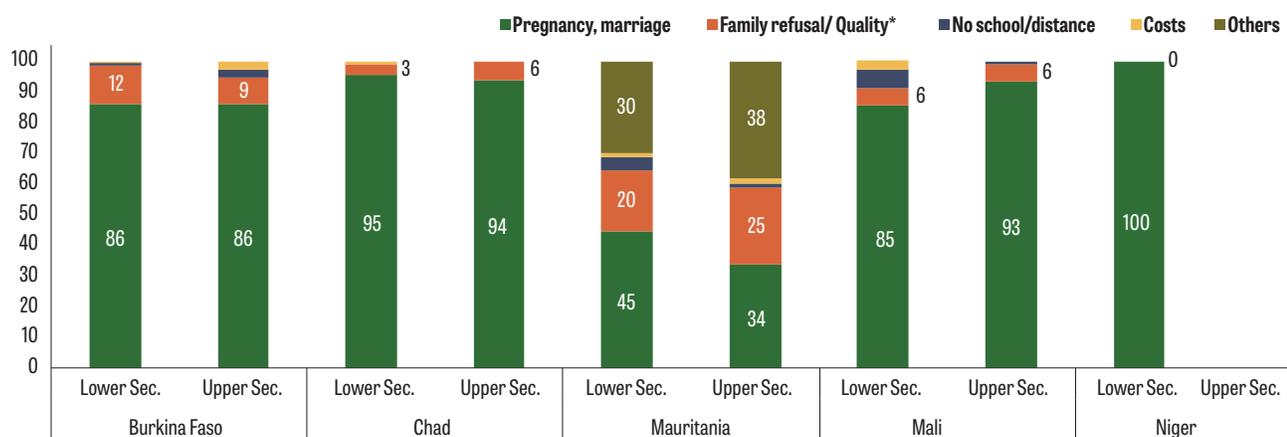
Figure A 7: Area of residence of inactive youth (15-24)

Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2014 for Mauritania.
Note: *That neither Study nor Work

Figure A 8: Reasons for dropping out of school after primary school completion (Girls)

Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2014 for Mauritania.
Note: *The reason is labelled as "Quality" in Mauritania EPCV 2014 only.

Figure A 9: Reasons for dropping out of secondary school after starting it (Girls)



Source: Authors' estimates based on EHCVM 2018 for Burkina Faso, Chad, Mali, and Niger; and EPCV 2014 for Mauritania.
 Note: *The reason is labelled as "Quality" in Mauritania EPCV 2014 only.

Annex B. Simulation Model

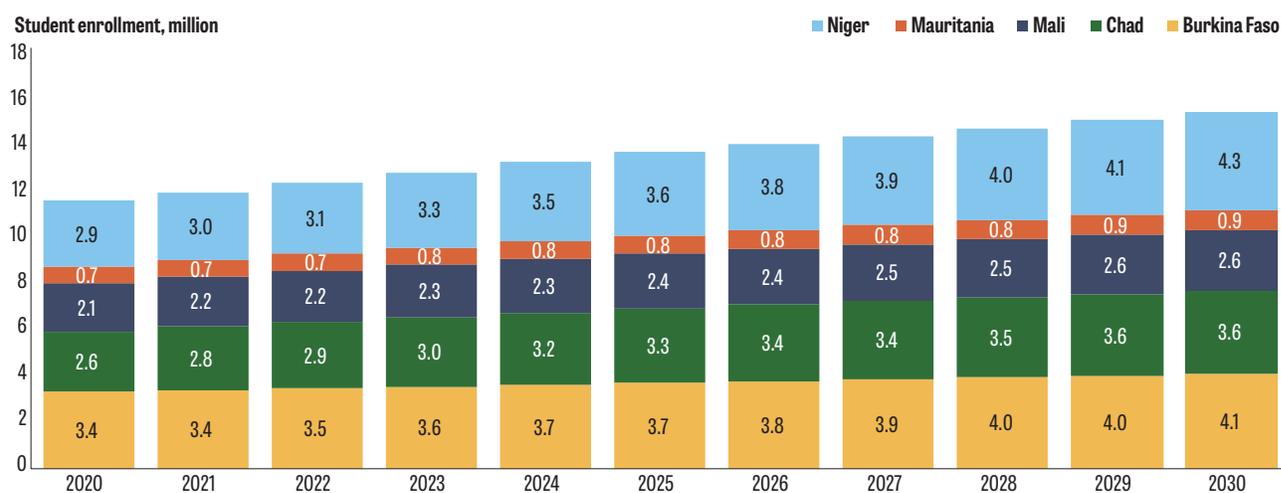
This Annex presents the findings of a simulation exercise in terms of enrollment projections and associated costs for universalizing primary education in the Sahel region. The note presents a specific set of estimates derived from a simulation model to estimate student enrollment and cost projections under different assumptions and scenarios. The tool estimates the cost of universalizing primary education up to 2030, based on enrollment estimates employing UN population projections and recent trends in promotion and retention rates. The tool allows adjusting target values for intake, promotion, and repetition rates to test various scenarios.

