



WESTERN AND CENTRAL AFRICA EDUCATION STRALEGY

FROM SCHOOL TO JOBS: A JOURNEY FOR THE YOUNG PEOPLE OF WESTERN AND CENTRAL AFRICA

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Foreword

Education is the cornerstone of development. Indeed, it is an essential driver of stability, social cohesion, and peace. Our countries need to invest in learning today to build the Western and Central Africa of tomorrow.

This strategy is about the journey of six-year-old Ama and all our children in the region — from very early in her life when she is part of a stimulating environment that prepares her for lifelong learning, from the day she enters the classroom for her first day of school, and until she completes her tertiary education with all the skills required for her to obtain a good job and fulfill her aspirations as an accomplished young person. Ama will need the support to complete her schooling in a safe and nurturing environment with textbooks and well-trained teachers.

Despite progress in access to education over the years, 80 percent of 10-year-old children in Western and Central Africa are unable to read and understand a simple text, and more than 32 million children remain out of school, the largest share of all regions worldwide. Even before the pandemic, the world was already experiencing a learning crisis. If we are to take on this global challenge, we must focus on Western and Central Africa, a region with half a billion people and amongst the youngest population in the world.

Putting our young people first is at the heart of our work. The future of any society lies in its ability to provide its children and youth with the tools and opportunities to flourish as individuals, and to contribute to the collective development of the society and country. This can only be achieved through an education system that is accessible to everyone. Such a system must be fair and adapted to the needs of the current and future populations, as well as the labor market.

This document is a roadmap for World Bank investments in improving educational outcomes at all levels in our countries. It is not a strategy for the education sector; rather, it is a strategy to bring a whole-of-society and a whole-of-government approach to foster strong cross-sector collaboration and partnerships to improve learning and equip our youth with the right skills for good jobs. It also builds on the Sahel Education White paper, which proposes solutions to the Sahel subregion's unique challenges. Finally, it aligns with the World Bank Africa Human Capital Plan and the African Union's 2063 Africa Agenda.

I believe we can achieve the vision of a region where no one is left behind. To accomplish this, we first need a strong political commitment to advance reforms, putting education at the cornerstone of our countries' development strategies and prioritizing investments accordingly. Countries in the region can learn from their own experiences and expand and adapt existing high-impact interventions to local country contexts. Together with all our partners, we can achieve the ambitious goal of educating all young people. We owe this to Ama and all the girls and boys of today and future generations!

Ousmane Diagana

Vice President, Western and Central Africa Region, World Bank Group



Contents

Ac	knowledgments	5
Fo	reword	7
Ac	cronyms	17
1.	Introduction to the Strategy and the Region	19
	1.1. The Vision for Education in a Challenging Region	19
	1.2. The Profile of AFW Countries	20
	1.3. Megatrends Affecting Education Outcomes in AFW	20
	1.4. Organization of the Report	25
2.	Modernizing the Learning Life Cycle	27
	2.1. The Education Crisis in AFW	27
	2.2. The Promise of Education in AFW	30
	2.3. The Strategy's Perspective, Targets, and Conceptual Framework	34
3.	Strengthening Strategic Leadership for Long-Term Impact	37
	3.1. Galvanizing Shared Commitment to Priority Goals in Education	37
	3.2. Fostering Sound Governance for Better Performance	41
	3.3. Ensuring Adequate Financing and Effective Use of Resources for	44
	34 Priorities for Strengthening Strategic Leadership	5/
	5.4. Montes for Strengthening Strategic Leadership	ΤC
4.	High-Impact Interventions to Reduce Learning Poverty	57
	4.1. Teachers and the Current Status of the Profession	57
	4.2. Transforming the Teaching Profession	62
	4.3. Student Readiness to Learn in the Region	66
	4.4. Enhancing Student Readiness to Learn	69
	4.5. Learning Resources and Gaps in Provision to Support Teaching and Learning	73

9

Contents

	4.6. Providing Learning Resources and Educational Technology Tools	74
	4.7. Pedagogy for Effective Teaching and Learning	78
	4.8. Teaching in a Language That Children Understand and at the Right Level	80
	4.9. Nascent Systems for Student Learning Assessment and How to Improve	
	Them	82
	4.10. Priorities for Reducing Learning Poverty	87
5.	High-Impact Interventions to Expand Learning Opportunities	91
	5.1. Demographic Trends and Their Implications for Education Access	91
	5.2. Demand-Side Constraints to Access Education	92
	5.3. Easing the Demand-Side Constraints on Education	94
	5.4. Supply-Side Constraints on Education Access	96
	5.5. Improving Safety in and around Schools to Ease Supply-Side Constraints	105
	5.6. Adding New and Better Schools and Facilities to Ease Supply-Side	
	Constraints	107
	5.7. Involving Nonstate Service Providers to Ease Supply-Side Constraints	110
	5.8. Expanding Education Access for Vulnerable Groups	112
	5.9. Priority High-Impact Interventions to Widen Learning Opportunities	113
6.	High-Impact Interventions to Build Job-Relevant Skills for All	115
	6.1. AFW's Emerging Digital and Greening Economy	115
	6.2. AFW's Workforce and Current Channels for Skills Acquisition	117
	6.3. Fortifying Governance to Improve the Ecosystem for Skills Building	124
	6.4. Dismantling Barriers to Skills Acquisition	131
	6.5. Managing the Quality and Relevance of TVET and Tertiary Education	
	Programs	136
	6.6. Fostering Sustainable Service Delivery	143
	6.7. Priority in High-Impact Interventions to Build Job-Relevant Skills	147
7.	Enhancing Implementation and M&E Capacity	149
	7.1. Strengthening Public Financial Management	149
	7.2. Deepening Technical and Managerial Capabilities for Implementation	152
	7.3. Strengthening Education Data Systems for Informed Decision-Making	153
	7.4. Priorities for Enhancing Implementation and M&E	155
	7.5. Navigating Cross-Cutting Challenges to Strengthen Education for	
	Resilience	156

8	8. The World Bank's Education Portfolio in AFW	161
	8.1. Portfolio Analysis and Lessons Learned	161
	8.2. Integrating Lessons Learned to Enhance the World Bank's Effectiveness	167
	8.3. Using Country Classifications to Enhance the Responsiveness of World Bank Support	169
Annex 1: Implications for Education of COVID-19, Climate Change, and Cutting-Edge Innovations		177
Annex 2: Public Expenditure and Financial Accountability Ratings for AFW, 2016–21 18		181
Annex 3: Country Grouping Criteria and Data for Primary and Secondary Education 183		
Annex 4: Country Grouping Criteria and Data for TVET and Higher Educa- tion		
I	References	190

List of Figures

Figure 1.1. Population Growth in the Region	23
Figure 1.2. Political Violence in and around Education Facilities, 2010–21	24
Figure 2.1. Primary and Secondary Educational Attainment, Western and Co	entral
Africa and Comparators	28
Figure 2.2. Learning Poverty in Western and Central African Countries	29
Figure 2.3. Share of NEET Youth (15–24 Years Old) in Western and Central A	African
Figure 2.4 Correlation of Appual CDP per Capita Growth (1970–2015) with	Tost
Scores and Years of Schooling Completed	31
Figure 2.5. Returns to Education and Wage Increase by Level and Type of	
Education in 11 Western and Central African Countries, circa 2018	32
Figure 2.6. Employment Probabilities in 11 Western and Central African Co	untries,
circa 2018a	33
Figure 2.7. The Conceptual Framework for the AFW Education Strategy	35
Figure 3.1. The Political Economy of Education Systems with Key Actors in	an
"Accountability Triangle"	38
Figure 3.2. Aggregate and per Capita Real Spending on Education from All by Regional and Nonregional Country Income Groups, 2009–19	Sources, 45
Figure 3.3. Distribution of Aggregate Real Spending on Education by Source	ce,
Western and Central Africa and Other World Regions by Country Income	e Group,
2018–19 (%)	46
Figure 3.4. Government Spending on Education in Western and Central Af	rica, by
Income Group and by Country, 2010–19	47
Figure 3.5. Relation between Numbers of Teachers and Students across	53
Eigure 24 Polation between Expenditure per Child and Learning Adjuster	JZ
Schooling in Western and Central Africa, 2020	1 rears of
Figure 37 Relation between Test Scores and Indicators of Resource Availa	ability at
the District and School Levels in Ghana and Mauritania	54
Figure 3.8. Strengthening Strategic Leadership	55
Figure 4.1. Primary Education Teachers, by Level of Education	58
Figure 4.2. Share of Teachers with Minimum Subject Knowledge	58
Figure 4.3. School and Classroom Absence	60
Figure 4.4. Share of Female Teachers in Primary and Secondary Education	60
Figure 4.5. Percentage of Students in Schools Managed by Women	61
Figure 4.6. Five Principles to Build an Effective Teachers' Cadre	63
Figure 4.7. Early Childhood Development in Western and Central Africa and	the World 68

Figure 4.9. Trends in Overenrollment in Primary School from 39 Countries71Figure 4.10. Interventions to Improve Teaching and Learning88Figure 5.1. Estimated and Projected Growth in Basic School-Age Population in92Western and Central Africa92Figure 5.2. Primary and Secondary Net Attendance Rates by Household Wealth93Quintiles93Figure 5.3. Estimated Number of Classrooms Required to Enroll all Currently Out- of-School Children and the Number of Children (6 –15 Years Old) Added with Population Growth from 2020–25 to 2025–3099Figure 5.4. Distribution of Student-Classroom Ratios in Selected Countries and States of Nigeria100Figure 5.5. Proportion of Schools with Access to Electricity (%)101Figure 5.6. Proportion of Schools with Access to Electricity (%)101Figure 5.8. Proportion of Schools with Access to Computers for Pedagogical Purposes (%)102Figure 5.9. Proportion of Schools with Access to Adapted Infrastructure and Materials for Students with Disabilities (%)103Figure 5.10. Proportion of Schools with Access to Adapted Infrastructure and Materials for Students with Disabilities (%)103
Figure 4.10. Interventions to Improve Teaching and Learning88Figure 5.1. Estimated and Projected Growth in Basic School-Age Population in Western and Central Africa92Figure 5.2. Primary and Secondary Net Attendance Rates by Household Wealth Quintiles93Figure 5.3. Estimated Number of Classrooms Required to Enroll all Currently Out- of-School Children and the Number of Children (6 –15 Years Old) Added with Population Growth from 2020–25 to 2025–3099Figure 5.4. Distribution of Student-Classroom Ratios in Selected Countries and States of Nigeria100Figure 5.5. Proportion of Schools with Access to Drinking Water (%)101Figure 5.6. Proportion of Schools with Access to Basic Sanitation (Toilets) (%)101Figure 5.8. Proportion of Schools with Access to Computers for Pedagogical Purposes (%)102Figure 5.9. Proportion of Schools with Access to Adapted Infrastructure and Materials for Students with Disabilities (%)103Figure 5.10. Proportion of Schools with Access to Adapted Infrastructure and Materials for Students with Disabilities (%)103Figure 5.11.a. Primary Schools within and beyond Three Kilometers of Nearest JSS in Nigeria109
Figure 5.1. Estimated and Projected Growth in Basic School-Age Population in Western and Central Africa92Figure 5.2. Primary and Secondary Net Attendance Rates by Household Wealth Quintiles93Figure 5.3. Estimated Number of Classrooms Required to Enroll all Currently Out- of-School Children and the Number of Children (6 –15 Years Old) Added with Population Growth from 2020–25 to 2025–3099Figure 5.4. Distribution of Student-Classroom Ratios in Selected Countries and States of Nigeria100Figure 5.5. Proportion of Schools with Access to Drinking Water (%)101Figure 5.7. Proportion of Schools with Access to Electricity (%)101Figure 5.8. Proportion of Schools with Access to Computers for Pedagogical Purposes (%)102Figure 5.9. Proportion of Schools with Access to Adapted Infrastructure and Materials for Students with Disabilities (%)103Figure 5.10. Proportion of Schools with Access to Adapted Infrastructure and Materials for Students with Disabilities (%)103Figure 5.11.a. Primary Schools with and beyond Three Kilometers of Nearest JSS in Nigeria109
Figure 5.2. Primary and Secondary Net Attendance Rates by Household Wealth Quintiles93Guintiles93Figure 5.3. Estimated Number of Classrooms Required to Enroll all Currently Out- of-School Children and the Number of Children (6 –15 Years Old) Added with Population Growth from 2020–25 to 2025–3099Figure 5.4. Distribution of Student-Classroom Ratios in Selected Countries and States of Nigeria100Figure 5.5. Proportion of Schools with Access to Drinking Water (%)101Figure 5.6. Proportion of Schools with Access to Electricity (%)101Figure 5.6. Proportion of Schools with Access to Basic Sanitation (Toilets) (%)101Figure 5.8. Proportion of Schools with Access to Computers for Pedagogical Purposes (%)102Figure 5.9. Proportion of Schools with Access to Adapted Infrastructure and Materials for Students with Disabilities (%)103Figure 5.11.a. Primary Schools within and beyond Three Kilometers of Nearest JSS in Nigeria109
Figure 5.3. Estimated Number of Classrooms Required to Enroll all Currently Out- of-School Children and the Number of Children (6 –15 Years Old) Added with Population Growth from 2020–25 to 2025–3099Figure 5.4. Distribution of Student-Classroom Ratios in Selected Countries and States of Nigeria100Figure 5.5. Proportion of Schools with Access to Drinking Water (%)101Figure 5.7. Proportion of Schools with Access to Electricity (%)101Figure 5.6. Proportion of Schools with Access to Basic Sanitation (Toilets) (%)101Figure 5.8. Proportion of Schools with Access to Computers for Pedagogical102Purposes (%)102Figure 5.9. Proportion of Schools with Access to Internet for Pedagogical Purposes (%)102Figure 5.10. Proportion of Schools with Access to Adapted Infrastructure and Materials for Students with Disabilities (%)103Figure 5.11.a. Primary Schools within and beyond Three Kilometers of Nearest JSS in Nigeria109
Figure 5.4. Distribution of Student-Classroom Ratios in Selected Countries and States of Nigeria100Figure 5.5. Proportion of Schools with Access to Drinking Water (%)101Figure 5.7. Proportion of Schools with Access to Electricity (%)101Figure 5.6. Proportion of Schools with Access to Basic Sanitation (Toilets) (%)101Figure 5.8. Proportion of Schools with Access to Computers for Pedagogical102Purposes (%)102Figure 5.9. Proportion of Schools with Access to Internet for Pedagogical Purposes (%)102Figure 5.10. Proportion of Schools with Access to Adapted Infrastructure and Materials for Students with Disabilities (%)103Figure 5.11.a. Primary Schools within and beyond Three Kilometers of Nearest JSS in Nigeria109
Figure 5.5. Proportion of Schools with Access to Drinking Water (%)101Figure 5.7. Proportion of Schools with Access to Electricity (%)101Figure 5.6. Proportion of Schools with Access to Basic Sanitation (Toilets) (%)101Figure 5.8. Proportion of Schools with Access to Computers for Pedagogical102Purposes (%)102Figure 5.9. Proportion of Schools with Access to Internet for Pedagogical Purposes (%)102Figure 5.10. Proportion of Schools with Access to Adapted Infrastructure and103Materials for Students with Disabilities (%)103Figure 5.11.a. Primary Schools within and beyond Three Kilometers of Nearest JSS109
Figure 5.7. Proportion of Schools with Access to Electricity (%)101Figure 5.6. Proportion of Schools with Access to Basic Sanitation (Toilets) (%)101Figure 5.8. Proportion of Schools with Access to Computers for Pedagogical102Purposes (%)102Figure 5.9. Proportion of Schools with Access to Internet for Pedagogical Purposes (%)102Figure 5.10. Proportion of Schools with Access to Adapted Infrastructure and103Materials for Students with Disabilities (%)103Figure 5.11.a. Primary Schools within and beyond Three Kilometers of Nearest JSS109
Figure 5.6. Proportion of Schools with Access to Basic Sanitation (Toilets) (%)101Figure 5.8. Proportion of Schools with Access to Computers for Pedagogical102Purposes (%)102Figure 5.9. Proportion of Schools with Access to Internet for Pedagogical Purposes (%)102Figure 5.10. Proportion of Schools with Access to Adapted Infrastructure and103Materials for Students with Disabilities (%)103Figure 5.11.a. Primary Schools within and beyond Three Kilometers of Nearest JSS109
Figure 5.8. Proportion of Schools with Access to Computers for PedagogicalPurposes (%)102Figure 5.9. Proportion of Schools with Access to Internet for Pedagogical Purposes (%)102Figure 5.10. Proportion of Schools with Access to Adapted Infrastructure and103Materials for Students with Disabilities (%)103Figure 5.11.a. Primary Schools within and beyond Three Kilometers of Nearest JSS109
Figure 5.9. Proportion of Schools with Access to Internet for Pedagogical Purposes (%)102Figure 5.10. Proportion of Schools with Access to Adapted Infrastructure and Materials for Students with Disabilities (%)103Figure 5.11.a. Primary Schools within and beyond Three Kilometers of Nearest JSS in Nigeria109
Figure 5.10. Proportion of Schools with Access to Adapted Infrastructure and Materials for Students with Disabilities (%)103Figure 5.11.a. Primary Schools within and beyond Three Kilometers of Nearest JSS in Nigeria109
Figure 5.11.a. Primary Schools within and beyond Three Kilometers of Nearest JSS in Nigeria 109
Figure 5.11.c. Primary Schools within and beyond Three Kilometers of nearest JSS in Katsina State Nigeria 109
Figure 5.11.b. Network of JSS in Nigeria 109
Figure 5.11.d. Large Public Primary Schools beyond Three Kilometers of Nearest JSS in Katsina State, Nigeria 109
Figure 5.12. Locations and Travel Time by Public Transport to Nearest Primary and Secondary School in Ouagadougou, Burkina Faso 111
Figure 5.13. Interventions for Widening Opportunities for Learning 113
Figure 6.1. Indicators Highlighting Quality and Access Challenges in Education for Western and Central African Youth
Figure 6.2. Tertiary Enrollment and Graduation by Field of Study for Senegal 122
Figure 6.3. Research Output of Western and Central African Countries and Corresponding H-Index (2020) 122
Figure 6.4. Indicators of the Education Level of the Workforce 123
Figure 6.4. Indicators of the Education Level of the Workforce123Figure 6.5. Interventions to Build Job-Relevant Skills for All147

Contents

Figure 7.2. Enhancing Implementation Capacity	156
Figure 7.3. Navigating Cross-Cutting Areas to Rebuild Education for Resilience	157
Figure 8.1. Size of Portfolio by Type, US\$	162
Figure 8.2. Independent Evaluation Group's Overall Performance Ratings for Education Projects in Western and Central Africa, Fiscal Years 2009–20 (%)	162
Figure 8.3. Financing by Education Level, Active Portfolio (US\$ million)	164
Figure 8.4. Number of Projects by Education Level, Active Portfolio	164
Figure 8.5. Financing by Types of Activities, 2015–21 (US\$ Million)	166
Figure 8.6. Approximate Shares of Financing for Access versus Quality (%)	166
Figure 8.7. Activities Related to Girls' Education, Active Portfolio	167
Figure 8.8. Word Cloud on Lessons Learned from Implementation Completion Reports	168
Figure 8.9. Country Grouping for Primary and Secondary Education, Western and Central Africa, 2019	170
Figure 8.10. Country Groupings for Skills and Tertiary Education, Western and Central Africa, 2019	171
Figure 8.11. Share of NEET Youth (Age 15–24) and Share with Postbasic Education, Western and Central Africa and Other Regions, 2018 or Latest Available Year (%) a/	173
Figure A2.1. Public Expenditure and Financial Accountability Ratings on Key Indicators in Western and Central African Countries, 2016–21	181
Figure A3.1. Country Groupings Based on the Gross Enrollment Ratio and Out-of- School Rate in Primary Education, Western and Central Africa, 2019	184
Figure A4.2. "Unique" Mobile-Broadband Subscriptions per 100 Inhabitants, 2020	188
Figure A4.1. Relationship between Better Employment Rate and Gross National	
Income per Capita across AFW Countries, 2020	188