The projections employ a reconstructive cohort method to calculate the enrollment flow, using several key assumptions on the inputs. The assumptions are: (i) the growth in the appropriate age for the particular level of education—ages 6-11 for primary education in Burkina Faso, Chad, Mali, Mauritania, and ages 7-12 in Niger—follows the UN projections; (ii) the current pattern of student flow (intake, promotion, repetition, and transition rate) is extrapolated based on the trend based on the 2014-2019 data; (iii) the cost of primary education delivery, expressed as the share of GDP per capita, is to gradually grow to reach the global average by 2030; (iv) GDP per capita follows IMF projections for GDP and UN population projections; and (v) universal primary education is assumed to be achieved by 2030, in line with the Sustainable Development Goal #4 (SDG).

Enrollment Projections

Based on the current development trends in countries' education systems—a “business as usual” scenario—primary education enrollment numbers will increase significantly but not GERs. The increase in enrollment figures between 2021 and 2030 is equivalent to 4.2 million more children studying, or an increase of 36 percent on average (Figure A 10). The largest increase in the student enrollment is to occur in Niger (79 percent), followed by Mauritania (26 percent), Mali (24 percent), and Burkina Faso (23 percent). At the same time, it is expected that the GER will increase marginally. Only Chad, due to its high repetition rates, around 17 percent, will manage to reach the GER of 100 percent. In Mauritania, the GER in primary education was high already in 2018/19—98 percent, and it is expected to grow marginally by 3 percentage points.

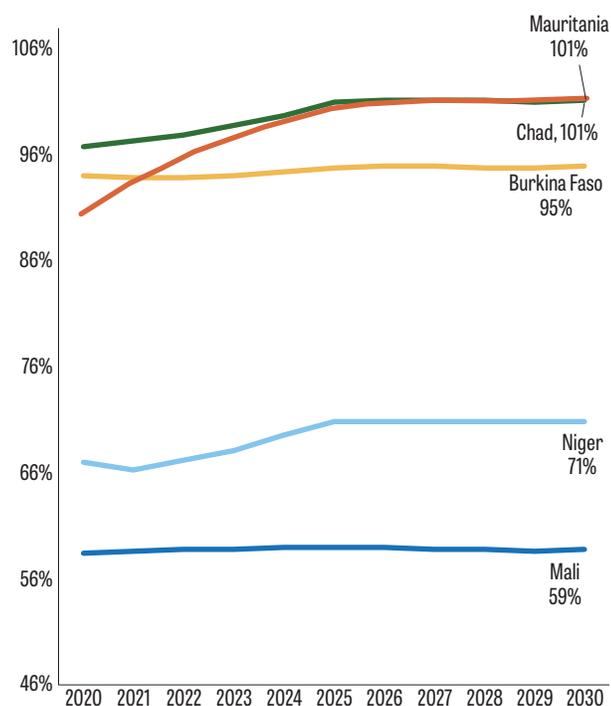
Figure A 10: Student enrollment projections in primary education under the ‘Business as Usual’ scenario, million