List of Tables

Table 4.1. Structured Pedagogy Programs in Western and Central Africa	67
Table 4.2. Access to Early Childhood Education by Country	70
Table 4.3. Type of Policy Utilized in West and Central African Countries	80
Table 6.1. Digital Technologies for Teaching, Learning, Research, and Management	141
Table 6.2. Impact of Funding Approaches on Policy Objectives	146
Table 8.1. World Bank Commitments to Education in Western and Central Africa, 2015–21 (US\$ Million)	162
Table 8.2. Independent Evaluation Group's Additional Ratings for Education Projects in Western and Central Africa, Fiscal Years 2009–20 (%)	163
Table 8.3. Independent Evaluation Group's Performance Ratings for Project M&E in Western and Central Africa, Fiscal Years 2009–20 (%)	163

Table 8.4. Identifiable Financing Streams for Various Types of Activities, 2015–21	165
Table 8.5. Priorities by Domain and Pillar of Intervention, with Time Horizons and	
Emphasis on Country Type and Level of Education	174
Table A3.1. Country Grouping Based on Indicators of Coverage and Learning in Primary Education	184
Table A3.2. Harmonized Learning Outcome Scores for Countries in Western and Central Africa, 2009–19	186
Table A4.1. Indicators and Data for Country Classification for TVET and Higher Education in Western and Central Africa	187
Table A4.2. Country Classification for TVET and Higher Education, Western and	
Central Africa, 2020	189

List of Box

Box 3.1. Strategic Leadership for Negotiations with Teacher Unions in Kenya	40
Box 3.2. Education and Training for Growth and Transformation in Asia's "Tiger"	
Economies	42
Box 3.3. Prioritizing Funding for Education through Earmarked Revenues and	
Strong Governance	49
Box 4.1. What Does It Take to Get Textbooks into Classrooms and Utilized?	75
Box 4.2. Scripted Lesson Plans Implementation	78
Box 4.3. Typology of Language-of-Instruction Models	79
Box 4.4. Targeted Instruction (from the Teaching at the Right Level Model	
Developed by Pratham)	83
Box 4.5. Improving the Quality of Examinations in AFW Countries	85
Box 4.6. Good Practices for Classroom-Based Formative Assessments	86
Box 4.7. Strengthening Large-Scale Assessments of Student Learning in AFW	87
Box 5.1. Education as a Tool to Catalyze a Demographic Change in Western and	
Central Africa	97
Box 6.1. Informal/Traditional Apprenticeship	120
Box 6.2. Examples of Reformed Apprenticeship Programs	125
Box 6.3. Examples of Company-Based Training Academies for the Youth	128
Box 6.4. Examples of Sustainable Approaches to Training Programs for the Existing	
Workforce	130
Box 6.5. Recognition of Prior Learning in Kenya	132
Box 6.6. India – Digital Skills Training for Street Vendors	133
Box 6.7. Blended Learning Approaches in Technical and Vocational Education and	
Training and Higher Education 13	

Contents

Box 6.8. The Virtual University of Senegal's Student Laptop Loan Scheme	137
Box 6.9. Innovative Examples of Youth Skilling Initiatives and Programs Attuned	
with Industry Needs	139
Box 6.10. Innovative Education at Ashesi University (Ghana)	140
Box 6.11. An Example of a Regional Intervention: The Africa Centers of Excellence	142
Box 6.12. Variations in Skills Development Funds	145
Box 7.1. Piloting Results-Based Financing through School Grants in Cameroon	152
Box 7.2. Toward More Effective Capacity Building for Education Outcomes in AFW	154

Acronyms

ACE	African Higher Education Centers of
	Excellence
AFW	Western and Central Africa
ECE	early childhood education
EdoBEST	Edo Basic Education Sector
	Transformation
EFW	Education Finance Watch
EGRA	Early Grade Reading Assessment
EHCVM	Enquête Harmonisée sur les Conditions
	de Vie des Ménages
FCV	fragility, conflict, and violence
GDP	gross domestic product
HLO	harmonized learning outcomes
ICT	information and communication
	technology
L1/L2	first/second language
M&E	monitoring and evaluation
NEET	not in education, employment, or
	training**

NQF	national qualifications framework
ODA	official development assistance
OECD	Organisation for Economic Co-operation
	and Development
PASEC	Program for the Analysis of Education
	Systems
PFM	public financial management
RPL	recognition of prior learning
SDG	Sustainable Development Goal
STEM	science, technology, engineering, and
	mathematics
TVET	technical and vocational education and
	training
UNESCO	United Nations Educational, Scientific,
	and Cultural Organization
UNICEF	United Nations Children's Fund
UNHCR	United Nations High Commissioner on
	Refugees



Introduction to the Strategy and the Region

Countries in Western and Central Africa (AFW) have made progress in education, but they remain at the bottom of global human capital rankings and have yet to realize the full promise of education. In many of these countries, the education system suffers from chronic underfunding and underperformance, a crisis that the COVID-19 pandemic has aggravated with school closures, falling household incomes, and strained national budgets. Harsh conditions on multiple fronts further hobble the education system, including widespread social conflict and violence, climate-related vulnerabilities, economic uncertainty and fragility, and the advent of the digital revolution. All countries in the region share a key development challenge: the need to improve learning outcomes and workforce skills through education, specifically in ways that align with and contribute substantively to national agendas for economic growth and poverty reduction. These national agendas, in turn, call for plentiful jobs, higher standards of living, healthier and longer lives, and peace and security at home and abroad. The people of AFW and their leaders have been on this quest for many years and understand that the road ahead remains arduous. They realize that success will require perseverance and continual recommitment, reassessment, and recalibration as opportunities and threats evolve.

To support AFW countries in their quest, this Regional Education Strategy articulates the World Bank's plan (2021–25) for engagement with the education sector in AFW countries. It is an integral part of the World Bank's broader support to help transform the economy and foster inclusive growth in the region, as articulated in the World Bank's (2021d) priorities for AFW for 2021–25. This support envisions four key areas of progress in AFW countries: stronger human capital, more and better jobs, a new social contract, and more climate resilience. Education plays a role in each of these areas and is especially critical in relation to building the region's human capital.

Informed by consultations with diverse stakeholders, this strategy identifies key challenges and outlines strategic priorities, policy options, and high-impact interventions for improvement. It highlights goals in three specific areas: access to education, learning outcomes, and job-relevant skills. Yet the sharp focus does not exclude effort on other fronts. The strategy identifies interventions for short-term wins as well as long-term impacts. In light of the AFW's heterogeneity, it recognizes the need to customize the proposed solutions to suit country-specific strategies. In individual countries, achieving tangible outcomes will require critical enabling conditions, including in particular cross-sector collaboration on problem-driven approaches rather than on purely sectoral interventions. Achieving tangible outcomes will also depend on effective partnerships, both within the World Bank across global practices organized along thematic lines and between the World Bank and its country counterparts. These counterparts include stakeholders across government such as national ministers of finance and education as well as members of civil society and development partners.

1.1. The Vision for Education in a Challenging Region

The Regional Education Strategy envisions a bright future for AFW where all girls and boys arrive at school ready to learn, acquire quality learning, and enter the job market with the skills to become productive and fulfilled citizens. Realizing this vision calls for a comprehensive approach, one that addresses challenges across the learning life cycle for students from preschool through basic and secondary education to tertiary education, including technical and vocational education and training (TVET), as well as training options for those already in the workforce.

The expansive scope of the strategy matches the ambitions of AFW countries for holistic education systems that deliver the human capital needed for sustained economic growth and social development. The strategy supports AFW countries in minimizing learning losses from the COVID-19 pandemic and rebuilding their education systems for greater resilience to future disruptions. It aims to help reorient systems toward new digital and green economic opportunities and to align systems with regional and global initiatives to build human capital.¹ The strategy is an integral part of the World Bank's (2021d) priorities for AFW for 2021–25. Accordingly, the strategy complements other World Bank institutional initiatives in education and human capital such as the Africa Human Capital Plan, the World Bank's strategic education policy approach, the commitments of the International Development Association 20th replenishment,² and the Digital Economy for Africa Initiative. The strategy is complemented by the Sahel Education White Paper (World Bank 2021e), which highlights and proposes solutions to that subregion's unique challenges,³ such as exceptionally low and inequitable access to quality basic education, especially in fragile settings, and pervasive adult illiteracy.

1.2. The Profile of AFW Countries

The AFW region comprises 22 countries with a combined population of half a billion people, which is projected to reach a billion by 2050. Hundreds of local languages are spoken, and official languages include English, French, Spanish, Portuguese, and Arabic. The geography includes semiarid areas in the Sahel, large coastal zones on the Atlantic Ocean, and lush tropical forests. The region hosts the largest country in Sub-Saharan Africa, Nigeria, with more than 200 million people, along with small states like Cabo Verde (table 1.1). Half of the countries face situations of fragility, conflict, and violence (FCV), whereas many others enjoy more stability. About 48 percent of the region's population now reside in cities, a share that is likely to continue growing with rapid urbanization.

The economies of AFW countries are also diverse. Some depend heavily on agriculture, a sector that accounted for 42 percent of employment in the region in 2019.⁴ Others depend on natural resources such as oil (Gabon, Nigeria, Republic of Congo); gold (Mali, Guinea, Burkina Faso); cocoa (Côte d'Ivoire, Ghana); and cotton (Benin, Burkina Faso). The region saw high economic growth from 2005 to 2015, powered by high commodity prices, but growth rates have slowed down since. The combined gross domestic product (GDP) of the 22 countries in 2019 was an estimated US\$711 billion—about one quarter the GDP of the United Kingdom or France.

1.3. Megatrends Affecting Education Outcomes in AFW

Education policies and practices must consider the challenges facing the region. While the region is highly diverse, many of the countries face common challenges and regional megatrends that affect education outcomes.

1.3.1. Extreme Poverty

Across the continent, the share of people living in extreme poverty declined from 54 percent in 1990 to 41 percent in 2015; however, during that same period,

¹ Agenda 2063, a key regional initiative, envisions a region of well-educated and skilled citizens prepared to compete in science, technology, and innovation thanks to a knowledge society—one where no child misses school due to poverty or any form of discrimination. The Regional Education Strategy resonates with all the aspirations of the agenda, especially aspiration 6: "An Africa whose development is people-driven, relying on the potential of African people, especially its women and youth, and caring for children." A key global initiative is the United Nations Sustainable Development Goals (SDGs).

² The Regional Education Strategy supports all World Bank human capital policy commitments as well as those under other special themes such as climate change, gender and development, FCV, and jobs and economic transformation. The strategy is also consistent with commitments under all the cross-cutting themes: crisis preparedness, governance and institutions, debt, and technology.

³ The Sahel subregion consists of Burkina Faso, Chad, Mali, Mauritania, and Niger.

⁴ Data are from World Development Indicators (database), World Bank, Washington, DC (accessed February 25, 2022), https://databank.worldbank.org/source/world-development-indicators.

Country	Income classification	Population, 2020 (millions)	Average GDP per capita growth 2016–20 (% p.a.)
Benin	Lower-middle income	12.1	2.45
Burkina Faso*	Low income	20.9	2.37
Central African Republic*	Low income	4.8	2.10
Côte d'Ivoire	Lower-middle income	26.4	2.58
Cameroon*	Lower-middle income	26.5	1.90
Congo,Rep.*	Low income	5.5	-3.72
Cabo Verde	Lower-middle income	0.6	-4.19
Gabon	Upper-middle income	2.2	-0.98
Ghana	Lower-middle income	31.1	0.54
Guinea	Low income	13.1	3.86
Gambia, The	Low income	2.4	3.02
Guinea-Bissau*	Low income	2.0	0.77
Equatorial Guinea	Upper-middle income	1.4	-4.55
Liberia	Low income	5.1	-6.39
Mali*	Low income	20.3	-1.13
Mauritania	Lower-middle income	4.6	0.60
Niger*	Low income	24.2	0.96
Nigeria*	Lower-middle income	206.1	-0.36
Senegal	Lower-middle income	16.7	0.02
Sierra Leone	Low income	8.0	1.76
Chad	Low income	16.4	-1.33
Тодо	Low income	8.3	-0.99

Table 1.1. Countries in Western and Central Africa

Source: World Development Indicators (database), World Bank, Washington, DC (accessed February 25, 2022), https://databank.worldbank.org/source/world-development-indicators.

Note: GDP = gross domestic product; * denotes the World Bank's fragile and conflict-affected situation classification in fiscal 2021/22.

the number of people living in extreme poverty rose from 278 million to 413 million due to high population growth (Beegle and Christiaensen 2019). As extreme poverty rates trend downward globally, Africa's share of the world's poor is projected to rise to more than 80 percent by 2023 (Kharas, Hamel, and Hofer 2018). In 2018, Nigeria had the continent's largest population living in extreme poverty: approximately 87 million people (Y. Kazeem 2018). In addition to Nigeria, 13 other countries in AFW also as of 2018 had more than 30 percent of their population living on less than US\$1.90 a day (Y. Kazeem 2018). Many more people are at risk of falling into extreme poverty given the depressed economic conditions the COVID-19 pandemic has caused. **Poverty in Africa is chronic.** Around 60 percent of the continent's poor have been poor for several years, and over half of the continent's poor are below the age of 15 (Beegle and Christiaensen 2019). Extreme poverty contributes to the lagging education outcomes in the region. The poor are least likely to be educated. They often live in rural areas where schools may not be present and tend to have other demographic and socioeconomic or cultural traits, such as disability and malnutrition, associated with fewer years of schooling and with poorer learning outcomes. In addition, households with extreme poverty have no margin for investments in education, which only widens existing gaps.

A major contributing factor to extreme poverty in the region is the challenging macro-outlook, manifested in low economic growth. In 2020, real GDP in AFW contracted by an estimated 1.1 percent (Zeufack et al. 2021). Although there is considerable variation within the region, this contraction worsened the very slow growth the region had been experiencing in recent years. Furthermore, the gap between per capita incomes in high-income countries and those in AFW countries, as well as other developing countries, has grown steadily. Fifty years ago, the per capita incomes in AFW countries were 8 percent of those of high-income countries; today, they are only 4 percent. The prevalence of extreme poverty affects investments in human capital and, more specifically, education. The macroeconomic situation is further tightening the already limited fiscal space, reducing the public funds available to invest in education.

1.3.2. Resource Dependencies

Many AFW countries are highly resource dependent and face sustainability and governance challenges. In a sense, all AFW countries are "mining" their nonrenewable capital, whether it is hydrocarbons, minerals, or land. Consuming nonrenewable capital, rather than transforming it into human or produced capital, is not sustainable. In addition, agriculture remains a critical part of the region's economy and provides employment to 82 million people in the region.

Growth based on extraction generates few jobs and *increases economic vulnerability to commodity price shocks.* For example, oil-rich countries like the Republic of Congo, Gabon, and Nigeria have struggled with drops in global oil prices in recent years. Nigeria in particular is highly dependent on oil exportation. In 2019, 80 percent of the country's budget revenue was generated by the oil and gas industry (Nwuke 2021). During the collapse of global oil and gas prices between 2014 and 2016, annual real GDP growth plummeted to 2.7 percent in 2015 and –1.6 percent in 2016 from an average of 7 percent during the period 2000–14 (World Bank 2019b). Countries must diversify their economies to guard against unexpected shocks in commodity prices.

In addition to the economic impact of commodity price shocks, the rents generated from extraction

are widely perceived to be shared inequitably, which generates grievances that, in turn, often aggravate corruption and insecurity and reduce government accountability. Such resource dependence removes incentives for governments to invest in quality education and discourages citizens from demanding more and better education. The resource dependency also limits the predictability of financing for education.

1.3.3. Demographic Trends

Demographic trends and high population growth put significant pressure on provision of education. The region's population of 459 million people is growing at an average annual rate of 3 percent, far above the Sub-Saharan Africa average of 2 percent and the global average of 1 percent. The total fertility rate for an average country in the region is 4.63, almost twice the 2.4 global average. The current growth rate is not sustainable given that the population has already quadrupled in the last 50 years and is projected to double by 2050.

Given the high population growth and fertility rate, children and youth make up a large share of the population. Therefore, the region has one of the youngest populations in the world: 12 percent of the population is under the age of 15, and about 64 percent is under the age of 24 (figure 1.1). The young population holds potential for demographic dividend if countries can prevent high youth unemployment rates by ensuring that their young citizens can contribute productively to the economy. In summary, carefully crafted policies could transform the threat of a large unemployed youth population into a demographic dividend.

Young people, no longer satisfied by the opportunities in rural areas, are rapidly migrating into the cities. The region's cities are likely to become increasingly crowded as urbanization throughout AFW speeds up, with cities already hosting 48 percent of the population. Though rapid urbanization creates economies of scale in cities that enable investment in education, it also isolates those living in rural areas, thereby widening existing gaps. Rapid population growth puts even more strain on quality of education, requiring systems to hire large numbers of teachers, many of whom might lack the necessary qualifications.



Figure 1.1. Population Growth in the Region

Source: World Development Indicators (database), World Bank, Washington, DC (accessed February 25, 2022), <u>https://databank.worldbank.org/source/world-development-indicators.</u>

1.3.4. Fragility, Conflict, and Violence

The social contract in AFW is breaking down, and violent conflict is on the upswing. Citizens tend to have less trust in states that do not provide security and fail to deliver basic services. The increase in violent conflict includes insurgency movements, community conflict, and interpersonal violence, all of which further undermine trust in government. Of the region's 22 countries, 11 are now affected by FCV, and almost three-quarters of the region's population live in the affected countries (figure 1.2). The impact on education has been devastating. Before the COVID-19 pandemic, about 2 million children were not in school because their schools were either closed or not operating due to insecurity. Since 2010, at least 2,880 events of violence have occurred in and around schools; such events rose from just 39 in 2010 to 559 in 2020 and 440 in the first half of 2021 (figure 1.2). In just the first seven months of 2021, more than 1,037 people in and around educational facilities, mostly students and teachers, were kidnapped.

Moreover, the region currently includes more than 12 million people of concern,⁵ among them 7.4 million

internally displaced persons (UNHCR 2022). The region has a total of 5 million forcibly displaced children. During the 2020-21 school year, more than half of the refugee children in AFW did not attend school. This problem is particularly acute for secondary school. While 60 percent of refugee children in AFW are enrolled in primary school, only 15 percent are enrolled in secondary, and just 1 percent of refugees 18-24 years old have access to higher education and vocational training. These percentages are not only much lower than the values for non-refugees but also lower than the values for refugees in other parts of the world. For example, globally, 3 percent of refugees are enrolled in higher education (UNHCR 2021c). For those who do access education, the guality of learning environments tends to be very low.

1.3.5. Climate Change

Climate change is adding new challenges. Africa accounts for only 2 to 3 percent of the world's emissions of carbon dioxide from energy and industrial sources, yet it may nonetheless suffer the greatest impact (Zeufack et al. 2021). This impact is already evident in the Sahel subregion. The increased frequency and severity of climatic shocks threaten livelihoods, exacerbate conflict, and force households into coping strategies that reduce human capital.

The region continues to be affected by incidents of flooding, which have grown more severe year after year. The United Nations Office for the Coordination of Humanitarian Affairs (OCHA 2020) reported that in 2020 alone, 2.7 million people in 18 countries in the region were severely affected by flooding, significantly up from the previous year when 1.1 million people were affected in 11 countries. In addition to floods, coastal degradation is worsening throughout the region. The World Meteorological Organization (2020) estimates that nearly 56 percent of the coastlines in Benin, Côte d'Ivoire, and Senegal are already eroding. These climate conditions damage farmland and affect livelihoods dependent on agriculture, undermining the many economies to which agriculture is essential. These conditions also increase food

⁵ A person of concern is any person whom the UNHCR (2021a) considers a refugee, internally displaced person, asylum seeker, or stateless person, with some additional persons not fitting these criteria.



Figure 1.2. Political Violence in and around Education Facilities, 2010–21

Source: Original analysis by World Bank Education team based on the Armed Conflict Location & Event Data Project.

insecurity, thereby putting learners' cognitive abilities at risk as learners do not arrive at school ready to learn.