Source: Simulation model

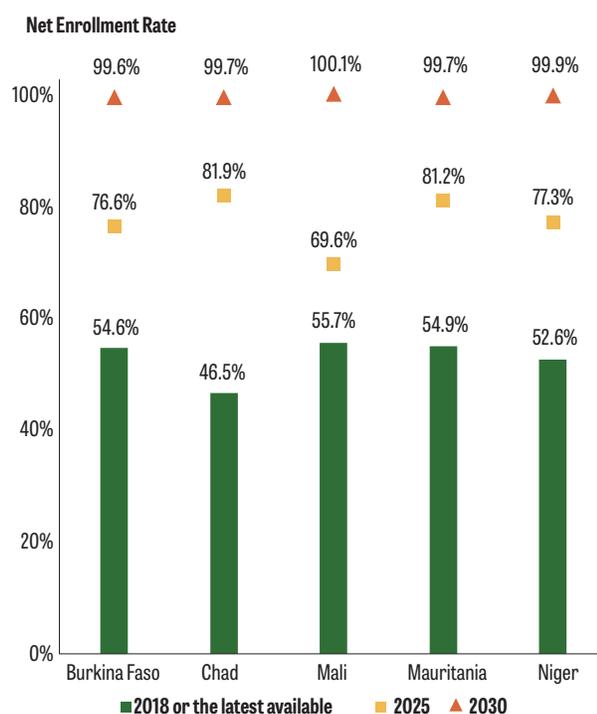
A closer look at the data from household surveys reveals that many children are not covered by education, and due to high repetition, a large share of students are overaged. Only half of 6-to-11-year-olds (7-to-12-year-olds in Niger)—the official schooling age in the Sahel countries—are in school. The Net Enrollment Rate (NER) varies from 46.5 percent in Chad (MICS 2019) to 55.7 percent in Mali.

Figure A 11: Projected Gross Enrollment Rates in primary education under the ‘Business as Usual’ scenario



Source: Simulation model

Figure A 12: Projected Net Enrollment Rates in primary education under alternative “Efficient” scenario, 2020-2030 (percent)

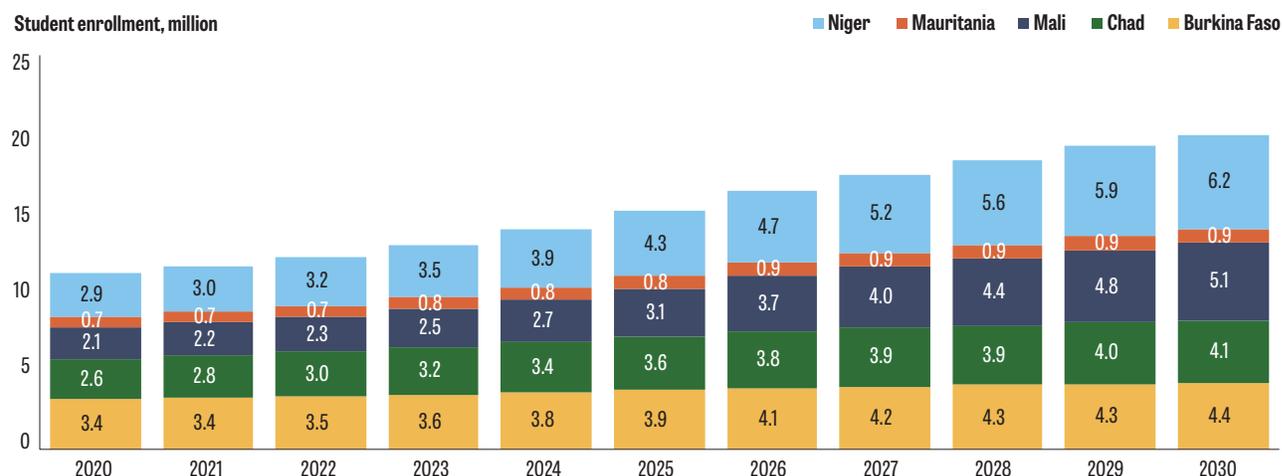


Source: 2018—MICS/Household surveys; 2025 and 2030—simulation model.

Fulfilling the countries’ commitment to SDG#4 and universal primary education by 2030 implies improvement in system efficiency that leads to more children completing the primary cycle and transitioning on to secondary school. A scenario with a gradually improving system efficiency in 2021-2030 includes increases in gross intake and promotion rates and declines in repetition rates (see details on model assumptions in table A2 further below), as well as absorption of out-of-school children. This more efficient education system would allow achievement of 100 percent Net Enrollment Rate in primary education (see Figure A 12). The GER would go above 100 percent due to repetition and enrollment of overaged children. Under this scenario, school enrollment would more than double in Niger and Mali, and increase by 56 percent in Chad and by 1/3 in Burkina Faso and Mauritania. The number of students in the five countries would increase from 11.5 million in 2019 to 20.8 million in 2030. Achieving such a rapid expansion entails the retention of more children in schools, improving the acquisition of skills in primary education and allowing the majority of students who reach the end of primary to graduate successfully.

Absorption of out-of-school children of primary school age (6/7- to 11/12-year-olds) by education systems would further increase enrollments. As a result, the number of students in primary education would increase on average by 5.9 percent per year on average in 2021-2030. Figure A 13 below shows enrollment projections until 2030 under the expansion scenario with gradually improving system policies and efficiency and including absorption of out-of-school children.

Figure A 13: Student enrollment projections in primary education under the “Efficient System” scenario, million

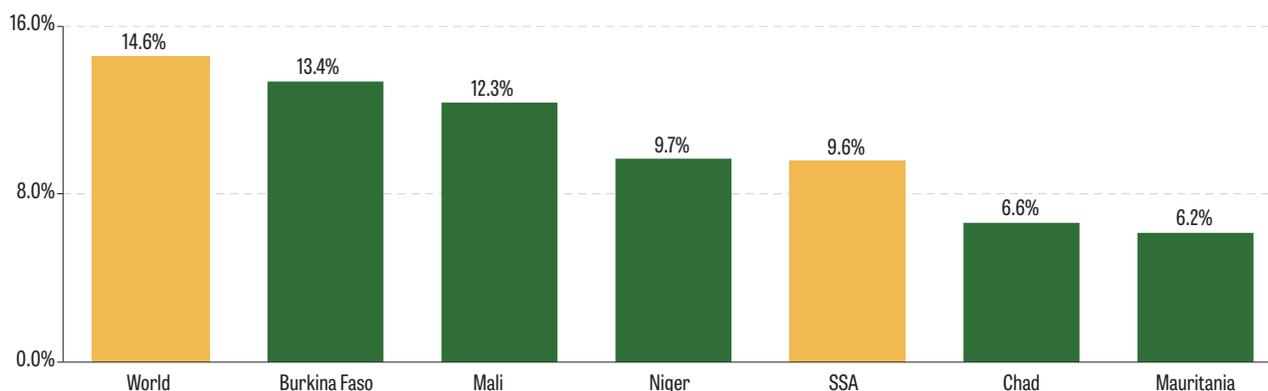


Source: Simulation model

Cost of universal primary education

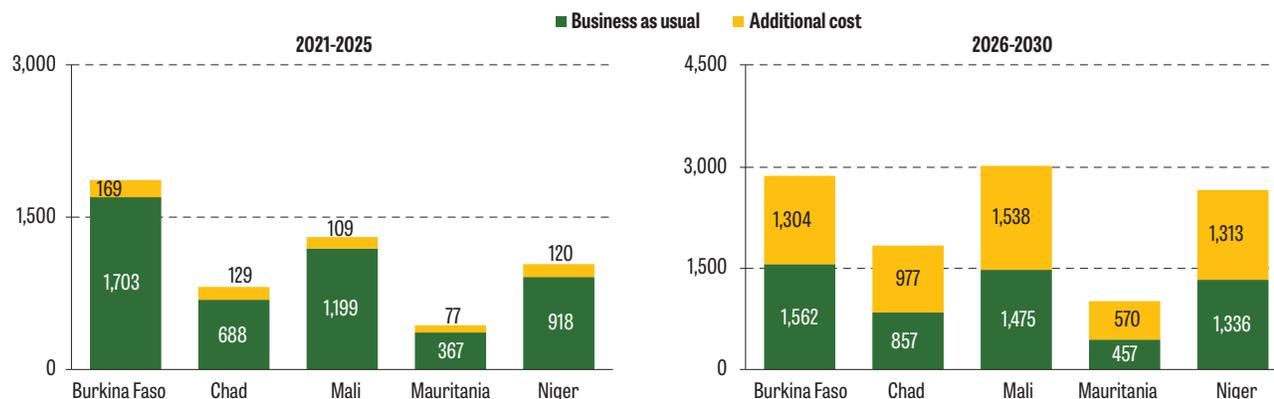
The amount of financial resources that countries allocate to education differs both in nominal and relative terms. While upper-middle countries spend around US\$ 2,504 per primary education child, low-middle-income countries spend US\$ 891, and low-income countries only US\$ 188. Reaching quality primary education requires countries to gradually increase education financing. In this exercise, we model gradually increasing spending per primary education student relative to GDP per capita from its baseline values to the global average of 14.6 percent (Figure A 14).