Other shocks of climate change also affect education outcomes by forcing temporary school closures or permanent relocation of schools and generally making it harder for children to attend classes. Rising temperatures create heat waves that reduce learning. The Programme for International Student Assessment, a worldwide survey conducted by the Organisation for Economic Co-operation and Development (OECD), issued credible causal estimates for 58 countries. The estimates suggest that in the three years preceding the exam, each day above 80 degrees Fahrenheit (26 degrees Celsius) decreased scores by 0.018 standard deviations (Park, Behrer, and Goodman 2021). Similarly, air pollution (Currie et al. 2009; Roth 2017) decreases school attendance and affects current (Ebenstein, Lavy, and Roth 2016) and future learning outcomes (Bharadwaj et al. 2017). Furthermore, the conflicts spurred by climate change compound the threats to education systems. These impacts are higher for the poorest, which exacerbates inequalities.

1.3.6. Digital Revolution

The digital technology revolution is transforming the region. AFW has been able to leapfrog some technological developments, as demonstrated by the fact that an average country in the region boasts 88 mobile cellular subscriptions per 100 people. Mobile subscriptions have risen rapidly in the region, with the number of subscriptions 15 times greater in 2015–17 compared with 2010–12, and universal mobile penetration has the potential to increase GDP by 2 percentage points per year and decrease poverty by 1 percentage point per year across the region (Choi, Dutz, and Usman 2020).

Although mobile services are widely accessible, the charges and fees are relatively high for income levels in the region, and mobile networks have poor quality in comparison with other regions (Choi, Dutz, and Usman 2020). Moreover, in an average country in the region, only 23 percent of the population use the internet. One main barrier to full AFW adoption of digital technologies is low access to digital technologies and infrastructure. Notably, 18 of the 20 least wirelessly connected countries in the world are in Africa, and the continent has limited access to broadband services for internet and data services (Choi, Dutz, and Usman 2020). Additionally, digital technologies are unaffordable for many people in the region, many of whom lack digital skills.

Digital technologies provide great opportunities for the region's development, including in education. Since the onset of the COVID-19 crisis, AFW countries have, for example, sought to identify opportunities to incorporate blended learning approaches into the education service delivery. However, the mobile and internet challenges profoundly complicate any efforts in the region to use technology to make education more effective and equitable and weaken the labor force's ability to compete in the twenty-first century.

1.4. Organization of the Report

The Regional Education Strategy draws on data, analyses, and experience relating to education in AFW and elsewhere. These resources are arranged into eight chapters, as follows, in the rest of this report:

- Chapter 2 presents the case for modernizing the learning life cycle in AFW countries. The chapter highlights the nature of the education crisis in AFW and the yet-to-materialize promise of education. It specifies expected outcomes in terms of time-bound quantitative targets for learning outcomes in basic education, girls' access to education, and the coverage and labor market outcomes of TVET and higher education. The chapter reimagines the prospects for progress through a new conceptual framework with three interconnected parts: an enabling policy environment; high-impact interventions; and stronger capacity for implementation, monitoring, and evaluation.
- Chapter 3 elaborates on the ideal policy environment and the strategic actions required of top-level policy makers to create and sustain that environment. These actions emphasize political mobilization around shared commitment to national goals for education; effective governance

for coherent and effective service delivery; and adequate, efficient, and equitable funding of investment in education.

- Chapter 4 is the first of three chapters (chapters 4, 5, and 6) outlining high-impact interventions to deliver quick wins under the strategy. It highlights the need for critical action aimed at transforming the teaching profession; enhancing students' readiness to learn; and providing a conducive learning environment, one supplied with books and learning materials, that conducts routine learning assessment.
- Chapter 5 advocates for high-impact interventions to remove both supply- and demand-side barriers to widen learning opportunities across AFW, especially for girls. It highlights barriers such as high direct costs of schooling, long distances to schools, unfavorable social norms, rising insecurity and violence around schools, and vulnerability and unpreparedness against unexpected disruption of services.
- Chapter 6 focuses on high-impact interventions to advance AFW countries' agenda on building job-relevant skills. It identifies actions to strengthen AFW's nascent skills-building systems by improving the governance of service provision, dismantling barriers to skills acquisition, managing service delivery for relevance, and fostering sustainability in service provision.
- Chapter 7 highlights the need to strengthen the capacity of education systems in key areas, including public financial management of education budgeting, planning, and budget execution; technical expertise in core education services (such as curriculum development and textbook design); managerial and leadership skills of the heads of schools and other educational institutions; and data systems for informed decision-making in the sector.
- Chapter 8 reflects on the World Bank's support for education in AFW in the coming years. It takes stock of the World Bank's operational experience, distills lessons into key principles to guide the design and content of future investments, and proposes a pragmatic approach involving country classifications to enhance the country-specific responsiveness of the World Bank's support and approach.



2. Modernizing the Learning Life Cycle

All AFW countries must modernize the learning life cycle to reap the full benefits of investments in education and training. This chapter documents the progress in expanding coverage and the gaps that remain. It highlights the alarming learning poverty across all countries in the region and the distressing levels of graduate unemployment and skills mismatches among young people exiting the education system with TVET or tertiary education. Such outcomes are especially troubling in light of evidence regarding the positive impacts of education on economic and social outcomes.

2.1. The Education Crisis in AFW

Access to basic education has expanded rapidly, but AFW still trails other world regions in this area. Today, average net primary school enrollment in AFW is nearly 90 percent, up from less than 50 percent in the 1990s. Secondary enrollment in the last decade has more than doubled to a current average of 55 percent. However, on average, only 31 percent of children benefit from early childhood education (ECE) programs in the region, for which only five countries do not charge fees. Not all children attend primary school, and enrollment in secondary education is far behind enrollment in other regions (figure 2.1). With 20 percent of school-age children not attending school, AFW hosts the largest share of the world's out-of-school children. Nigeria has more than 11 million OOS children - the highest in the world (World Bank 2022). These children represent three distinct groups: those who have never enrolled, those who enrolled but dropped out before finishing, and those attending non-integrated religious establishments. On average only 44 percent of girls in AFW are enrolled in secondary school (junior and senior), compared with 52 percent of boys.⁶

Intergenerational disparities in education are wide. For example, thanks to rapid expansion of educational coverage in recent decades, today, a child in Burkina Faso can expect to complete on average seven years of schooling by her 18th birthday, compared with just two years among adults age 25 or older. The wide gap in educational attainment illustrates the region's peculiar challenge: the urgency to address the educational needs of both the school-age population and a population of working adults who, for a variety of reasons, missed out on schooling in their youth. The problem among younger adults is especially concerning, given the adverse implications for their labor productivity over the decades of working life still ahead for them.

More worrisome than the unfinished agenda of universal basic education is the genuine, if less obvious, crisis of low levels of learning throughout the region. An estimated 83 percent of 10-year-olds in AFW suffer from learning poverty—an inability to read and understand a simple text (figure 2.2). A child in AFW today can expect to complete an average of 7.8 years of schooling by 18, but that number falls to just 4.5 years when adjusted for the quality of learning. The quality gap explains why the AFW Human Capital Index is the lowest in the world—only 0.38 on a scale of 0 to 1.⁷ Weak foundations in childhood continue into adulthood. The literacy rate among adults in Chad

⁶ Based on World Development Indicators estimates.

⁷ Children born today in an average AFW country will be only 38 percent as productive as they could be if they enjoyed complete education and full health; if these children did enjoy complete education and full health, productivity in an average AFW country could be 2.63 times higher than it is today. To put things into perspective, this is the equivalent of 1.95 extra percentage points of growth per year over 50 years.



Figure 2.1. Primary and Secondary Educational Attainment, Western and Central Africa and Comparators

Source: World Development Indicators (database), World Bank, Washington, DC (accessed February 25, 2022), https://databank.worldbank.org/source/world-development-indicators,

Note: AFW = Western and Central Africa; ESA = Eastern and Southern Africa; MENA = Middle East and North Africa; SA = South Asia.

and Niger, two countries with some of the world's worst human capital outcomes, is just 22 percent and 19 percent, respectively (World Population Review 2021). Thus, even before the COVID-19 pandemic, AFW was already grappling with a learning crisis. The pandemic-induced learning losses will only increase learning poverty, especially among the poor, girls, and other vulnerable groups.

In postbasic education, the region faces chronic gaps in attainment and workforce participation, especially among young women, and youth unemployment is high even among the educated and trained. Poor workforce skills limit business success and reinforce the vicious cycle of few job opportunities and high youth unemployment, all of which, in turn, fuel protests and violence in the region (Frimpong and Commodore 2021). Most AFW youth acquire skills through informal apprenticeships that prepare them only for informal work. Less than 4 percent of secondary students, on average, are enrolled in formal TVET. Gross enrollment in tertiary education averages only 11 percent, far below the average of 54 percent in

Latin America and the Caribbean and even farther below the average of 74 percent in the OECD. Yet even with this limited education coverage, in some AFW countries the share of well-educated youth (age 15-24) who are not in education, employment, or training (NEET) is large (figure 2.3). In Nigeria, in 2018, an estimated 55 percent of the NEET youth in this age bracket possessed postbasic education.⁸ In Liberia, where unemployment is relatively low, the problem is the lack of quality jobs available. Throughout the region, the expansion of manufacturing and services has been slow. As a result, there are too few good-quality jobs to absorb all the graduates of postbasic education and training programs. Moreover, these programs are failing to supply graduates in fields in which labor market demand is high, especially in science, technology, engineering, and mathematics (STEM). Graduates from tertiary STEM programs make up less than 25 percent of graduates in the region;⁹ in Sierra Leone, the share of graduates in information and communication technology (ICT) in 2019 was only 8 percent.¹⁰ These programs also enroll far too few women. In Ghana, in 2019, only 1

⁸ Based on the 2018–19 Nigeria Living Standards Survey.

⁹ Based on available data from UNESCO Institute for Statistics (2017-20).

¹⁰ Original calculations based on data from the Ministry of TVET and Higher Education, Sierra Leone included in the Digital Economy for Africa Country Diagnostics.



Figure 2.2. Learning Poverty in Western and Central African Countries

Source: World Development Indicators (database), World Bank, Washington, DC (accessed February 25, 2022), <u>https://databank.worldbank.org/source/ world-development-indicators.</u> Note: GDP = gross domestic product.

percent of the graduates of public university undergraduate programs in ICT, and 4 percent of those in engineering, were women.¹¹

Education systems in AFW struggle with not only inadequate financing but also inefficient operation.

No government in the region currently devotes 6.3 percent of GDP to education, the level recommended by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) to universalize preprimary, primary, and secondary education by 2030. The most underresourced countries spent an average of only 2.3 percent of GDP on education in 2017–18. Because pervasive poverty makes it difficult for families to pay more, especially when many families are already devoting significant shares of their budgets to education, finding new sources of domestic and external funding is critical, especially in the most underresourced countries. In some countries, however, improving the allocative efficiency of





Source: World Development Indicators (database), World Bank, Washington, DC (accessed February 25, 2022), <u>https://databank.worldbank.org/source/</u> world-development-indicators.

Note: GDP = gross domestic product.

spending could release resources for high-priority goals, for example, by reducing the disproportionately high budget shares of tertiary education, which are not justified by current or projected enrollments. To attract additional funding, AFW education systems must also become more efficient. The weak relationship between investment of resources and learning outcomes-both across AFW countries and across schools within each country-points to significant scope for more efficient spending by, for example, reducing repetition rates, especially in the early grades, and dropout rates, especially in the final grades of primary education and in secondary education. In some countries, the problem of inefficient education systems also affects tertiary education. For instance, in 2018, at Senegal's Université Cheikh Anta Diop de Dakar, the country's largest university, repetition among first-year students averaged nearly 30 percent. Tighter management also means improving labor market outcomes among

 $^{11 \ \ {\}rm Original\ calculations\ based\ on\ 2018-19\ graduate\ data\ from\ the\ Ghana\ Tertiary\ Education\ Commission.}$

school leavers and graduates to boost education systems' external efficiency.

The COVID-19 pandemic has exacerbated many of the chronic challenges to AFW education systems, jeopardizing the hard-earned progress to date. At the peak of the pandemic, 101 million learners could not attend class in person, and most could not learn online because of minimal internet access and connectivity. Many learners, especially girls, are likely to drop out permanently. When schools reopened after a nearly year-long closure during the Ebola outbreak in Sierra Leone in 2016, girls age 12–17 were 16 percentage points less likely than boys to be in school, and out-of-wedlock pregnancies had risen by 7.2 percentage points since the start of the outbreak (Bandiera et al. 2019). Based on information from the United Kingdom, United States, Netherlands, and Czech Republic (UUW 2021), COVID-19 school closures are likely to reduce leaning outcomes and widen inequalities. In the Netherlands, where schools closed for eight weeks, national primary school examination scores fell by about 0.08 standard deviations (equivalent to missing 20 percent of the school year), with losses greater by up to 60 percent among children from disadvantaged homes (Engzell, Frey, and Verhagen 2021). Some recent evidence from AFW shows similar results. In Nigeria, COVID-19 lockdown measures reduced children's probability of attending school after the school system reopened. In the child marriage-prone northwestern part of Nigeria, these measures increased gender inequality in education among children age 12-18, which might exacerbate child marriage (Dessy et al. 2021). To overcome the adverse effects of the pandemic, Sierra Leone built on its Ebola-era radio program to provide continuity of schooling with two-way interactions. In Côte d'Ivoire, the government spent US\$8.2 million to enable distance learning through television for examination-year classes. While such efforts may help mitigate the outcomes, losses are still likely.

Many AFW countries are responding to their immense challenges in education by undertaking significant systemic reforms to achieve better results. In 2017, Ghana introduced the free senior high school policy to ensure access, equity, and equality in education. In 2018, Sierra Leone launched a phased free quality school education initiative that provides free admission and tuition to all children in government-approved schools. The president of Niger has committed to introducing a compulsory two-year national civic service for recent graduates of higher education in an effort to staff the education ministries with a cadre of highly competent graduates. In Nigeria's Edo State, the government launched the Edo Basic Education Sector Transformation (EdoBEST) program in 2018 to leverage digital technologies to improve the quality of basic education and strengthen the pipeline of workers for jobs in the digital economy. The program's innovative design serves as a model for not only other states in Nigeria but also other countries. In Mali, a comprehensive 10-year national education program (Programme décennal de développement de l'education et de la formation professionnelle deuxième génération, 2019-28) is underway to improve service delivery. School closures due to conflict and insecurity, a significant obstacle for the system, are among the issues the program seeks to address.

2.2. The Promise of Education in AFW

Investing in education yields high returns for countries and individuals through multiple channels. Universalizing basic education and widening opportunities for genuine learning and skills building across the learning life cycle are critical to realizing the promise of education throughout AFW. The investment would boost earnings, accelerate economic growth, improve health, and strengthen the social fabric, thus enabling countries in the region to develop holistically and thrive for the benefit of all citizens.

2.2.1. Evidence of the Returns to Education

Investing in education unleashes processes that create a virtuous cycle of economic improvement for individuals and countries alike. According to World Bank (2020a) estimates, universalizing basic education with full learning would raise the region's Human Capital Index from 0.38 to 0.80 and increase GDP per capita by 2.2 times, which would be equivalent to growing the economy by an average of 1.6 percentage points a year over 50 years. The





investment would achieve this feat by producing the skilled workers that firms need in order to penetrate and compete in sophisticated product spaces that offer better earnings. Expansion of more firms into such spaces, in turn, would strengthen the demand for workers with more qualifications and skills (for example, engineers, lawyers, accountants, managers, financial specialists, data analysts, and scientists). Countries with a skilled workforce can also attract more foreign direct investments, thus reinforcing the virtuous cycle of faster growth and stronger incentives for investors. More broadly, faster growth would help reduce poverty and promote shared prosperity. Abdullah, Doucouliagos, and Mannin (2015), for example, estimate that a doubling of the primary gross enrollment ratio-from 50 to 100 percent-would increase by 8 percentage points the share of income benefiting households in the poorest decile; for countries that are far from the global technological frontier, as many AFW countries are, the gain would be even greater.

Statistical analysis of GDP per capita growth from 1970 to 2015 reveals a strong correlation with the quality of human capital measured by test scores but not by years of schooling. The finding, which is depicted in figure 2.4, is not surprising.¹² Because education systems vary widely in how well their students learn, years of schooling is a poor measure of countries' "knowledge capital," a key channel through which education influences growth (Bashir et al. 2018). Knowledge capital boosts economic growth in various ways, for example, by expanding the capacity to absorb and adapt new technology, improving the quality of public administration, and strengthening organizational and managerial effectiveness. These avenues matter for growth even in low- and middle-income countries operating far from the technological frontier (World Bank 2018). Adding to the statistical evidence is the experience of East Asian Miracle countries, which have all achieved rapid growth over the course of decades through a strong public commitment to investing in education as well as in infrastructure and health (Birdsall et al. 1993; CGD 2008). These countries adopted measures on multiple fronts to strengthen the education system as a whole, making it an indispensable engine for growth. These measures include universalizing basic education early on, improving learning outcomes against international benchmarks, expanding secondary

Note: GDP = gross domestic product.

¹² Analysis of the relation between GDP per capita growth and education has a long history in the literature. Because of acknowledged data flaws, Glewwe, Maiga, and Zheng (2014) cautioned in their review of this literature that "it is unlikely that precise, credible estimates of the impact of education on economic growth can be obtained from cross-country data." Nevertheless, in recent years, the growing availability of internationally comparable data on learning outcomes has made it possible to refine the analysis. The results to date highlight that the quality of schooling correlates more closely with growth than with quantity of schooling (Bashir et al. 2018).



Figure 2.5. Returns to Education and Wage Increase by Level and Type of Education in 11 Western and Central African Countries, circa 2018

Sources: Analysis of the 2018 Enquête Harmonisée sur les Conditions de Vie des Ménages (EHCVM) data for Benin, Burkina Faso, Chad, Guinea, Guinea-Bissau, Mali, Niger, Senegal, and Togo; the 2018–19 Nigeria Living Standards Survey; and the 2016 Ghana Living Standards Survey VII. Note: Estimates are based on analysis of pooled data for the 11 countries using a standard Mincerian regression specification with country fixed effects. TVET = technical and vocational education and training.

and tertiary education selectively and strategically as conditions evolve and allow, and fostering close links between TVET and the labor market (CGD 2008; Tan et al. 2018).

For individuals, education is a key determinant of earnings in AFW countries, as it is globally, and the private benefits are highest for those with postbasic education. Education equips workers with the knowledge and skills to increase their work output, enabling them to earn more than workers less well endowed. On average, each additional year of schooling boosts individuals' earnings by about 9 percent, with larger increases for women (Psacharopoulos and Patrinos 2018). The returns in AFW are slightly higher, averaging 11 percent in 2018 based on data for the 11 countries with the requisite data. Conforming to international patterns, the returns for women are nearly five percentage points higher (figure 2.5a) in AFW, a wider gap than in all other geographic regions except the Middle East and North Africa (World Bank 2018). Among the 11 AFW countries, the wage premium rises significantly by level of education: those with tertiary education, for example, earn on average

2.7 times as much as workers with no education (figure 2.5b).

Increasing the availability of wage jobs that make better use of the human capital of educated workers can unleash the full benefits of education in AFW-for both individuals and their countries. The probability of working at any job in the region averages 64 percent among the working age population but falls to only 15 percent for wage jobs (figure 2.6). The share of employment in wage jobs thus accounts for just 23 percent of all jobs-comparable to the 20 percent in low-income countries but much lower than the 80 percent in high-income countries (Merotto, Weber, and Reyes 2018). In AFW, those with TVET and tertiary education have a far better chance of obtaining wage jobs, but the overall picture remains that the high returns to education accrue to only a small share of the workforce, so the benefits for the broader economy are thus also lost. Creating more and better jobs depends on a wide range of economic, political, and social forces beyond the education sector. The World Bank's Jobs for Economic Transformation initiative, which is dedicated to this



Figure 2.6. Employment Probabilities in 11 Western and Central African Countries, circa 2018a

Sources: Analysis of the 2018 EHCVM data for Benin, Burkina Faso, Chad, Guinea, Guinea-Bissau, Mali, Niger, Senegal, and Togo; the 2018–19 Nigeria Living Standards Survey; and the 2016 Ghana Living Standards Survey VII.

Note: TVET = technical and vocational education and training.

a. Estimates are based on analysis of pooled data for the 11 countries using a logistic regression specification with country fixed effects. b. Estimates of the probability of having a wage job are conditional on having a job at all.

agenda, focuses on measures to increase agricultural productivity, encourage urban migration, and facilitate workers' transition into higher-productivity jobs in manufacturing or services. Its success would increase the demand for well-trained and educated workers and improve the use of AFW countries' investments in the human capital of their people.

2.2.2. The Impact of Education on Health and Social Capital

Education also improves countries' welfare through its positive impacts on health, in particular by enhancing child survival and health outcomes and reducing child marriage and early pregnancies. In Nigeria, an additional year of female schooling reduced fertility by at least 0.26 births per woman (Lam, Sedlacek, and Duryea 2016). Education increases women's use of contraception, strengthens their role in family fertility decisions, and makes them more aware of the trade-offs in having children (Becker, Cinnirella, and Woessmann 2013). Better-educated mothers also raise healthier and better-educated children, as has been demonstrated in Senegal (World Bank 2011). Educated women are more likely than those with less education to work in paid jobs outside the home, remain longer in such jobs, and earn more (Osili and Long 2008).

Education can help build social capital and stabilize a region in which the social fabric is fraying. By helping to ease demographic pressures, reduce poverty, and accelerate economic growth, education can make a vital contribution to relieving the underlying sources of FCV in the region. Education can foster more peaceful societies by promoting tolerance and cooperation and discouraging use of violence to settle conflicts (Davies 2004). Importantly, parallel efforts to increase job opportunities are essential; when job prospects are favorable, the opportunity cost of violence rises, making it harder for terrorist organizations to gain new recruits (Collier et al. 2009).

2.3. The Strategy's Perspective, Targets, and Conceptual Framework

The Regional Education Strategy provides a new perspective and approach to development in the region, building on experience and evidence of what has proved viable: (a) It contextualizes these solutions in the learning life cycle, highlighting the interdependence of different levels and types of education and hence the need for system-wide coherence and prioritization. (b) It recognizes the critical role of strategic leadership for genuine breakthroughs based on commitment to widely shared goals. (c) It emphasizes systematic capacity building to enable countries to sustain learning by doing, thus reinforcing ownership and effective implementation. Finally, (d) it organizes subregional country groupings to help the World Bank tailor its support to countries' specific needs. With this new approach, and leveraging scalable, innovative, and high-impact interventions, the World Bank can support countries in tackling the region's education crisis and in achieving sustained progress in this sector.

2.3.1. Goals and Targets across the Learning Life Cycle

The Regional Education Strategy has three goals, one for each of the main education subsectors: reduce learning poverty, increase girls' enrollment in secondary school, and improve the rate at which youth transition to better jobs (figure 2.7). While these goals are not the only ones that matter for education in AFW, giving these goals priority through this strategy can align effort, catalyze change, and create synergies for impact across a range of related outcomes. For each goal, the strategy has set a respective target addressing both the short and long term:

Target 1: Reduce learning poverty (inability to read and understand a simple text at age 10) from 80 percent in 2020 to 75 percent by 2025¹³ and 66 percent by 2030. Achieving this target would add 11.1 million more literate children by 2025 and 29.7 million more by 2030.

- Target 2: Increase girls' secondary school gross enrollment from 43 percent in 2020 to 47.9 percent by 2025 and 57.2 percent by 2030. Achieving this target would result in 4.6 million more girls in secondary school by 2025 and 12.5 million more by 2030.
- Target 3: Expand access to job-relevant skills training through multiple formal and informal channels by increasing the gross enrollment ratio in tertiary education from 11 percent in 2020 to 14 percent by 2025 and 20 percent by 2030 (adding 3 million more youth by 2025 and 8 million more by 2030) and training 3.7 million more young adults in foundational skills by 2025 and 1 million more youth in digital skills by 2025 (60 percent of whom would obtain better jobs).

2.3.2. Conceptual Framework for the Strategy

The Regional Education Strategy acknowledges that tackling AFW's education crisis requires an approach that integrates both effective interventions and an enabling policy environment. The strategy, therefore, calls for strengthening strategic leadership to drive the education reform agenda. It highlights investments in high-impact interventions across the learning life cycle designed to (a) improve teaching and learning outcomes, (b) expand learning opportunities, and (c) build job-relevant skills for all. Finally, the strategy emphasizes actions to enhance capacity for implementation and for monitoring and evaluation (M&E).

The strategy embraces actions that can achieve both quick wins and long-term impacts. Many of the high-impact interventions involve prompt action to deliver quick results in the short term and to support resilient recovery and progress toward meeting critical targets by 2025. For longer-term impacts, the strategy specifies investment in processes to reshape mindsets, change practices, and build capacity. While these processes take longer to produce tangible results, they are essential for reinforcing the system to ensure continued progress toward the 2030 targets. The challenge is to use the quick fixes to create momentum without letting those quick fixes distract from the systemic changes still needed to improve the overall health and performance of the education system.

¹³ A goal of 4 percentage points is appropriately ambitious given AFW's population growth rate of 3 percent a year.

Figure 2.7. The Conceptual Framework for the AFW Education Strategy



Source: World Bank AFW Education Strategy Team.

Note: GER = gross enrollment ratio; EdTech = educational technology.


3. Strengthening Strategic Leadership for Long-Term Impact

Achieving the education outcomes prioritized in this Regional Education Strategy depends on top leaders' political will and leadership. All the outcomes require the support, cooperation, and contribution of diverse stakeholders-within as well as outside the education sector. The job of top leaders is to integrate the engagement of these diverse interest groups around a coherent vision and action plan for improving education for national development, economic growth, and shared prosperity. Such leadership gives direction and energy to the effort, ensures coordinated action, and manages trade-offs in ways that initiate and sustain the momentum for progress toward the desired education outcomes. This chapter elaborates on three aspects of the needed leadership: galvanizing shared commitment to prioritized education goals; fostering sound governance of the education system; and ensuring adequate financing and effective use of resources. Each of these three tasks entails dialogue and decision-making processes that require going beyond mere rhetoric and opinion. All too often, gaps separate leaders' ambition, the means for realizing key education goals, and the actual results obtained; to narrow those gaps, leaders must inculcate a culture and practice of evidence-based dialogue and decision-making.¹⁴ Doing so is essential to facilitating coalition-building and strengthening the demand for education results.

3.1. Galvanizing Shared Commitment to Priority Goals in Education

An "accountability triangle" (figure 3.1) can capture the complex dynamics of strategic leadership by highlighting the interactions among the key actors involved: policy makers, service providers, and users or clients of education services. Politics is the starting point of this relationship. In theory, citizens grant policy makers power over education policies and programs; in practice, in most settings, citizens grant this power implicitly in exchange for representation of their interests in education (the first link in the "long route" of the accountability triangle). As the World Bank (2003) notes, however, citizens' hold on politicians is often weakened by the influence of interest groups, such as unions, private service providers, and political parties, that have greater power and more access to the politicians.¹⁵ In the second link of the "long route," policy makers delegate authority and resources to service providers to achieve the expected education results, typically via compacts with the ministries of education responsible for overseeing and managing provision of services. In the third link, schools and other educational institutions financed by the government provide educational services to their target clientele, thus completing the "long route" of the accountability triangle.¹⁶ Crafting

¹⁴ Both country-specific and cross-country data can inform dialogue and decision-making. UNESCO (<u>https://uis.unesco.org/</u>) offers comprehensive data on key education indicators, while the World Bank's Global Education Policy Dashboard seeks to provide comparative information on education policies (<u>https://www.worldbank.org/en/topic/education-policy-dashboard</u>).

¹⁵ This distortion typically undermines service delivery to poor families in terms of access and quality. Options to reduce the problem include enhancing citizen participation, such as in budget formulation and supervision, and publicizing key performance indicators, such as school-level spending on education and learning outcomes and graduate employment across institutions.

¹⁶ Figure 3.1 shows a single-headed arrow completing the third link to reflect the typically more limited and time-consuming interactions between public sector education service providers and their clientele. In contrast, the "short route" shows a double-headed arrow to reflect the fact that private sector service providers compete for users of their services and thus tend to engage more actively with their clientele.



Figure 3.1. The Political Economy of Education Systems with Key Actors in an "Accountability Triangle"

Source: Adapted from World Bank (2003).

Note: The light blue arrows trace the "long route" of accountability, with the 1st link connecting clients and policy makers, the 2nd link connecting policy makers and providers, and the 3rd link connecting providers to clients. The grey arrow indicates the "short route" directly connecting clients and providers through a "Voice & Choice" relationship in terms of market transactions. The "technical agencies" noted in the providers box refer to specialized entities in areas such as quality assurance, curriculum development, teacher training and professional development, student assessment and examinations, qualifications frameworks, accreditation, and student scholarships and loans. M&E = monitoring and evaluation.

more effective compacts is as desirable as it is challenging and often requires better information on system performance as well as greater alignment of incentives within the government. When policy makers allow private providers to operate with fees collected directly from users, a "short route" of accountability emerges, providing a more direct pay-for-service link between users and providers of education services. Giving users greater choice among providers can enhance competition among service providers and incentivize their performance. In Nigeria's Edo State, the ongoing EdoBEST program championed by the governor, Mr. Godwin Obaseki, exemplifies how integrating the three links along the "long route" in the accountability triangle, informed by data and evidence, can catalyze changes in basic education, a process that reflects the governor's core belief that "once you get basic education right, everything else falls in place." In many AFW countries, donors add to the complexity of the triangle, especially when they contribute significant funding for education.

Top leaders' political commitment to the priority goals is vital but insufficient; these goals must also appeal

to a wide range of stakeholders and garner their cooperation to act in the national interest. Strong political will and commitment by leaders can inspire people to work together for a better future in education. To this end, leaders should engage in what Kosack (2012) has described as "political entrepreneurship" to motivate and organize the relevant constituencies into a coherent political force for change.¹⁷ The leaders of East Asian countries have also gained wide recognition for their success in mobilizing sustained support for investing in quality education as a key driver of economic growth (Commission on Growth and Development 2008). With the broadening of AFW countries' reform agenda to include not only universal coverage in basic education but also improved learning and job-relevant skills for all, the agenda has become more complex and arduous. Weak commitment to equity goals in education is an important barrier; in addition, the goals for learning and skills are also more demanding to measure and track, and the data are more challenging to communicate simply and meaningfully to the public. Yet the basic tools for political entrepreneurship remain familiar: (a) clear messaging around an appropriate framing of the issues, (b)

¹⁷ Based on analysis of more than 50 years of education policies in three locations with very different political institutions—Brazil (1930–2000), Ghana (1951–2000), and Taiwan, China (1949–2000)—Kosack (2012) argues that successful organization of the poor by political entrepreneurs, under both democratic and autocratic rule, was the common ingredient for the success of pro-poor policies (namely, sufficiently funded mass primary education and broad-based worker training).

dialogue and networking to win broad-based support and cooperation, and (c) negotiations and accommodations to create 'win-win' situations to help advance priority national goals (Hudson et al. 2018).

Leaders can use reform narratives to signal the unacceptability of the status quo in education and to explain the government's plan of action. The fact that more than four in five 10-year-olds in school in AFW cannot read or understand a simple text provides a clear wake-up call for action. For example, Niger found itself ranked last in the 2014 Program for the Analysis of Education Systems (PASEC) assessment of learning among primary school children in 14 Francophone countries. In response, the government broke decisively from the past by introducing major reforms, including firing teachers who lacked the required proficiency, introducing a remedial program in mathematics, reforming the curriculum as well as teacher training, and strengthening the accountability of school directors (PASEC 2020; Nestour 2021). These changes helped make Niger one of only two AFW countries to register significant gains in learning outcomes between 2014 and 2019. The shock value of unsatisfactory learning outcomes has proven powerful elsewhere too-for example, in Kenya; Puebla state in Mexico; and Sobral municipality in Ceará, Brazil. In all three settings, shock helped to galvanize concerted efforts that have already yielded "substantial leaps that, if continued and extended, would [boost performance to] . . . at least the first satisfactory levels in the OECD ranks in a reasonable time" (Crouch 2020).

Careful framing of the issues for dialogue and networking is especially important where social norms, religious preferences, or cultural concerns present major barriers to change. Advocacy for gender equality in Egypt and Jordan, for example, was more successful when framed in terms of family values rather than of "women's rights;" it also benefited from networking by the movement's leaders to gain support from players with formal and informal influence in society (Hudson et al. 2018). These experiences suggest that in AFW, similar strategies may help ensure continued lowering of the barriers to girls' schooling. Careful framing is also needed in two other areas of relevance to the region: Koranic schools and language of instruction in the early grades. Koranic schools offer children and youth the religious instruction valued by many Muslim parents and focus on memorization of the Quran as a mainstay, typically taught in Arabic or in a local language (Roy and Humeau 2018). Estimated to enroll some 20 percent of the out-of-school children and youth in the Sahel, Koranic schools operate with limited government oversight or recognition (except in Mauritania) and receive no government funding. Attempts at integrating Koranic schools into the formal education system have had limited success thus far, weakening the cohesion of effort around national education goals (World Bank 2021e). Regarding language of instruction, lack of consensus on how best to proceed in a context of enormous linguistic diversity, not to mention complex domestic and international politics, has led to frequent policy changes and inconsistent implementation; the resulting situation is undermining student learning in the early grades (Bashir et al. 2018). Moving past the status quo, as well as effectively framing the issues, will require a deeper understanding of the underlying impediments to change.

Negotiations and accommodation of key stakeholders' concerns are often necessary to secure key stakeholders' commitment to and support of the reform agenda. In Benin, the only other AFW country whose PASEC test scores rose significantly between 2015 and 2019, better dialogue with teacher unions and accommodation of their interests reduced the time lost to teacher strikes-an important reason behind the gain in test scores (PASEC 2020; Nestour 2021). In Kenya, recurring teacher strikes after 2009 were resolved only after the country's residents took steps in 2016 to bring the Teachers Service Commission and the teachers' unions together for negotiations on all disputes to restore peace and avoid further losses of teaching time (box 3.1).¹⁸ Postbasic education, especially TVET, can involve industry-leading firms in skills building (for example, in curriculum development, hosting of internships, and contribution of equipment and faculty). Successful efforts to involve firms often require

¹⁸ See Bashir et al. (2018) for details. Two collective bargaining agreements were struck, one covering from July 1, 2013 to June 30, 2017 to consolidate salary awards previously negotiated by ad hoc committees and a follow-up agreement covering the period from July 1, 2017 to June 20, 2021.

Box 3.1. Strategic Leadership for Negotiations with Teacher Unions in Kenya

A problem in need of strategic leadership. Throughout the mid-2000s, interactions between the government and teacher unions in Kenya followed a familiar cycle: teacher dissatisfaction with jobs, pay, and benefits rose to a boil; teachers went on strike; the government formed an ad hoc review committee to negotiate with the unions; and the parties hurriedly signed a return-to-work agreement. Teachers went back to work, but peace was often short lived. From 2009 to 2015, teachers went on strike in five of the seven years, with the strike in 2015 lasting a total of 49 days. The chronic disruptions undermined the ability of schools to provide students with a conducive, stable environment for learning.

Leadership from the President's Office. In 2016, Kenya's President urged the Teachers Service Commission (TSC) and the two main unions—the Kenya National Union of Teachers (KNUT) and the Kenya Union of Post Primary Education Teachers (KUPPET)—to commence negotiations on all disputes to attain peace in the teaching profession. The TSC was well positioned to act promptly: it had been re-established in 2010 with a constitutional mandate that both recognized it as the sole employer of teachers in Kenya's public service and granted it the legal authority to negotiate directly with the teacher unions. Operationally and financially autonomous, it now received funding directly from the exchequer.

Dialogue and negotiations. In preparation for the negotiations, the Salaries and Renumeration Commission, in consultation with the TSC, conducted a job evaluation exercise. At the same time, the TSC, KNUT, and KUPPET withdrew all their pending court cases relating to terms and conditions of service. They appointed negotiating committees assisted by a joint technical team, began their dialogue in good faith and sincerity, and were able to conclude their work quickly. The unions presented their memoranda of demands, to which the TSC responded with a consolidated counterproposal and an offer. The TSC highlighted key principles underlying its offer: equal pay for equal work and quality assurance of teaching standards through performance evaluation.

Collective bargaining agreements reached and signed. The dialogue and negotiations produced the teaching service's first collective bargaining agreement, which was signed in October 2016. Covering the period from July 1, 2013 to June 30, 2017, the agreement consolidated previously negotiated salary awards and provided for commencement of new negotiations to cover from July 1, 2017 to June 30, 2021. When this second agreement ended, a third four-year agreement, covering from July 2, 2021 to June 30, 2025, came into effect; this agreement is still currently implemented. Agreements now exist with KNUT and KUPPET as well as with a third union, the Kenyan Union of Special Needs Education Teachers.

Key outcomes of the collective bargaining agreements. These agreements standardized basic pay and benefits for every teaching job in public schools. They also institutionalized annual teacher performance management and evaluation. They have effectively created career paths for teachers in public service, allowing for a more structured teacher performance and appraisal system. While this nascent system still needs to mature, strategic leadership at the highest level was essential in triggering and sustaining a productive process that resolved issues in teacher renumeration that had impeded past efforts to professionalize Kenya's teacher workforce.

Source: Adapted from Bashir et al. (2018), with updated information accessed on March 7, 2022, at https://www.tsc.go.ke/index.php/media-centre/downloads/category/112-collective-bargaining-agreement. Note: TSC = Teachers Service Commission; KNUT = Kenya National Union of Teachers; KUPPET = Kenya Union of Post Primary Education Teachers. bundling participation with industry- and firm-specific benefits such as public funding of the training program or first pick of graduates for recruitment. Examples of firms engaging in such arrangements in Africa include AccelorMittal in Liberia and Dangote in Nigeria. More broadly, top leaders can play a pivotal role in forming effective coalitions to overcome reform barriers such as by constructing 'win-win' solutions through negotiations and accommodations that integrate and align the interests of different constituencies toward national aspirations.

3.2. Fostering Sound Governance for Better Performance

Within government, a whole-of-government approach matters for advancing the three goals highlighted in the Regional Education Strategy. These goals are not standalone priorities but rather synergistic investments essential for a country's economic and social success that require the backing of the entire government. Equipping all children with stronger foundational skills, for example, is crucial for improving agricultural productivity and enhancing the pipeline of qualified candidates for postbasic education and training, especially in STEM fields. In addition, stronger programs in postbasic education can help raise the quality of basic education by increasing the supply of appropriately trained teachers. When top policy makers operate with a systemic perspective and recognize the connections across subsectors, hard choices come to the fore for attention and put authorities in a position to make the necessary trade-offs. Countries that have successfully built high-performing education systems in recent decades—such as the Republic of Korea; Singapore; and Taiwan, China (box 3.2)-attest to the role of high-level leaders in strategic, whole-of-government decision-making

A whole-of-government approach requires coherent governance structures at the system level and incentives that promote cooperation and coordination across organizational silos in the education system. In many AFW countries, the education system is fragmented across multiple ministries. Only five AFW countries—Cabo Verde, Equatorial Guinea, Ghana, Guinea Bissau, and Liberia—have a single Ministry of Education for all subsectors; the rest have multiple ministries by level or type of education, with up to as many as five in Cameroon and Niger. The divisions can encourage each unit to focus on its operational responsibilities. However, the divisions also make strategic decision-making for the benefit of the whole system more cumbersome and difficult (such as decisions about the relocation of resources across units). In a large country such as Nigeria, where basic education is a concurrent responsibility of the federal, state, and local governments, decision-making in silos is an ever-present risk. Lack of clarity on roles and responsibilities among the three tiers of government in Nigeria, especially for expenditure and management of service delivery, complicates the picture. With no party clearly in charge and frequent policy changes, issues such as duplication of effort, confusion, and occasional rivalry undermine service delivery results. In large and small countries alike, overcoming the inertia of fragmented bureaucracies requires explicit leadership from the top. Such leadership is especially necessary on strategic issues that require cross-ministerial or cross-unit coordination and cooperation (such as the issues of Koranic schools, girls' schooling, language of learning, jobs and skills, teacher unions, and regional opportunities for TVET and higher education). A country's president or prime minister may elevate these issues above the line ministries and assign key cabinet members to make breakthroughs in dismantling the barriers to genuine progress. Ad hoc mechanisms for coordination and decision-making are another approach. However, Côte d'Ivoire's experience with the Inter-Ministerial Coordination Committee created by prime ministerial decree suggests that simply having high-level mechanisms is insufficient to solve what are often political economy challenges (Bashir et al. 2018).