Figure A 14: Spending per primary education student as % of GDP per capita (2019 or the latest available data)

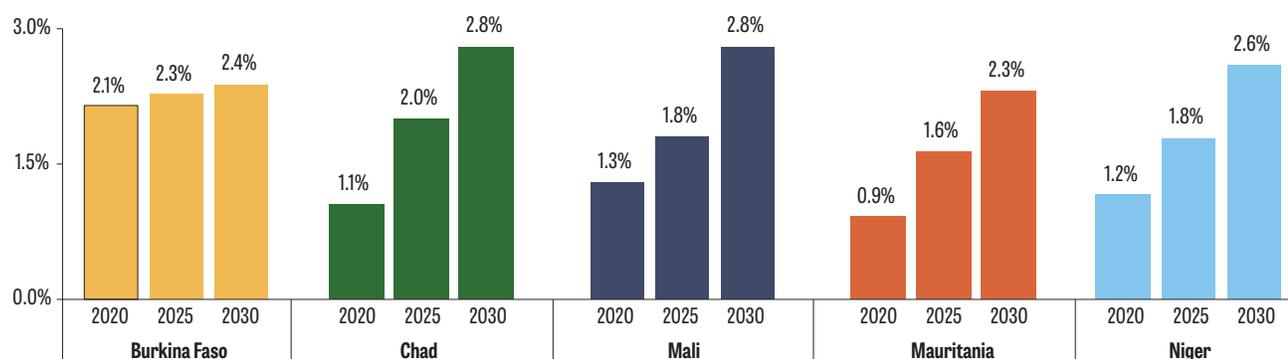


Source: UNESCO UIS

Absorbing the enrollment increases driven by improved quality and student flow in primary education will likely bring additional cost: from US\$ 70.4 million in Mauritania to US\$ 175.9 million in Burkina Faso on average per year in 2020-2030 (Figure A 15). Meeting this challenge would require some countries to double public expenditures on primary education relative to GDP (Mali, Niger), while Chad will have to almost triple its public spending on primary education (Figure A 16).

Figure A 15: Additional cost of primary education delivery for 2021-2025 and 2026-2030 (million \$US)

Source: Simulation model

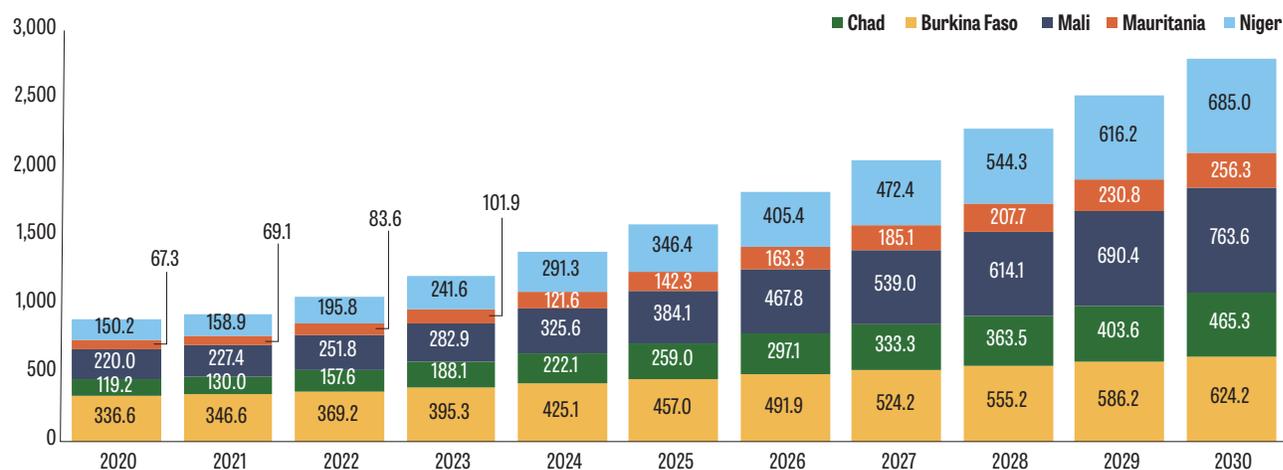
Figure A 16: Cost of primary education, as % of projected GDP

Source: Simulation model

Table A1: Cost of primary education under alternative 'Efficient' scenario, 2020-2030