In primary and secondary education, effective governance of schools involves striking a balance between accountability and autonomy. At these levels of education, most countries govern service provision by setting standards for school inputs, specifying the curriculum content, and assessing learning outcomes. Effective governance means requiring schools to operate according to quality standards while granting autonomy for local innovations and initiative. Effective governance also means enabling effective teaching and learning by providing schools and teachers with technical support through specialized agencies such as agencies for curriculum development, teaching

Box 3.2. Education and Training for Growth and Transformation in Asia's "Tiger" Economies

Five to six decades ago, Singapore, the Republic of Korea, and Taiwan, China, the original "tiger economies," faced existential threats similar to those confronting Western and Central Africa (AFW) today: rampant joblessness and poverty and dim economic prospects. Yet all three countries, in the span of a single generation, have lifted living standards to the levels found in advanced countries. Proactive policies in education and training were a critical enabler. Highlighted below are three common features in these countries' approaches that may have potential for AFW countries.

In all three countries, "super-ministries" served as important institutional mechanisms to coordinate and align strategic decisions in education and training. These entities had the power, over many decades, to steer and coordinate and, if necessary, override the priorities of other ministries. They prioritized the needs of the economy when assessing funding priorities and trade-offs. They worked hard to win over interest groups, for example, parents, who could harbor deep reservations about technical and vocational education and training (TVET) for their children. In Singapore, the "super ministry" was the Ministry of Trade and Industry; in Korea, it was the Economic Planning Board; and in Taiwan, China, it was the Council for Economic Planning and Development. These high-level entities set overall economic strategy, oversaw the distillation of its implications for education and training, and formalized the setting and enforcing of relevant targets through additional structures (e.g., Singapore's Economic Development Board and the Council for Professional and Technical Education; the Republic of Korea's Presidential Commissions on Education Reform; and Taiwan, China's Council for Economic Planning and Development's Manpower Development Commission and National Youth Commission [Ashton et al. 2002]).

All three countries invested heavily in a solid foundation in basic education for all and used their limited resources at the postbasic levels, especially in the early decades, to expand job-relevant skills. These countries, which had universalized primary education by the 1960s, continue today to rank among the top countries in international student assessments. At the postbasic levels, the countries emphasized TVET rather than academic tertiary education. In Singapore, the government created the Institute of Technical Education to serve the lowest-scoring 25 percent of 10th-grade completers (Law 2015). The country's Economic Development Board also partnered with foreign firms to establish standalone training institutes that, after 20 years, were consolidated to create a new polytechnic, thus institutionalizing best practices in industry-relevant training (Tan and Nam 2012). In the Republic of Korea, responding to a rising demand for semi-skilled labor, the government expanded vocational secondary programs; at their peak in 1970, these programs enrolled 74 percent of senior high school students (World Bank 2015), though parental pressure proved too powerful to sustain such high shares (Yoon and Lee 2009). In Taiwan, China, the government boosted TVET students' share in secondary schools from 40 percent in 1960 to 72 percent in 1990. It also created the National Taiwan Institute of Technology and authorized it to offer degree-level training in science and engineering; by 1984, these fields enrolled 48 percent of undergraduates (Green et al. 1999; Ashton et al. 2002).

All three countries offered and funded continuous upskilling of workers, with efforts including supporting practice with employers or workplace training, advising on curriculum design, or providing instructors. During 1983–85, Singapore's government launched a massive scheme to upgrade worker skills. Of the scheme's 170,000 participants, 75 percent took the Basic Education for Skills Training course designed for those with an incomplete primary education to acquire English and mathematics skills (Law

(Box continues on next page)

Box 3.2. Education and Training for Growth and Transformation in Asia's "Tiger" Economies (continued)

2015). In 2001, the government created the multi-billion Lifelong Learning Endowment Fund (Varaprasad 2016) to reinforce funding for workforce skills already being financed through the Skills Development Levy Act enacted in 1979. The Republic of Korea's levy scheme was initially successful—for about a decade—and was later replaced by the Employment and Insurance Scheme. Firms used their claims to subsidize approved in-house reskilling and retraining (Yoon and Lee 2009). In recent years, a tripartite arrangement (called BRIDGE) involving the chaebols, universities, and small and medium-sized enterprises has emerged to ensure that skills upgrading continues to improve workforce productivity (Tan and Nam 2012). In Taiwan, China, the levy scheme relied on budget allocations as a major source of funding, in part because of the predominance of small and medium-sized enterprises.

Source: Adapted from World Bank (2020). Note: AFW = Western and Central Africa; TVET = technical and vocational education and training.

training, and school inspection. Provision of this support needs to be timely, coherent, and coordinated to align the work of educators with system-wide standards. In the Democratic Republic of Congo, the recently approved World Bank-financed Emergency Equity and System Strengthening in Education Project (US\$800 million) will support the government's reform on free primary education; it will strengthen the quality of instruction by further streamlining teacher salary payments via an e-registration platform, facilitating networking among teachers across schools, and improving local school management systems. In the same vein, the Ghana Accountability for Learning Outcomes Project supports policy reforms for efficient education sector practices in teacher management, school administration, and school leadership.

In TVET and tertiary education, effective governance begins with AFW governments establishing the legal and regulatory frameworks needed to define service provider accountability and autonomy. Public providers of TVET (both formal and informal) and higher education need greater clarity of their powers and responsibility; clarification on this front is crucial to these providers becoming more responsive to emerging trends in skills demand and more resilient to ongoing and future shocks (Arnhold and Bassett 2021).¹⁹ Because TVET and higher-education systems in most AFW countries are still at a nascent stage of development, the relevant legal and regulatory frameworks must enhance service providers' capacity and incentives to operate successfully. Measures at the institutional level include strengthening managerial capacity, ensuring guidance from independent governing boards, allowing meaningful control over critical drivers of program quality and costs, and creating access to tools and resources for developing and harnessing staffing talent. Measures at the system-level for both public and private providers include quality assurance for accreditation, skills qualification frameworks, and unified data systems to track service provision and labor market outcomes.

¹⁹ In some countries, providers of postbasic levels of education and training may formally organize as statutory boards. Under this arrangement, the board receives a direct budget along with full responsibility for service delivery, including staffing and all aspects of operations, in return for delivering certain results. Singapore's Institute of Technical Education operates this way to provide TVET, as it has since 1973 while operating under its predecessor entity as the Industrial Training Board (Law 2015); all of the country's government polytechnics are also statutory boards, as were the two public universities until 2006, when they were corporatized and given even more leeway to operate independently (see https://www.gov.sg/sgdi/statutory-boards).

3.3. Ensuring Adequate Financing and Effective Use of Resources for Education

AFW leaders and policy makers must act strategically to ensure adequate funding for education and foster equitable and efficient use of resources. In AFW, as elsewhere among low- and middle-income countries, the government, households, and donor partners-in that order by size of their contributions—are the main funders of education (Education Finance Watch [EFW] 2021). This section presents key features of education finance, including trends in aggregate spending on education and its composition by source of funding. It examines in greater detail public spending on education in terms of the adequacy of spending in relation to the goal of achieving the education-related Sustainable Development Goals (SDGs) and in relation to the 4–6 percent of GDP benchmark associated with spending levels in countries with successful education systems (EFW 2021). The dire macroeconomic prospects in AFW countries, especially in the aftermath of the COVID-19 pandemic, make it urgent for leaders and policy makers in the region to pursue multiple strategies to achieve the outcomes given priority across the learning life cycle. In most AFW countries, enlarging government revenues will require a combination of efforts, and promoting equitable and efficient use of public funding for education will require discipline.

3.3.1. Real Spending on Education from All Sources

Aggregate real education spending in AFW rose by 70 percent in the decade prior to the COVID-19 pandemic in line with global trends of steady gains. Considering the contributions from all the main sources (namely governments, households, and donor partners²⁰), aggregate spending on education in AFW grew in real terms at 4.7 percent a year between 2009 and 2019 (figure 3.2a). This growth mirrored global trends,

lagging somewhat behind the average growth rate of 5.9 percent a year for low- and middle-income countries. This positive trend boosted aggregate real spending on education in the region by 1.7 times between 2009 and 2019.

Per capita real spending on education in AFW countries has risen only marginally over the last decade despite the large increases in aggregate spending.²¹ Spending averaged over all students in the relevant age ranges for the entire learning life cycle-preprimary, primary, secondary, TVET, and tertiary education—is a useful indicator for assessing the adequacy of funding for the population in these age ranges, rather than just for those enrolled in an education institution. The average per capita spending in 2018–19 for AFW countries exceeded the corresponding average for low-income countries but was less than half the average for lower-middle-income countries (figure 3.2b). Between 2010 and 2019, this indicator rose by only 13 percent compared with the increase of 70 percent in aggregate real spending (EFW 2021). These divergent patterns suggest that the increase in aggregate real spending has largely gone toward expanding access, including access to levels beyond primary education wherein unit costs are typically higher. A few AFW countries buck this general pattern: Burkina Faso, Cabo Verde, Cameroon, and Gabon, for example, saw notable increases in per capita real spending on education between 2013-14 and 2017-18 (EFW 2021).

Governments, households, and official development partners contribute average shares of 52, 42, and 6 percent, respectively, of the total funding for education in AFW. The distribution of spending across the three main funders of education has remained relatively stable over time (EFW 2021). The government's share is comparable to the non-AFW global average of 44 percent for low-income countries, but noticeably lower than the corresponding average of 68 percent in lower-middle-income countries, and significantly below the average of 78 percent in upper-middle-income countries (figure 3.3).²² The share of household

²⁰ Private philanthropy for education has been growing but remains modest. In 2013–15, philanthropy for all sectors was barely 5 percent of total official development assistance, of which 9 percent was for education (OECD 2018).

²¹ This indicator tracks overall government spending in relation to the population in the age ranges for preprimary, primary, secondary, and tertiary education; it assesses the adequacy of funding for all children and youth in the eligible age ranges rather than just for those able to attend an education institution.

²² The government's share is the net of the estimated 60 percent of ODA that courses through public budgets (EFW 2021); the remaining 40 percent of ODA is channeled through non-budgetary channels and thus not netted out of public spending. The shares are based on estimates to fill missing data. Distribution of total spending on education by source has been relatively constant over time (EFW 2021). The distribution relies on estimates to make up for missing country data.



Figure 3.2. Aggregate and per Capita Real Spending on Education from All Sources, by Regional and Nonregional Country Income Groups, 2009–19

Source: Analysis of data for 21 AFW countries (except for Equatorial Guinea) in the EFW database maintained by the World Bank–UNESCO, accessed on August 31, 2021 at https://en.unesco.org/gem-report/education-finance-watch-2021.

a/ Aggregate real spending refers to total spending from all sources adjusted for inflation. The data in the boxes show absolute amounts for 2018–19 (in constant 2018 US\$) for 11 low-income AFW countries and 9 lower-middle-income countries. Gabon, the only upper-middle-income country in the AFW sample, is excluded; Gabon tracks the global trend for upper-middle-income countries.

b/ Per capita aggregate spending is the result of aggregate spending divided by the total population in the age ranges for preprimary, primary, secondary, and tertiary education, not by the number enrolled at these levels of education. The figure shows global averages for low-income and lower-middle-income countries; the corresponding averages excluding AFW countries are US\$46 and US\$303, respectively.

Note: AFW = Western and Central Africa; LIC = low-income countries; LMIC = lower-middle-income countries; ODA = official development assistance; UMIC = upper-middle-income countries.

spending in low- and lower-middle-income countries, both in AFW and elsewhere, is several times the share of official development assistance (ODA). However, the share of ODA in low-income AFW countries is only 13 percent, less than compared to the non-AFW global average of 20 percent for low-income countries. The difference is covered by AFW households, which contribute a large share of total spending on education—42 percent, on average—compared with 36 percent in non-AFW low-income countries. Among lower-middle-income countries, the share of ODA drops off sharply: 4 percent in AFW and 2 percent elsewhere.

3.3.2. Government Spending on Education

Public spending on education as a share of GDP has stagnated in AFW over the past 10 years; at an average of 3.5 percent of GDP in 2017–18, it is too low to achieve the education SDGs. The regional average is comparable to the global non-AFW low-income country average and about 80 percent of the middle-income country average (figure 3.4a). Aside from comparisons based on country income group, two other benchmarks offer useful perspectives for assessing levels of government spending on education. The first is the range of 4-6 percent of GDP that characterizes spending levels in successful countries (EFW 2021); the second is the 6.3 percent that UNESCO (2015) estimates is needed by low- and middle-income countries to universalize preprimary, primary, and secondary education by 2030. Based on data for 17 AFW countries for 2017-19, only five of the 17 countries-Burkina Faso, Cabo Verde, Ghana, Senegal, and Togo-spent in the range of 4-6 percent of GDP. Only Sierra Leone exceeded the 6.3 percent benchmark. In the four lowest-spending countries-Chad, Guinea, Mauritania, and The Gambia, which are all low-income countries-government spending on education averaged only 2.2 percent of GDP in 2017-18.

Modest levels of public spending on education relative to the GDP in most AFW countries stem more

Figure 3.3. Distribution of Aggregate Real Spending on Education by Source, Western and Central Africa and Other World Regions by Country Income Group, 2018–19 (%)



Source: Analysis of the EFW database maintained by the World Bank UNESCO, accessed on August 31, 2021 at <u>https://en.unesco.org/gem-report/</u>education-finance-watch-2021.

Note: Numbers in the bar segments show absolute amounts of real spending on education in 2018–19 in billions of constant US dollars. The AFW sample includes 21 countries (except for Equatorial Guinea): 11 fall in the low-income group; 9 in the lower-middle-income group; and 1, Gabon, in the upper-middle-income group. Data for Gabon are excluded in computing the distribution for the AFW lower-middle-income group. AFW = Western and Central Africa; HIC = high-income countries; DIA = official development assistance; UMIC = lower-middle-income countries.

from the small size of overall government budgets than from low shares of education in the budget. Government budgets in AFW have been growing, rising from 17 percent of GDP, on average, in 2004-08 to 22 percent in 2016–19 (International Monetary Fund 2021).²³ The current average is slightly less than the global average of 24 percent for low- and middle-income countries globally but far below the 30 percent in high-income countries (EFW 2021). In only three of the 17 AFW countries with available data-Cabo Verde, Liberia, and Togo-was the government budget at least 24 percent of GDP in 2017-19, that is, the global average for low- and middle-income countries (figure 3.4b). By contrast, 12 of the 17 countries allocated education a share of the total public budget greater than the global average of 16 percent for low- and middle-income countries. Thus, AFW countries' generally lower public spending on education as a share of GDP is driven more by the smaller size of the overall government budget than by a lower prioritization of education in the government spending.

In the underlying constraints on public spending on education, AFW countries differ widely and therefore require different strategies to mobilize more public funding for the sector. Among the countries that spend the least on education as a share of GDP. Mauritania and The Gambia have the scope to increase both the size of the national budget and the share allocated to education; for Liberia, the challenge is to increase the share of education in the national budget; for Chad and Guinea, it is to increase the size of the national budget by collecting more revenues. Sierra Leone, the highest spending country among the 17 AFW countries with data, has successfully implemented its free schooling policy; in this country and the others where spending falls in the 4–6 percent of GDP range, the challenge is to sustain the commitment of resources by achieving commensurate results in education outcomes. In the remaining AFW countries, current funding for education falls short of the 4-6 percent benchmark, yet the education sector already claims a significant share of public budgets; accordingly, more funding for education relies heavily on expanding the overall size of the national budget relative to the GDP.

3.3.3. Enlarging the Fiscal Space to Increase Public Spending on Education

With dimmer prospects for economic growth in the aftermath of the COVID-19 crisis, government funding for education faces new adverse pressures throughout AFW. The International Monetary Fund (2021) expects that most AFW countries will not regain their precrisis per capita GDP until the end of 2025. Thriving economies tend to generate rapid increases in government spending on education; economies suffering from the pandemic-induced slowdown, however, are likely to struggle in this area.²⁴ The situation is fluid, and data are patchy. Yet early data collected by the World Bank for 29 countries from around the

²³ Government spending as a share of the GDP has risen over the past decade in 13 of the 21 AFW countries for which data are available.

²⁴ The United Nations (2019) estimates that rapid economic growth in Sub-Saharan Africa during 2000–15 (averaging 2.7 percent a year compared with declines of 0.7 a year during 1980–2000) contributed two-thirds of the 4–5 percent a year growth in government spending on education in the region during the period.

Figure 3.4. Government Spending on Education in Western and Central Africa, by Income Group and by Country, 2010–19



(a) Government spending on education as a share of the GDP (%), 2010–19, by income group

(b) Education as share of the government budget and government spending as share of GDP (%), 2017–19 ^{a/}

Source: Analysis of data for 21 AFW countries in the World Bank–UNESCO EFW database, accessed on August 31, 2021 at https://en.unesco.org/gem-report/education-finance-watch-2021.

Note: AFW = Western and Central Africa; GDP = gross domestic product; LIC = low-income countries; LMIC = lower-middle-income countries; UMIC = upper-middle-income countries.

a/ The horizontal and vertical lines denote global averages of the two axes for low- and middle-income countries: 16 and 24 percent, respectively.

b/ The curving dotted lines denote combinations of values in the two axes equal to public spending on education of a given percentage of the GDP: 6 percent for the yellow curve and 4 percent for the blue curve.

world suggest that government budgets for education are more likely to decline in lower-income countries than in other countries following the onset of the pandemic (EFW 2021).²⁵ The prospect of this trend bodes ill for the future of public funding for education, including in AFW. Funding needs for education will continue to rise, driven by factors such as rapid population growth, the still unfinished agenda of universalizing coverage, the urgent need to improve learning, and the growing pressure to expand opportunities at the postbasic levels.²⁶ Responding to the COVID-19 crisis will also require new resources, for example, to enable safe reopening of schools, provide remediation for recovery of learning losses, and minimize disruptions in service provision from future emergencies or disasters.

AFW countries have limited scope to incur additional public debt to finance investments in education and face unfavorable prospects to borrow from international capital markets. Fiscal deficits as a share of GDP in the region have surged from an average of 3.8 percent in 2019 to 6.1 percent in 2020 and 2021, leading to a rapid accumulation of the debt stock. In 2020, the region's stock of debt-to-GDP ratio averaged 40.4 percent, its highest level since 2004, when the average ratio was 46.2 percent.²⁷ More than half of the countries in the region are at high risk of debt

²⁵ The sample of 29 countries include three from Sub-Saharan Africa: Ethiopia, Nigeria, and Uganda.

²⁶ For example, by 2050, Nigeria's population is expected to double, and the populations of Chad, Burkina Faso, Mali, Mauritania, and Niger are expected to more than double. In the latter five countries, the school-age population is growing by more than a million a year, even as 10 million children remain out of school today.
27 Data in this paragraph come from the Financing Background Paper developed for this Regional Education Strategy by Savchenko et al.

Western and Central Africa Education Strategy 47

distress. About 1 in 10 are already in distress. Some AFW countries can borrow from international capital markets, but public external debts have already reached high levels, with a median of 63 percent of total public debt in 2020 and a projected increase to 67 percent in 2022. The scope for additional borrowing is thus limited. Furthermore, most of these AFW countries are rated unfavorably by well-known rating companies (for example, Moody's and Fitch); these companies typically put sovereign debts in the "speculative" and "high" risk categories. Such unfavorable ratings increase the cost of borrowing in capital markets, thus reducing the prospects for mobilizing new funds for education from this source.

Under the present circumstances, AFW countries must consider other measures, including mobilizing more government revenues through taxation, strengthening tax administration, and improving compliance. Even prior to the COVID-19 crisis, tax collection was inefficient. Exemptions and investment incentives along with inadequate taxation frameworks for international firms, have eroded the tax base and led to profit shifting. In addition, some tax instruments, such as the property tax and excise taxes, are underperforming. Additional social financing could partially come from streamlining and rationalizing tax exonerations and investment incentives, enforcing property taxation, increasing and improving the design of excise tax rates, and enforcing excise taxation. Improving the design of tax regimes for international firms, as well as rationalizing the tax incentives that benefit them, remain key priorities for the region. At the same time. AFW countries can enhance the collection of tax revenues by modernizing administration (such as by universalizing taxpayer identification and registration, auditing tax payment based on third-party data, and shifting to e-services for tax filing).

Enhancing trust between taxpayers and the government, which is critical for success in increasing tax revenues, will require measures to fight corruption and increase fiscal transparency. The broadening of the tax base is a major objective for the tax administration. One option to achieve that objective could be to increase tax morale by enhancing the trust between the taxpayers and the government (Kouamé 2021). Improved fiscal transparency and better access to fiscal data, as well as to the citizen government budget, at the local level could help to build this trust; trust leads to enhanced tax morale, which in turn can encourage tax compliance (Ali, Fjeldstad, and Siursen 2014). In fact, with the open budget index averaging 29.9 in AFW in 2019, citizens and taxpayers would be better informed. Concerning corruption, while some AFW countries recorded some progress, corruption remains a major issue. During the period 2015–19, corruption was a major obstacle for 46.6 percent of firms in AFW, and 17.2 percent of firms felt pressured to give gifts in meetings with tax officials in the region. Corruption also contributes to lowering both tax revenues and public spending efficiency.

Earmarking new tax revenues for education can help increase public spending on education, but taken alone, this action is often insufficient to increase public spending to the levels required to achieve the education SDGs. Ghana and Nigeria are among the AFW countries that have earmarked shares of specific revenue streams for education (box 3.3). When operating under strong governance arrangements, earmarked resources can ensure both increased funding for education and accountability. However, earmarking also tends to mobilize too few resources in relation to the needs while creating rigidities in public finance and are thus best applied as part of a cohesive strategy for increasing total public funding for education (Archer 2016; Bashir et al. 2018). For this reason, some countries have passed legal mandates to ensure adequate public funding for education. In some Latin American countries, these mandates aim to increase public spending on education to at least 4 percent of GDP (OECD 2020); in the Dominican Republic, for example, a multiyear process of dialogue and consensus-building led to the National Education Pact, which included a commitment by the government to spend at least 4 percent of GDP on pretertiary education (World Bank 2015). In Indonesia, a constitutional mandate in 2002 required that at least 20 percent of the government budget be set aside for education. When the target was achieved for the first time in 2009, real education spending more than doubled from its level in 2002 (World Bank 2013).

3.3.4. Household Spending on Education and ODA for Education

The economic slowdown projected for AFW economies in the aftermath of the COVID-19 pandemic is

Box 3.3. Prioritizing Funding for Education through Earmarked Revenues and Strong Governance

Even when increasing domestic resource mobilization more broadly is politically difficult or otherwise impossible (due to levels of extreme poverty or fragility, conflict, and violence), statutory or earmarked funds for education can increase allocations. However, weak governance, lack of transparency, and poor accountability can prevent these funds from meeting their stated policy objectives.

Ghana allocates 2.5 percent of value-added tax collections to the Ghana Education Trust Fund to finance capital expenditures, provide scholarships and loans at the postbasic level, and support professional development. However, the Education Trust Fund is a semi-autonomous body; coordination with and input from the Ministry of Education in expenditure allocations are limited. More than 95 percent of the Ministry of Education's budget is allocated to the wage bill; accordingly, the Ministry of Education depends heavily on the Education Trust Fund for non-salary expenditures. Large year-on-year fluctuations in Education Trust Fund financing available to the Ministry of Education thus make budget planning challenging.

Nigeria allocates 2 percent of the Consolidated Revenue Fund to the Universal Basic Education Commission. While the commission has improved policy alignment and coordination between the federal and state governments, it suffers from weak accountability measures. Its allocations are uniform across states, failing to consider individual state's financing needs or ability to match financing. As a result of the unwillingness of states to meet matching requirements and the rapidly decreasing disbursement rates, the commission has reduced its matching grant requirements from 70 percent to 50 percent. Furthermore, the commission has centralized fiscal responsibilities for basic schools, resulting in confusion around the policy to merge junior and senior secondary schools and delegate their management to decentralized authorities.

Earmarked funds have proved effective as tools for funding diversification at the postbasic level (for example, Malaysia's Human Resources Development Fund and Singapore's Skills Development Fund). These funds have clear governance structures. The semi-autonomous bodies that oversee earmarked funds are accountable to ministries of labor or education; managed by boards composed of government, private sector, association, and union representatives with clear roles for each; and subject to regular audits and evaluations of expenditure.

Source: World Bank Public Expenditure Reviews - Ghana (forthcoming) and Nigeria (2015).

likely to make it more difficult, though not impossible, to mobilize household spending on education.

The COVID-19 crisis has devastated the health and incomes of countless households, the second largest source of funding for education in AFW. An estimated 23 million more people in the region have fallen into extreme poverty, meaning that they are living on less than US\$1.90 a day (World Bank 2021d). The result is a weakening, if not complete evaporation, of their ability to spend on education. Mobilizing resources for education from households therefore requires

careful consideration. Most AFW countries do not charge fees for public primary or basic education, and some countries (such as Ghana) have eliminated fees for secondary education as well. Nonetheless, households still shoulder out-of-pocket spending for books, transport, and other school-related costs. In 2015, households in Sub-Saharan Africa spent an average of 2.5 percent of their budgets on education (African Development Bank 2020). The burden can be so onerous that some poorer families stop a child's schooling. Countries with large diaspora populations may explore remittances—these amounted to 3.5 percent of Africa's GDP in 2018 as a source of additional household funding for education. Households in Nigeria, for example, allocated to education 22 percent of the remittances they received in 2018, in Burkina Faso 12 percent, and in Senegal 3 percent (African Development Bank 2020).

Targeted measures, such as public-private partnerships, especially at the tertiary level, can increase spending by households on education. Public-private partnerships can relieve fiscal pressure on scarce government financial resources by responding to families' willingness to pay for programs unavailable through the public sector. By widening institutional differentiation in this market, these partnerships can foster healthy competition among providers. The survival of private TVET and higher-education institutions depends on the quality and job-relevance of their program offerings, so these institutions are highly attuned to labor market needs and quicker to respond than public institutions, which are often encumbered by bureaucratic decision-making procedures. Private institutions therefore have powerful incentives to experiment with curricular and pedagogical innovations to improve their course offerings. In an ideal situation, this dynamism would, in turn, induce public TVET and higher-education institutions to adopt similar steps to improve the quality and relevance of their offerings.

Opportunities for public-private partnerships also exist in basic education, though such partnerships in this context are likely to mobilize only limited additional resources from households. Private schools have grown rapidly in some AFW countries in recent years in response to household demand for schooling. Because public schools cannot absorb the large numbers of children who still remain out of school in AFW, some scope may exist for continued growth of private schools. However, most of these children are concentrated in poor families with limited means to pay for private schooling. Thus, public-private partnerships in basic education may not bring the desired fiscal and physical relief in service provision. However, what these partnerships can do is help in creating a more integrated system of education, for example, through the incorporation of informal Koranic schools that currently operate in isolation. Senegal is piloting a private-public partnership scheme for this purpose, and its experience is likely to generate useful lessons for other countries in the region.²⁸ An early lesson is that effective public-private partnerships require strong governance arrangements that may be challenging to achieve in the low-capacity contexts of AFW countries, even though it is in these contexts that such partnerships are most needed. Another benefit of public-private partnerships in basic education is improvement of the quality of school management. Liberia, for example, experimented with "outsourcing" this function in primary schools. In one of the most rigorously evaluated public-private partnerships in Sub-Saharan Africa, researchers found that after three years, the approach produced mixed results depending on the profile of the private partner involved, with only a few of the partnerships managing to improve student outcomes and the school climate (Romero and Sandefur 2019; Barrera-Osorio et al. 2013).²⁹

ODA funding for education is likely to come under pressure as donor partners rearrange their spending priorities to recover and rebuild from the crisis. Donor partners are likely to give priority to global health needs (such as vaccines) and their own domestic programs (for example, unemployment and business support packages). Some estimates predict a US\$2 billion drop in ODA for education from its peak amount in 2020 and a recovery to 2018 levels only some six years later (UNESCO Institute for Lifelong Learning 2020). At the same time, certain features of ODA for education in Sub-Saharan Africa noted by Bashir et al. (2018) add to concerns about this source of funding for education in the region. ODA has a history of heavy concentration in a few countries, for example, Ethiopia, Tanzania, Mozambique, Senegal, and Ghana during the 2002-14 period. In relation to the school-age population, the amount of ODA tends to be modest. In 2014, for example, ODA per child in primary school averaged just US\$11 (in 2014 constant prices) for the 18 AFW countries in the sample of 42 Sub-Saharan African countries for which data are available; it ranges from no higher than US\$3 in the Republic of Congo, Togo, Cameroon, Nigeria, Côte

²⁸ See the World Bank's (2021e) Sahel education white paper for more detail on Koranic schools.

²⁹ Other approaches can also be successful, such as funding and monitoring independent providers in rural areas as demonstrated in Pakistan—see Barrera-Osorio et al. (2013).

d'Ivoire, Mauritania, Chad, and Equatorial Guinea to as high as US\$31 in Senegal and US\$41 in Liberia. In light of these patterns, donor partners in the region might revisit future ODA allocations for education to direct more of the funds to the neediest populations.

3.3.5. Ensuring More Equitable Use of Public Funds for Education

Much room exists in AFW countries to improve equity in the use of public funds for education. A priority is to fund investments to equip all children with a strong foundation for lifelong human capital development. At present, because of biases in enrollments by level of education and the structure of public spending per student by level, the poorest households tend to benefit much less from public spending on education than richer ones.³⁰ An international assessment of 42 countries (2010-17) identified the eight AFW countries included in the sample as having the least equitable distribution of spending on education (United Nations Children's Fund [UNICEF] 2020).³¹ The share of spending benefitting the poorest quintile was just 5 percent in Guinea, 8 percent in the Central African Republic, and 9 percent in Cameroon and Senegal. The World Bank's Public Expenditure Reviews, which have been conducted since 2015 in 13 AFW countries, reinforce the picture of highly inequitable distribution of public spending on education. In The Gambia, the poorest quintile received only 16 percent of the overall public spending on education funds while the richest quintile received a share of 24 percent. In Ghana, public education expenditure is pro-poor in primary and junior secondary education but turns regressive at the upper-secondary and tertiary levels. Among youth of secondary-school age, only 24 percent of youth belonging to the bottom two quintiles were enrolled, compared to 50 percent of youth from the top two quintiles. In Gabon, 50 percent of government spending on education benefitted the richest quintile, a result of the generous funding of tertiary education. The rich-poor disparities are widest in Togo, where the bottom two income quintiles received only 12 percent of public expenditure on education, compared with the richest quintile's share of 56 percent. Other evidence of inequitable allocations of public resources includes a heavy concentration of capital investment for postsecondary university education (Benin) and sizeable shares of the national budgets for international university scholarships that typically benefit youth from the richest households (Côte d'Ivoire, Central African Republic, Mauritania).

As teachers' salaries absorb the bulk of public budgets for education, especially at the primary and lower-secondary levels, teachers themselves could be allocated more equitably across schools based on size of enrollments. Disparities in teacher allocation across schools is a common and long-standing problem throughout Sub-Saharan Africa, including in AFW (Majgaard and Mingat 2012; Bashir et al. 2018). Because rural schools are often located in places without attractive amenities and services (such as clinics, markets, access roads, electricity), they struggle to attract and retain teachers (Mulkeen 2010; Asim 2020). At the secondary level, where the curriculum typically requires specialized teaching, this difficulty often creates mismatches between teachers' training and teaching assignments (Bashir et al. 2018). Figure 3.5 illustrates with data for Ghana and Côte d'Ivoire the loose relation between the number of teachers and number of students in AFW countries (Majgaard and Mingat 2012; Bashir et al. 2018).³² In Ghana, a school with 500 students, for example, may have as few as 5 teachers or as many as 20 (Bashir et al. 2018), implying a ratio of 100 students per teacher in the former school, compared with a ratio of 25 in the latter, and a four-fold gap in public funding between the two schools.³³

Many factors contribute to inequitable patterns of public spending on education in AFW, including the absence of norm-based staffing and related

³⁰ For example, relative to primary education, public spending per student is 2.1 time as high in secondary education, 7.5 times as high in TVET, and 14.2 times as high in tertiary education based on data for 16 AFW countries for primary and secondary education and nine AFW countries for TVET and tertiary education (International Institute of Education Planning [IIEP] 2020; IIEP-UNESCO Dakar and UNICEF 2020, 2019a, 2019b, 2018, 2016; and IIEP-UNESCO Dakar and UNICEF 2021).

³¹ The eight AFW countries, ranked from most inequitable to least, were Guinea, Central Africa Republic, Senegal, Cameroon, Benin, Niger, Ghana, and Togo.

³² More recent data reveal similar patterns in such countries as Nigeria (IIEP-UNESCO Dakar and World Bank 2021) and Sierra Leone (IIEP-UNESCO Dakar and UNICEF 2020).

³³ Analysis of Ghana's 2018 education management information system data reveals persistence of great diversity in teacher allocation across schools, with the regression R-squared figure remaining practically unchanged at 0.41; this result implies that only some 40 percent of the variation in teacher allocation across schools correlates with the number of students enrolled.





Source: Bashir et al.'s (2018) study, which analyzed data for public primary schools in Ghana in 2013 and public secondary schools in Côte d'Ivoire in 2014. Note: R2 denotes the share of variation in teacher allocation across schools that is explained by variation in enrollments. The straight line is the linear regression relating the two variables: number of teachers and number of students.

weaknesses in administration of staffing decisions.

Teacher salaries are the biggest item of public spending on education in basic education, so lack of staffing norms or weak enforcement allows interference in the deployment or transfer of teachers, which often puts the schools serving poor rural communities at a disadvantage (Asim 2016). In some AFW countries, inequitable allocations of public spending arise because community needs are not explicitly taken into consideration. Nigeria, for example, allocates the bulk of federal funds for basic education evenly across the country, despite large variations in current conditions; because states contribute significantly to education financing and differ widely in their fiscal capacities, this method of allocation exacerbates geographic inequalities within the country. In Nigeria, spending per child in the highest spending region is about six times as high as it is in the lowest spending region; in Mauritania, the ratio is four times (EFW 2021). In Benin, funding formulas for grants to parent-teacher associations are inequitable. In some countries, the mechanisms to raise funds for education exacerbate inequalities; in Cabo Verde, for example, school fees are raised and kept at the school level, so schools serving the poorest have the fewest resources.

Increasing the share of budgets distributed to subnational and school levels on the basis of well-defined

needs can improve equity in the allocation of public spending on education.³⁴ Brazil, a country with a federated system of government, pools and then redistributes government funds for education based on student population with the express goal of equalizing per student levels of public spending on education (Ferraz et al. 2012).³⁵ In contrast, Nigeria distributes federal funds in equal amounts to all states regardless of the size of school-age populations, an arrangement that produces wide disparities in per student funding across the country. In many AFW countries, allocating more non-salary budgets in the form of school grants could provide all schools with a flexible source of funding to address needs of direct relevance to the school (such as infrastructure, materials, or hiring teaching assistants). In the Democratic Republic of Congo, a formula-based school grants program will direct non-salary budgets to primary schools to reduce the share of school fees paid by households, thereby improving equity. This program is supported by integrated reforms in macroeconomic policies, governance, and education; these reforms, in turn, are essential for increasing education financing at subnational levels in a context of conflict and weak institutional capacity. The school grant program is expected to benefit 6.57 million primary school children by channeling resources equivalent to a 6 percent increase in the income of poor households (World Bank 2020b).

³⁴ A robust education management information system with fit-for-purpose scope and functionality is essential for this purpose. This challenge is elaborated in chapter 7.

³⁵ The Brazilian system also has its challenges; see Ferraz et al. (2012) for more detail.

3.3.6. Ensuring More Efficient Use of Public Funds for Education

High repetition and dropout rates affect all levels of education in most AFW countries and reflect inefficiencies in the education system. In Nigeria, dropout rates at the primary level are over 10 percent, while in Côte d'Ivoire, repetition rates are between 10 and 20 percent at every level of education. In Mauritania, the average student takes over eight years to complete six years of primary school. These internal inefficiencies reflect multiple driving factors, including the low quality of education provided in many schools. These factors in turn relate to inefficiencies in management and governance of the system. Mismatches, delays, and misdirection in the allocation of key resourcesincluding teachers as well as teaching and learning materials-all contribute to poor service delivery, which reduces the impact of financing. Regarding transfers of financial resources from the central government to local entities or schools, several AFW countries lack strong financial oversight and audit mechanisms, allowing for leakages along the way.³⁶

Large differences across AFW countries in translating public spending on education into years of schooling and learning outcomes are another sign of inefficiencies in the region's education systems. Countries like Chad, the Central African Republic, and Liberia, for example, spend about as much per child as Sierra Leone but achieve less than half the learning-adjusted years of schooling. Countries like Côte d'Ivoire, Ghana, and Senegal spend about two to four times as much per child as Togo and Benin but achieve similar or lower levels of learning-adjusted years of schooling (figure 3.6). These differences in efficiency arise for different reasons (EFW 2021). For example, services tend to be more costly to deliver in sparsely populated countries or in countries where coverage is extensive and must reach large segments of rural populations. However, inefficiencies in the use of public funds for education may also arise from suboptimal spending decisions (such as inadequate provision of learning materials); lack of accountability (such as high teacher absenteeism); and possible diversion of funds for other uses (such as payment of salaries

Figure 3.6. Relation between Expenditure per Child and Learning-Adjusted Years of Schooling in Western and Central Africa, 2020



Source: Analysis of data for 21 AFW countries in the World Bank–UNESCO EFW database, accessed on August 31, 2021, at https://en.unesco.org/gem-report/education-finance-watch-2021.

to "ghost" teachers). In such settings, increases in public spending produce limited results. A recent study using cross-country data, for example, showed that a 10 percent increase in per child spending improved learning outcomes by only 0.8 percent (AI-Sammarrai et al. 2019).

Evidence from within AFW countries, across both districts and schools, also points to potential scope for improving efficiency in the use of public spending on education. In Ghana, for example, district-level data show no discernible relationship between scores on the examination administered at the end of junior secondary school and indicators of resource availability (such as students per classroom or per teacher; figure 3.7a uses the former indicator). Again, many factors contribute to the weak relationship, some of which may reflect differences in location-specific conditions that drive up the cost of service delivery. Nonetheless, inefficient use of resources cannot be ruled out, and the patterns in the data provide an early alert for further investigation. In underperforming districts, for example, the poor results may be due to a high prevalence of schools where teachers have few tools and resources to implement structured pedagogies that have proven results for student learning.

Note: The vertical line denotes the sample average for public spending per child. The horizontal line denotes the sample average for learning-adjusted years of schooling. PPP = purchasing power parity.

³⁶ Other background papers discuss specific issues in more detail



Figure 3.7. Relation between Test Scores and Indicators of Resource Availability at the District and School Levels in Ghana and Mauritania

Source: Analysis of 2018 data from Ghana Ministry of Education's education management information system and 2013 Service Delivery Indicator data for Mauritania. For both countries, the data include only public schools, and teachers include all teachers. a/ Each dot represents a district. The graph plots district-level test scores (vertical axis) against district-level student-teacher ratios (horizontal axis). The test scores

are lack to the presents a district. The graph plots districted test scores (ventical axis) against districted to four student ratios (nonzontal axis). The test scores refer to the average across subjects obtained by junior high school (ninth grade) students on the nationwide Basic Education Certificate Examination (vertical axis). by Each dot represents a school. The graph plots school-level average scores on the mathematics and language tests administered to fourth graders (vertical axis) against the school-level ratio of students to teachers.

Using schools as the unit of analysis, Majgaard and Mingat (2012) found that weak relationships between learning outcomes across schools and resource availability are prevalent in school systems throughout Sub-Saharan Africa, including in many AFW countries. Analyses of data from the World Bank's Service Delivery Indicator surveys for Mauritania (figure 3.7b), for example, exemplify the typical pattern of a weak link between the test scores and staffing ratios, a proxy for resource availability at the school. As before, inefficient use of resources may be one among various factors behind the pattern revealed by the data, but it nonetheless warrants follow up as part of routine M&E of system performance.