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
In million US\$											
Burkina Faso	336.6	346.6	369.2	395.3	425.1	457.0	491.9	524.2	555.2	586.2	624.2
Chad	119.2	130.0	157.6	188.1	222.1	259.0	297.1	333.3	363.5	403.6	465.3
Mali	220.0	227.4	251.8	282.9	325.6	384.1	467.8	539.0	614.1	690.4	763.6
Mauritania	67.3	69.1	83.6	101.9	121.6	142.3	163.3	185.1	207.7	230.8	256.3
Niger	150.2	158.9	195.8	241.6	291.3	346.4	405.4	472.4	544.3	616.2	685.0
As % of GDP											
Burkina Faso	2.1%	2.1%	2.1%	2.2%	2.2%	2.3%	2.3%	2.3%	2.3%	2.3%	2.4%
Chad	1.1%	1.1%	1.3%	1.4%	1.6%	1.9%	2.0%	2.2%	2.3%	2.5%	2.8%
Mali	1.3%	1.3%	1.3%	1.4%	1.6%	1.8%	2.1%	2.3%	2.5%	2.6%	2.8%
Mauritania	0.9%	0.9%	1.1%	1.2%	1.4%	1.6%	1.7%	1.9%	2.0%	2.1%	2.3%
Niger	1.2%	1.1%	1.3%	1.4%	1.6%	1.8%	1.9%	2.1%	2.3%	2.5%	2.6%

Source: Simulation model

Figure A 17: Cost of primary education, million \$US

Source: Simulation model

Simulation model assumptions

	Burkina Faso			Chad		
	Baseline	Target	Target	Baseline	Target	Target
	2019/20	value	year	2019/20	value	year
Intake rate to grade 1	106%	100%	2026	128%	100%	2029
Promotion rates						
Grade 1->2	89%	99.5%	2026	62%	95.0%	2028
Grade 2->3	92%	99.5%	2026	69%	95.0%	2028
Grade 3->4	86%	99.5%	2026	66%	95.0%	2029
Grade 4->5	89%	99.5%	2026	66%	95.0%	2029
Grade 5->6	81%	98.0%	2026	68%	95.0%	2029
Repetition rates						
Grade 1	1.6%	0.5%	2026	18.7%	5.0%	2028
Grade 2	5.6%	0.5%	2026	17.5%	5.0%	2028
Grade 3	4.0%	0.5%	2026	17.0%	5.0%	2029
Grade 4	7.5%	0.5%	2026	17.5%	5.0%	2029
Grade 5	5.1%	2.0%	2026	16.3%	5.0%	2029
Grade 6	17.0%	2.0%	2026	17.6%	5.0%	2029
Government spending						
Per primary student as % of GDP per capita	13.4%	14.6%	2030	6.6%	14.6%	2030

	Mali			Mauritania		
	Baseline	Target	Target	Baseline	Target	Target
	2019/20	value	year	2019/20	value	year
Intake rate to grade 1	55%	100%	2027	107%	100%	2030
Promotion rates						
Grade 1->2	82%	93.0%	2030	98%	99.0%	2029
Grade 2->3	78%	93.0%	2030	91%	98.0%	2029
Grade 3->4	71%	94.0%	2030	84%	98.0%	2029
Grade 4->5	66%	94.0%	2030	83%	97.5%	2029
Grade 5->6	62%	95.0%	2030	84%	96.0%	2030
Repetition rates						
Grade 1	14.8%	7.0%	2030	1.0%	1.0%	2029
Grade 2	15.0%	7.0%	2030	3.3%	2.0%	2029
Grade 3	21.2%	6.0%	2030	4.7%	2.0%	2029
Grade 4	23.1%	6.0%	2030	5.2%	2.5%	2029
Grade 5	24.8%	5.0%	2030	6.4%	4.0%	2030
Grade 6	22.9%	5.0%	2030	11.2%	4.0%	2030
Government spending						
Per primary student as % of GDP per capita	12.3%	14.6%	2030	6.2%	14.6%	2030

	Niger		
	Baseline	Target	Target
	2019/20	value	year
Intake rate to grade 1	88%	100%	2025
Promotion rates			
Grade 1->2	84%	99.9%	2027
Grade 2->3	91%	98.4%	2028
Grade 3->4	91%	98.0%	2028
Grade 4->5	91%	97.5%	2028
Grade 5->6	88%	97.2%	2028
Repetition rates			
Grade 1	0.1%	0.1%	2028
Grade 2	1.6%	1.6%	2028
Grade 3	2.0%	2.0%	2028
Grade 4	2.5%	2.5%	2028
Grade 5	2.8%	2.8%	2028
Grade 6	8.8%	5.0%	2028
Government spending			
Per primary student as % of GDP per capita	9.7%	14.6%	2030



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