3.4. Priorities for Strengthening Strategic Leadership

Strategic leadership by AFW policy makers is essential to create a policy environment favorable to achieving the expected outcomes of this Regional Education Strategy. As indicated above, three areas of strategic leadership warrant specific attention: effort by top leaders to make these outcomes a widely shared commitment; effective governance to incentivize and coordinate the actions of all stakeholders toward these outcomes; and sufficient investment and good stewardship of resources for education (figure 3.8).

Galvanizing widely shared commitment for the prioritized outcomes mobilizes the support needed from all stakeholders to maximize the potential for success in achieving these outcomes. The agenda for action is complex given the difficulty of improving outcomes across the entire education life cycle, from preschool through basic education to TVET and tertiary education. Top leaders in AFW countries must therefore broaden the appeal of these outcomes and motivate all stakeholders to contribute their support, whether in-kind or in resources, and cooperate in the national interest. To this end, the top leaders can consider various options based on the lessons of experience. Galvanizing shared commitment will require effort in building effective coalitions for the reform agenda, typically involving stakeholders from the government, civil society, and private sector. Sustaining the interest of these parties will depend on having a clear communications strategy, one that lays out the case for reform; explains the government's proposed action plan, including partnership with stakeholders; and offers progress reports on critical milestones, successes, and challenges. Finally, coalition-building will often involve negotiations and accommodations to create and sustain 'win-win' situations for effective cooperation toward the expected results.

Figure 3.8. Strengthening Strategic Leadership

(What?	Why?	How?
Ż	Galvanize widely-shared commitment to key education goals	Achieving national priorities in education requires strong ownership of key goals by diverse constituencies	 Strengthen coalitions between government, civil society and the private sector for the reform agenda Sustain purposeful communications strategy Create "win-win" situations for effective cooperation
	Structure governance of education institutions for coherence and accountability for results	Weak governance structures blur roles and responsibility and impede service delivery to achieve education results	 Elevate key education priorities above line ministries Organize the education system for coherence Clarify institutional compacts, roles, and responsibilities
	Expand, or at least protect, funding for education and make better use of available resources	Spending on education is often low, inefficient, and inequitable, and COVID has added to the challenges	 Plan and allocate funding to achieve education goals Tighten PFM for efficient use of education budgets Use pro-poor/equity norms to allocate resources

Note: Potential candidates for a whole-of-government approach include digital skills and jobs; regional approaches to TVET and higher education; engaging with teacher unions; relationships with Koranic schools; and national policy on language of instruction. PFM = public financial management.

Sound governance, the second area for strategic leadership, is vital to encourage cohesive and coordinated decision-making in government toward the outcomes prioritized in this strategy. Achieving these outcomes depends not only on actions within the purview of the education sector but also on factors beyond the sector. Accordingly, a whole-of-government approach is critical to ensure that top policy makers adopt a systemic perspective in addressing high-level trade-offs and integration of cross-sector efforts (such as allocations of public spending and advancement of the skills-and-jobs agenda). Key priorities in education, such as the goals of this strategy, must transcend the line ministries to demand regular attention from the whole government. A whole-of-government approach also entails structures and incentives in the education sector that reward cooperation and coordination across organizational silos. Clarity on institutional compacts with service providers in terms of their roles and responsibilities will be critical. Primary and secondary schools need governance arrangements that balance accountability for results and autonomy for local decision-making, as well as access to timely technical support through specialized system-level services (such as curriculum development, teacher training, and professional development). In TVET and higher education, sound governance typically takes the form of legal and regulatory frameworks to define service provider accountability and autonomy.

Regarding education finance, AFW governments must take strategic action to both increase public budgets for education and make spending more efficient and equitable than at present. Most governments in AFW countries spend too little to achieve the goals of this strategy. Nongovernment sources of funding, such as households and official donor assistance, are unlikely to make up for the gap in public funding because of widespread poverty and shaky prospects for growth, including in high-income countries. To boost public spending on education, AFW governments can consider several options: collecting more revenue by enhancing the efficiency of tax instruments and tax administration; earmarking public funds for education where broader domestic resource mobilization measures are unfeasible; and fostering public-private partnerships for education service delivery, especially at postbasic levels. At the same time, they can tighten public financial management (PFM) processes to make public spending on education more efficient. Measures include protecting spending on non-salary inputs in basic education (such as textbooks and other materials essential for students to learn); reducing waste (such as by eliminating "ghost teachers" from the payroll and routinely using competitive bidding for procurement); and ensuring that teachers are paid on time to motivate attendance and effort. Tighter PFM processes also matter for equity in public spending on education, for example, using pro-poor criteria and norms to allocate public spending by level of education, across beneficiaries by income and locality, or across schools.



4. High-Impact Interventions to Reduce Learning Poverty

Reducing learning poverty is critical in a region where access to basic education has widened considerably without commensurate progress in boosting student learning. By 18 years of age, a child born today in the region can expect to attain, on average, 7.8 years of schooling; however, this schooling amounts to only 4.3 years when adjusted for learning. Addressing what the World Bank (2020a) has described as a serious problem in widespread learning poverty is vital to building a strong human capital base capable of driving the region's agenda for growth and shared prosperity. This chapter focuses on high-impact interventions to this end, with specific focus on five broad interrelated thematic areas to improve teaching and learning: transforming the teacher workforce, improving children's readiness to learn, providing essential learning resources and tools, enhancing pedagogical effectiveness in the classroom, and fostering a culture of learning assessment throughout the education system.

The discussion addresses the challenges of special relevance to basic education—from preprimary through secondary. At these levels, the government often dominates service provision, and the high-impact interventions are within the scope for governments to consider in policy and program design. For each thematic issue, the discussion provides an assessment of its status and importance in the region and elaborates on promising approaches for addressing it to improve learning outcomes.

4.1. Teachers and the Current Status of the Profession

Multiple studies have emphasized the lack of teacher effectiveness in AFW and have highlighted the main sources of the problem. Key among those sources are (a) inadequate teacher preparation due to preservice training that tends to be highly theoretical; (b) weak processes for teacher recruitment, retention, deployment, and accountability; and (c) sporadic and highly fragmented programs for in-service training for teachers' continuous professional development. The teacher workforce also suffers from poor management and inadequate support.

4.1.1. Preservice Teacher Training

The AFW primary education teaching workforce is composed of fairly well-credentialed teachers. Recent data from the PASEC 2019 shows that in AFW countries, almost all teachers have an academic level higher than primary school (figure 4.1). Indeed, most of these countries have raised their requirements for teacher credentials in the past two decades, asking for at least upper-secondary or postsecondary degrees. However, these educated teachers are the graduates of a poor-quality education and training system with low learning outcomes.

Teachers in the region need support to compensate for low content knowledge. Data on teachers' ability to master the curriculum are not available for a wide range of AFW countries, and those countries with available data indicate a low level of content knowledge. According to available Service Delivery Indicator data, the share of teachers with minimum subject knowledge in the region is 14 percent on average. Of the teachers in Nigeria, Togo, and Niger, 3.9 percent, 2.5 percent, and less than 0.1 percent, respectively, scored more than 80 percent on the combined mathematics and language test. Thus, despite their level of education, most of the teachers of those countries lack minimum subject knowledge of the curriculum they teach (figure 4.2). The same conclusion holds for pedagogical skills.



Figure 4.1. Primary Education Teachers, by Level of Education

Source: PASEC 2019.



Figure 4.2. Share of Teachers with Minimum Subject Knowledge

Note: SDI = Service Deliver Indicators.

Well-educated teachers who lack subject content knowledge and pedagogical skills indicate that the preservice training system is dysfunctional. The preservice training itself may also be insufficient and of low quality (too theoretical and likely misaligned with the needs in the classroom). Most of the time, there is no mechanism for coordination between the ministries of education and providers of teacher education to ensure that preservice teacher education programs align with new curricula.

4.1.2. Teacher Recruitment, Retention, Deployment, and Accountability

Despite significant expansion, teachers are not well deployed across schools, with schools in rural and high-conflict areas especially understaffed. Teacher absenteeism is a chronic problem, giving rise to "orphan" classrooms with no instruction while the school is in session. For example, 14.7 percent of teachers are absent at least once a week, and 14.4 percent are not in the classroom while in school. In many AFW countries, teacher recruitment is based on nontransparent and political factors rather than professional merit, and progression up the career ladder is either nonexistent or based mainly on paper qualifications and seniority rather than on professional growth and performance.

Over the period 2005–15, the size of the teacher workforce in AFW expanded faster than the corresponding global average. The number of teachers increased at an average annual growth rate of 5.3 percent in preschool education, 3.3 percent in primary education, and 5.9 percent in secondary education, much faster than the world averages of 3.4 percent, 1.4 percent, and 1.5 percent, respectively, but slightly less than the Sub-Saharan African average for primary (4.2 percent) and secondary education (7.6 percent). The secondary education teacher workforce in AFW in 2015 was two times its size in 2005; in primary and preprimary education, it was 1.6 and 1.8 times as large, respectively. The growth of the primary education teacher workforce almost matched the average annual growth of enrollment (3.1 percent). Across the region, the increase in primary education teachers simply maintained existing student-teacher ratios in AFW. In some countries, like Togo, Cabo Verde, and The Gambia, primary education enrollment growth was much faster than annual the increase of teachers.

Looking ahead, the region's challenging demographics and need to universalize basic education imply continued rapid expansion of the teacher workforce. Projections suggest that the number of students be-

tween six and 12 years of age will almost double by 2030, which will require AFW countries to accelerate the recruitment and replacement of primary education teachers just to maintain already high student-teacher ratios. The region has a track record of growth upon which to build, but more must be done.

Despite the considerable growth in the teacher workforce, teacher deployment across schools is highly inconsistent in the region. Some AFW countries fail to ensure that schools are staffed according to the size of their enrollments. In countries like Benin, Ghana, Cameroon, Togo, Senegal, Chad, Burkina Faso, and Côte d'Ivoire, understaffing is common in rural schools and those in high-conflict areas.

On average, 14.7 percent of teachers are absent at least once a week, which gives rise to "orphan" classrooms with no instructor available even while the school is in session. Across the five AFW countries implementing Service Delivery Indicator surveys (figure 4.3), absenteeism from school (classroom) among primary school teachers ranged from 14 percent (28 percent) in Mauritania (2017) to 23 percent (40 percent) in Togo (2013). Although most of the teacher absences were justified with legitimate reasons (justified leave, illness, maternity leave, training), there were no arrangements for substitute teaching in place; teacher absenteeism thus reduced instructional time for students and lowered student learning. Loss of instructional time combined with frequent absences among students further undermined learning. These teacher absenteeism patterns reflect challenges and opportunities for better teacher management at the school and system levels.23

AFW has the world's lowest shares of female teachers.

The share of women in the region's teacher workforce averages only 35 percent in primary education and 22 percent in secondary education, well below the world average of 53 percent or the overall Sub-Saharan African average of 31 percent (figure 4.4).

Women are also underrepresented in leadership positions. The position of headmaster in primary education is almost exclusively reserved for men (figure 4.5). Relatively few primary education students in schools in AFW are managed by women.

4.1.3. Teacher Professional Development

In-service teacher training is fragmented without structured continuous professional development. It is sporadic, mostly donor funded, and theoretical in nature, focused on broad pedagogic topics. It does



Figure 4.3. School and Classroom Absence



Figure 4.4. Share of Female Teachers in Primary and Secondary Education

Source: World Bank Education Statistics database.

not remediate teachers' low content knowledge and pedagogical skills. Most teacher training programs have disappointing results, with teachers usually travelling to a training center for a couple of days only to receive an abstract lecture largely unrelated to their weaknesses or their classroom reality. Too few teachers in AFW have even minimally adequate levels of knowledge: in Nigeria's Kaduna state, only a third of the 33,000 teachers who took a statewide competency test passed it, and in Togo, fourthgrade teachers tested for content knowledge were able to answer correctly only half the questions on language and only a third on mathematics (Bashir et al. 2018).



Figure 4.5. Percentage of Students in Schools Managed by Women

Source: PASEC 2019.

Unfortunately, low student learning levels are a complex problem that requires interventions targeting several different thematic areas, including curricular design and lesson plans, textbook design, assessment tools, and teacher coaching and support. These areas need not only strong design and implementation but also alignment, a concept sometimes referred to as "instructional coherence." Limited bureaucratic or implementation capacity is one reason education systems in AFW struggle to address this complex challenge effectively. These thematic areas are often managed by different agencies or units with varying levels of coordination. For example, the second-grade reading textbook that six students are sharing may not align with the teacher's lesson plans. Teachers may also lack clear support on how to teach better (Crouch 2020). In AFW, countries must address deficiencies in these thematic areas while also working to align them.

Well before the pandemic, most national curriculums in AFW and around the world were characterized as overambitious and lacking pedagogical approaches that strengthen socioemotional skills. Tanzania, for example, used to cover an overly ambitious nine subjects in its curriculum for first and second grade before streamlining it in 2015 to focus on the 3Rs: Reading, wRiting, and aRithmetic. In secondary schools, the curricula of many AFW countries date back to the 1970s and have not undergone any fundamental reform. Back then, curricula targeted a minority of young people, namely those who were well prepared and supported for schooling; these curricula no longer reflect the needs or abilities of students entering the system through the provision of free basic education (Bashir et al. 2018) or the needs of these students' teachers. Global evidence suggests that the simplification of curricular goals has helped teachers prioritize the most important topics and achieve greater understanding and proficiency among students (Pritchett and Beatty 2012).

In addition, many AFW countries lack an explicit plan for a scope, sequence, and progression of instructional activities that is backed by the science of teaching. For example, AFW countries tend to assign insufficient class time to teaching reading, language, and literacy (the research suggests at least an hour and a half every school day to help students learn to read with comprehension). The repetitive nature of the instruction is also geared more toward teaching facts as opposed to skills and competencies. Teacher and student absences and tardiness contribute to additional time lost. Especially with the pandemic, teachers can be overwhelmed by teaching a standard complex curriculum while also trying to remediate COVID-19-related learning loss.

In this context, many governments are experimenting with various solutions and increasingly focusing on structured pedagogy interventions in foundational literacy and numeracy. At its simplest, structured pedagogy is a coordinated approach to align teacher lesson plans, student materials, teacher training, and ongoing support. Teachers can become real allies if reforms support their work and if they can observe an impact on improving children's reading levels (Piper et al. 2018). Liberia, for example, combined structured lessons for teachers with observation and feedback by literacy coaches as part of the Early Grade Reading Assessment Plus program. There are other promising examples in AFW and across Sub-Saharan Africa.

4.2. Transforming the Teaching Profession

The long-term vision for AFW is to reshape the teaching profession into a socially valued, meritocratic profession with high professional standards. Since this transformation will take time, the strategy highlights key reforms that countries can implement in the near-term to move the region closer to this vision and shift the focus to teacher effectiveness.

Improving teacher effectiveness is part of a broader agenda to enhance the impact of teachers on student learning. Students of skillful teachers learn more and attain more years of schooling; such students go on to earn higher incomes as working adults, and the girls among them are less prone to teenage pregnancy (Chetty, Friedman, and Rockoff 2014; Hanushek 2011). Skillful teachers are also valuable for imparting socioemotional skills to their students (Villasenor 2017).

Deepening teachers' professional expertise and effectiveness warrants especially close attention because of the enormous influence teachers have on their students. Empirical evidence from developing countries demonstrates that the quality of a teacher also affects other learning-centered interventions and inputs, such as providing textbooks. Teacher knowledge, teaching practice, and instructional time are key determinants of student learning. In addition, it is very important that both the habits and mindsets of teachers reflect a belief in students' abilities. Going from a low-performing teacher to a high-performing teacher increases student learning dramatically. The effect has been measured from more than 0.2 standard deviations in Ecuador to more than 0.9 standard deviations in India-the equivalent of multiple years of business-as-usual schooling.

Both teaching and teachers matter. A teacher's credentials (experience, certificate, or training), while usually considered when hiring and promoting teachers, are not consistently associated with higher student achievements. Instead, evidence indicates that pedagogical practices and interactions with their students have a much stronger influence on student outcomes. Specifically, students who are taught by teachers who prepared lesson plans, asked many questions, and quizzed them on past material are more likely to perform better than students whose teachers did not. Moreover, recent developments in technologies for education and the unique challenges imposed by COVID-19 are offering alternative ways to help teachers teach students how to learn.

To anchor a collective understanding of teacher effectiveness, the World Bank put forth five principles as part of its Global Platform for Successful Teachers (Béteille and Evans 2018). These five principles, which are distilled from a review of evidence relevant for low- and middle-income countries on teacher effectiveness, are presented in figure 4.6. These principles can help ensure coverage of key issues for teachers in a structured and comprehensive approach for any AFW country.

The long-term goal throughout the region must be to make teaching a more attractive career. Higher status for teachers is correlated with better student performance. However, improving the prestige of teaching is challenging. Perhaps the most complex obstacle, especially in low-resource AFW countries, is enhancing teacher compensation policies to resemble those in professions with higher status. Aside from compensation reform, AFW countries can address the social perception of teaching as a career, raise the requirements for entry into the teaching profession, address the large number of nonpermanent teachers with lower salaries and poor employment conditions, and create career ladders linked with performance and competencies. Key actions to consider include conducting campaigns to promote the social value of teachers' work, instituting incentives to attract the best candidates to teaching, ensuring fair pay compared to other professions and across teachers doing the same job, ensuring good working conditions, and developing a career ladder for teachers and principals with salary increases and promotions linked to better practices and professional development. In Nigeria, for instance, the government is formulating a comprehensive human resource strategy for skills development, including policies that address critical challenges such as working conditions, career progression, and incentives for technical teachers and instructors. Sierra Leone is establishing communities of practice for pedagogical teachers to reduce the isolation of the teaching profession and improve peer-to-peer support.

For AFW in the near term, the strategy prioritizes high-impact interventions to strengthen the teacher

Figure 4.6. Five Principles to Build an Effective Teachers' Cadre



Source: Saavedra 2019.

workforce. Specifically, as the following sections discuss, the strategy aims to (a) improve the quality of new teachers in the pipeline; (b) attract more women to teaching; (c) recruit teachers based on merit, deploy them based on needs, and strengthen career management; and (d) support teachers with structured pedagogy.

4.2.1. Improving the Quality of New Teachers in the Pipeline

Investing in practical preservice training is crucial to prepare the next generation of professionals. The curriculum for teacher preparation at teacher training colleges needs to incorporate authentic classroom training. In Mali, for example, efforts are underway to recruit only future teachers who are at the baccalaureate level (completion of high school), extend the duration of initial teacher training from two to three years, and align the curricula of teacher training programs with those of primary and secondary education. Recent evidence based on test score data for Togo and Guinea indicate that, while teachers need preservice 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 programs of longer duration. Using such bootcamp-like approaches can allow governments to draw upon pools of potential teachers to expand supply of schooling more quickly.

The World Bank will help governments define their expectations of teachers and help new professionals confidently enter classrooms by ensuring that preservice teacher training teaches pedagogical skills, classroom management, and the ability to respond to personalized feedback. In many AFW countries, teacher training institutions are not very selective, offer training that is too theoretical, and give aspiring teachers few opportunities for classroom practice. This approach contrasts with what is found in high-performing countries, where strong candidates seek entry into the profession and are prepared with practical experience.

Entry into preservice teacher training must be selective so that the best candidates enter the teaching profession. Successful education systems select candidates based on candidates' motivation to become teachers as well as on candidates' skills (for example, by reviewing high school graduation examinations and matriculation examinations, considering social and communication skills, and observing candidates' skills in classroom settings). Governments should tightly regulate preservice education.

Another crucial step is to support teacher training colleges in introducing extensive practice in schools as part of the training curriculum. Without that experience, teachers struggle when they confront classroom challenges for the first time after graduation, often without any mentoring or guidance on how to meet those challenges.

Recruiting and retaining strong teachers is an essential foundation for improving students' educational outcomes, especially in underresourced settings. In many AFW countries, criteria for recruiting teachers are murky and based on political factors rather than

professional merit; teachers earn promotions, if at all, based on paper qualifications and seniority rather than evidence of effective teaching. Setting minimum qualification requirements ensures that incoming teachers possess the key content and pedagogical skills to perform the job. Well-prepared teachers are also more likely to be effective and remain in the profession (Podolsy et al. 2016). Given teacher shortages, some countries in AFW tend to lower or remove the entry qualifications for teachers to rapidly expand the workforce (Bashir et al. 2018). However, this approach could lead to a series of long-lasting detrimental effects on the education system, including low teacher effectiveness, high teacher turnover, increased inequality in student learning, and low prestige of the teaching profession.

To perform well, teachers need to know what is expected of them in the first place. Thus, recruitment and deployment policies should establish the expectations for teachers to guide teachers' career choices and development (World Bank 2013). Job descriptions need to clearly specify the duties and expectations of teachers. The descriptions should cover teachers' rights and responsibilities in various aspects ranging from instruction, teacher training, and community engagement to posting, transfers, and career advancement. All the details need to be developed and reviewed jointly by the relevant departments within the ministry. At the same time, the expectations should align with both financial incentives and professional support, especially in rural and remote areas. For instance, previous evidence has demonstrated that hardship allowance alone could only keep teachers at their posts; it did not improve their performance (Chelwa et al. 2019; Pugatch and Schroeder 2018).

One important step is to incorporate authentic classroom training into the courses offered at teacher training colleges. Preservice teacher preparation is often merely theoretical and detached from actual classroom conditions. In-service training for professional growth tends to be fragmented and sporadic, if it exists at all. While top-performing countries typically have preservice programs that last for two or more years, a more feasible solution for AFW countries, especially in light of the increasing and immediate demand for more teachers, might be to combine shorter preservice programs with more intensive in-service training opportunities. Teach For America and its sister programs around the world also rely on relatively short preservice programs that then feed into structured and continuous in-service training.

Unfortunately, teachers in most of AFW lack the support they need to improve their teaching and master new skills. While some evidence-backed professional development programs do exist in the region, many teachers lack access to high-quality teacher professional development. Recent research, evidence, and experience have clarified what works for effective teacher professional development. These findings, which emphasize a tailored, practical, focused, and ongoing approach, must inform the design of any teacher professional development framework and its implementation on the ground. The World Bank's new Coach initiative, which focuses on improving in-service teacher professional development, will be an important resource for the region and the implementation of this strategy.

4.2.2. Attracting More Women to Teaching

Attracting more female teachers to the teaching profession seems to be an effective way to improve girls' performance. In Korea, using random assignment of students to Korean middle school classrooms, researchers found that the female students performed substantially better on standardized tests when assigned to female teachers (Lim and Meer 2015). In Francophone AFW countries, female teachers have been effective in boosting girls' performance in reading and math without hurting that of boys (J. Lee, Rhee, and Rudolf 2018). Female teachers are also good role models for young girls. Evidence suggests that female teachers may increase girls' likelihood of staying in school, heighten their aspirations, and lower their likelihood of being subject to violence (Evans and Nestour 2019). In addition, the teacher labor market is important for women as it promotes gender equality: in some countries, teaching is one of the few high-skilled professions that is accessible to women. To increase the number of female graduates from teacher training colleges, governments must increase girls' enrollment and completion at secondary education. In addition to campaigns to promote the social value of teachers' work, incentives can encourage high-achieving students to pursue a career in teaching. In Sierra Leone, for example, the government has provided scholarships for girls to complete their study at teacher training colleges. Finally, well-structured teacher career frameworks and strategies, including for female teachers and head teachers, should be developed in the long run. Incentives are also an option to attract the best candidates to teaching. In rural Nigeria, housing has been provided for female teachers.

4.2.3. Merit-Based Recruitment, Needs-Based Deployment, and Teacher Career Pathways

Teacher human resource management reforms are essential to elevate the quality of education. Depending on a country context, these reforms may include ensuring meritocratic recruitment; creating career progression pathways; clearly defining compensation and contracts; regulating teacher deployment, especially for disadvantaged areas; and setting expectations for professional behavior. Some AFW countries have already started tackling these issues. For example, Cameroon has introduced comprehensive teacher reform, including meritocratic teacher recruitment and clearer deployment policy for newly recruited teachers to ensure teacher availability in disadvantaged areas.

The World Bank will support governments, with interventions at both the school and system levels, in addressing teacher absenteeism and rationalizing teacher deployment. To tackle unauthorized teacher absences, heads of schools can work closely with the local community. Authorized absences—such as for personal leave, professional training, or official duties outside the school—are surprisingly prevalent in AFW. To minimize their occurrence requires intervention at the policy level, for example, by creating and supporting a system of substitute teaching arrangements, if budgets permit.

Sound human resource management practices to manage the teacher workforce are essential to tackling the learning crisis. The practices appropriate in each country will depend on the context and may include a range of options, among them meritocratic recruitment of teachers; creation of career pathways; clarification of compensation and contracts; regulation of teacher deployment, especially for disadvantaged areas; and setting expectations for professional behavior. Some AFW countries have already initiated reforms to better manage the teacher workforce. Cameroon, under its comprehensive primary teacher reform, for example, is recruiting new teachers based on merit and deploying the recruits according to new criteria that prioritize understaffed schools serving disadvantaged populations.

AFW countries need to develop well-structured career frameworks for their teachers promptly, as the teaching force is expanding rapidly and becoming more heterogeneous. The ideal frameworks should be comprehensive to value teachers of different types (such as civil service, contract, and para teachers) and teachers with different academic and demographic characteristics. The planning department and human resource department should work together to take stock of the current teaching force and prospective teachers. Then these departments should develop realistic roadmaps to match supply with demand and to offer different career opportunities within the system for various time intervals. They should also collaborate with teacher unions or associations to gain their buy-in for the implementation of the career frameworks with sound human resource management practices. A smooth and successful implementation requires continuous and fair professional support and evaluation for teachers at different levels, which could be a major barrier for many education systems.

4.2.4. Supporting Teachers with Structured Pedagogy

Supporting AFW teachers with structured pedagogy—a package of instructional materials and continuous teacher training, coaching, and mentoring—has proved to boost student learning. Teacher subject knowledge is essential for learning as even the most effective curriculum cannot be taught if teachers do not fully understand it. To be effective, teachers must first know and understand the lessons they are assigned to teach. Structured pedagogy addresses this weakness by providing scripted lessons and training teachers on using those lessons well. It ideally mitigates skill gaps by providing detailed guidance on teaching specific content and training on how to carry out instructional activities. Following the best practices promoted in lesson plans, teachers would improve the quality of their instruction, preferably without compromising their agency.

Implementing a structured pedagogy program requires a strong commitment of stakeholders inside and outside the education system. Each component involves various departments and professional personnel in the ministry of education and local offices such as inspectors, pedagogical advisors, school principals, pedagogical leaders, teachers, parents, the local community, and so on. In low-capacity settings, emphasis on enhanced implementation capacity is key. In addition, from the development of teaching and learning materials to teacher training and monitoring, and from the deployment of teachers to community engagement, every step needs to be well connected and coordinated. Thus, an effective delivery system is crucial for a successful structured pedagogy program.

Previous studies have commonly pointed out that ensuring functional and efficient service delivery is the biggest implementation challenge. Many governments lack the capacity to implement programs with fidelity. For almost all existing programs, donors have brought in their own administrative teams to implement the programs, with governments playing a supportive role. However, many programs have experienced high teacher turnover rates, delays in the distribution of teaching and learning materials, and insufficient training and coaching staff in rural and remote areas. These issues undermine the programs' effectiveness. To some extent, identifying and preparing a government-led functional service delivery system may be key to ensuring the feasibility and sustainability of a structured pedagogy program.

An increasing number of developing countries have adopted structured pedagogy in early grades, which is among the most cost-effective interventions (Angrist et al. 2020), and many have demonstrated encouragingly positive effects on student performance (Eble et al. 2021; Fazzio et al. 2021; Kim et al. 2019). Similarly, multiple AFW countries, as shown in table 4.1, are implementing or have benefited from structured pedagogy programs to increase early literacy and numeracy skills. Particularly, a cluster-randomized trial was conducted in The Gambia to evaluate literacy and numeracy interventions for primary-age children in remote parts of the country. The intervention combined para teachers delivering after-school supplementary classes, scripted lesson plans, and frequent monitoring focusing on improving teacher practice (coaching)—all core elements of structured pedagogy. After three academic years, Gambian children receiving the intervention scored 46 percentage points (3.2 standard deviation units) better on a combined literacy and numeracy test than control children (Eble 2020). A similar intervention previously demonstrated large learning gains in a cluster-randomized trial in rural India. Another example is Tusome ("Let's Read" in Kiswahili) in Kenya. Tusome is a flagship partnership between the United States Agency for International Development and the Ministry of Education. Tusome focuses on four key interventions: enhancing classroom instruction, improving access to learning materials, expanding instructional support and supervision, and collaborating with key system-level literacy actors. Students made substantial gains in English (the proportion of nonreaders fell from 38 percent to 12 percent) and Kiswahili (the proportion of nonreaders fell from 43 percent to 19 percent).

Rigorous impact evaluations in Guinea-Bissau (Fazzio et al. 2020) and in Kenya and The Gambia (World Bank 2020a) confirmed the effectiveness of the approach in boosting test scores. In Kenya, the government has now started to scale the approach nationwide (Crouch 2020). In Edo State, Nigeria, the government is leveraging technology to implement structured pedagogy, using tablets to track teacher progress in delivering scripted lessons in real time and customizing on-site coaching and mentoring for each teacher.

4.3. Student Readiness to Learn in the Region

Many children arrive at school with severe learning handicaps. More than a third of AFW children under age five are stunted, a condition with long-lasting adverse consequences for their capacity to learn.

Education system	Outcomes	Scale	Source
Gambia, The	Improved early grades literacy and numeracy skills	Medium scale with more than 2,000 student beneficiaries	Eble et al. (2021)
Ghana	Early literacy in 11 national languages and early numeracy	Large scale with more than 1 million student beneficiaries	FHI 360 (2017)
Guinea-Bissau	Improved early grades literacy and numeracy skills	Medium scale with more than 2,000 student beneficiaries	Fazzio et al. (2021)
Liberia	Improved early grades literacy and numeracy skills	Large scale reaching more than 1,000 schools	King et al. (2015)
Mali	Improved literacy skills in grades 1–2 but no effect on grade 3	Medium scale with more than 3,000 student beneficiaries	Spratt et al. (2013)
Nigeria, Bauchi, and Sokoto states	Improved access to school and early grades literacy skills in Hausa	Large scale with more than 1 million student beneficiaries	Campos (2017); RTI (2016)
Senegal	Improved early grades literacy skills in 3 national languages	Large scale reaching more than 1,000 schools	Chemonics International (2018)

Table 4.1. Structured Pedagogy Programs in Western and Central Africa

Across the region, too few young children are receiving routine immunizations (75 percent) or a minimum acceptable diet (10 percent). Far too many children are receiving insufficient support and stimulation at home: 98 percent of children in AFW do not have three or more books at home and 84 percent of young children experience high levels of violence at home. On average the gross enrollment rate for ECE in the region is only 32 percent. Only five countries in the region offer free ECE (Benin, the Republic of Congo, Equatorial Guinea, Ghana, and Togo), of which only three are compulsory (Equatorial Guinea, Ghana, and Togo); only three of those countries have made ECE compulsory (Equatorial Guinea, Ghana, and Togo). The following discussion highlights the key barriers that impede children's readiness to learn in the region.

4.3.1. Enrollment in Early Childhood Education Services

Limited access to ECE confines children's success in acquiring essential foundational knowledge, undermining later learning outcomes. The PASEC 2014 results show large gaps in performance between children who have and who have not attended a preprimary institution. On average, 40 percent of second-grade children who attended a preprimary institution demonstrated the minimum competency in literacy, compared to only 18 percent of second-grade children without preprimary experience. These impacts continue throughout children's lifetime and carry forward to the next generation. In a landmark study in Jamaica, researchers evaluated a nutrition and early stimulation program and found that children who had been enrolled in the program (from nine to 24 months old) were earning 25 percent more than their peers two decades later (Gertler et al., 2014). Despite these well-documented benefits, many countries around the world continue to underinvest in early childhood.

Enrollment in ECE and other critical services that promote early childhood development are limited in AFW today (figure 4.7). Expanding access to quality ECE presents a game-changing opportunity to boost learning, reduce inequality, and set children on a path toward greater success throughout life. Holistic investments in early childhood are necessary to improve children's longer-term outcomes.

The benefits of quality early learning include improved school readiness, reduced repetition and dropout rates, and higher achievement in school. These benefits have been amply documented in the literature (Engle et al. 2011; Heckman and Masterov 2007). Quality early learning opportunities promote cognitive



Figure 4.7. Early Childhood Development in Western and Central Africa and the World

Source: Original calculations based on World Bank and UNICEF databases from 2014 onward. Note: For AFW and the world, the figure represents the average across countries with data available from 2014 onward.

and socioemotional skills that help children build language and preliteracy skills that can support them through the rest of their education. Early literacy skills such as word recognition, alphabet knowledge, and phonological awareness are predictive of later literacy skills and will be important in any interventions to tackle learning poverty (National Early Literacy Panel 2008; Scarborough 1998). A recent analysis of the Programme for International Student Assessment 2012 test scores showed that 15-year-olds in low-income and middle-income countries who had attended ECE for more than a year scored 0.67 standard deviations higher in reading and 0.83 standard deviations higher in mathematics than children who had no ECE (controlling for family socioeconomic status); these results are equivalent to more than two years of additional schooling (Garcia, Devercelli, and Valerio, forthcoming). A recent survey of adults in 12 lowerand middle-income countries found that those who had attended childcare and/or ECE programs stayed in school on average 0.9 years longer (controlling for family background and other factors) and tended to enroll in higher-skilled professions (Shafiq, Devercelli, and Valerio 2018).

Despite these well-documented benefits, many countries in AFW continue to underinvest in early childhood. In AFW, too many young children face daunting underinvestment in their early years with lifelong and far-reaching consequences for individuals as well as for education systems and countries' human capital. Increasing investment in early childhood in AFW is a powerful lever with which to address learning poverty and build human capital. Developing high-quality ECE institutions that reach all learners is key to successfully combating long-term negative impacts.

Countries in AFW have made substantial progress in improving early childhood outcomes, but much more remains to be done. In the last two decades, the average under-five mortality rate across the region has decreased by half, from 16 percent to 8 percent. Stunting has decreased from 37 percent to 26 percent, and enrollment in ECE institutions has increased from 14 percent to 20 percent. Nonetheless, across AFW, many young children face multiple risk factors that impede their growth, development, and future success in school and life.

The majority of AFW countries have fewer than 25 percent of young children enrolled in ECE programs. Access to ECE programs tends to begin around age three in most countries, lasting two to three years until the start of primary school. Efforts to expand access in

recent years have focused on one year of preprimary education to encourage at least one year of participation. As of 2019, the region's average preprimary attendance rate in the final year before primary school was 47 percent. Despite some progress in ECE expansion efforts, much more remains to be done. Children from poorer households are much less likely to have access to preprimary school than children from wealthier households (UNICEF 2019). In this region, almost 80 percent of children in the richest quintile are attending at least one year of organized early learning compared to only 34 percent of children in the poorest quintile. Disparities in access are also exasperated by factors such as household location, gender, language, ethnicity, and disability; these factors tend to widen the inequalities that young learners face even before they start primary school. Educational access in AFW suffers from additional disruptions because of long-term violence, displacement, and insecurity. Trauma and toxic stress in the early years have lifelong impacts; these early risks, exposure to violence, and deprivation dramatically affect young children's development and future outcomes.

4.3.2. Provision of Early Childhood Services

Many children are attending private ECE institutions led by community-based, faith-based, low-cost private or for-profit providers. The role of private providers varies throughout the region, with private providers covering 10 percent of enrollment in Niger and 81 percent in Mauritania, with a regional average of around 50 percent (table 4.2). This high proportion of privately provided ECE reflects the limited availability of public options in some places, as well as parental preferences, and it points to the need for strong efforts from the public sector to ensure quality and equitable access.

However, access is not the only issue: in many countries with wide performance gaps, student-teacher ratios are high (in Togo, 72:1) or the percent of qualified teachers is low (in Chad, 24 percent). Many teachers at the preprimary levels lack the minimum levels of qualifications (approximately 50 percent on average), and teaching quality deteriorates as the number of students within a classroom grows (40:1 on average across AFW) (figure 4.8).

4.4. Enhancing Student Readiness to Learn

Expansion efforts to reach all early learners with quality ECE will require substantial investments. Current spending on preprimary education is insufficient. Despite nearly doubling the amount of funding allocated to ECE over the past several years, AFW has spent less than one-tenth of a percent of GDP on preprimary education—substantially less than investments in other levels of education, based on calculations from the UNESCO Institute for Statistics database. Across the region, government expenditure on preprimary as a percent of education spending is only 2.5 percent, and per preprimary student spending is often low. For example, in 2017, the government of Mali spent only US\$0.50 per preprimary student, Mauritania spent US\$3, and Burkina Faso spent US\$6 compared to US\$24 in Benin per preprimary student (UNESCO Institute for Statistics 2017).

While increased spending is undoubtedly necessary to expand access to preprimary education, countries with high overenrollment rates in early primary grades that shift resources to preprimary education could enjoy some efficiency gains. One-third of all AFW countries have first-grade overenrollment rates nearing 30 percent, meaning that 30 percent of all children in first grade are of the wrong age (either older or younger than they should be). Emerging research suggests that this problem is due to a phenomenon of underage enrollment in primary school; once enrolled, children tend to repeat first grade once or twice and sometimes second grade as well. This problem is global, and figure 4.9 shows the data for the 39 countries in the world with the highest overenrollment rates in first grade. Eight of these countries are in AFW: Benin, Cameroon, Chad, Guinea-Bissau, Liberia, Mauritania, Sierra Leone, and Togo. Countries with high overenrollment rates in first grade largely overlap with countries with very low preprimary enrollment rates.

In some countries, household surveys seem to suggest that parents are enrolling their children in primary school early because it is free and no free preprimary option is available. This underage enrollment and early repetition results in governments wasting as much as 5 to 10 percent of education budgets each

Country	Preprimary Gross Enrollment Rate (%)	Net Attendance Rate One Year Before Primary (%)	ECE Official Entrance Age	ECE Duration	ECE Private School Provision (%)
Benin	24%	83%	4	2*	34%
Burkina Faso	6%	19%	3	3	79%
Cabo Verde	73%	81%	3	3	59%
Cameroon	36%	44%	4	2	67%
Central African Republic	3%		3	3	
Chad	1%	14%	3	3	74%
Congo, Rep.	13%	30%	3	3*	
Côte d'Ivoire	8%	22%	3	3	28%
Equatorial Guinea	43%	44%	4	2**	
Gabon	35%		3	3	
Gambia, The	43%	61%	3	4	
Ghana	117%	87%	4	2**	44%
Guinea	15%	42%	4	3	
Guinea-Bissau	7%	40%	3	3	
Liberia	125%	79%	3	3	48%
Mali	7%	45%	4	3	
Mauritania	10%	20%	3	3	81%
Niger	7%	23%	4	3	10%
Nigeria	42%	61%	5	1	
Senegal	17%	16%	3	3	44%
Sierra Leone	19%	42%	3	3	29%
Тодо	25%	95%	3	4**	31%

Table 4.2. Access to Early Childhood Education by Country

Source: Original calculations based on World Bank database from 2014 onward. Note: ECE = early childhood education.

* = free, ** = free and compulsory.

year as they provide 1.2 additional years of schooling per student (due to repetition) (Crouch et al. 2019).

There is a growing—and positive—body of rigorous evidence from around the world that offers insight into how countries can provide high-quality ECE at scale. Emerging good practices and high-impact interventions, many of which are already happening somewhere in AFW, include (a) seeking synergies with other sectors, (b) leveraging parents and communities, and (c) involving nonstate actors.

4.4.1. Seeking Cross-Sector Synergies and Investing in Nutrition, Health, and Early Stimulation

Seeking synergies with other sectors can promote cross-sectoral investments in nutrition, health, early stimulation, and protection of newborns from stress in the first 1,000 days of life. Young children need support to develop holistically across physical, socioemotional, and cognitive domains. To foster holistic development, countries need to consider a myriad of ways to support young children and their families. Several opportunities are available to leverage existing sectoral entry points. The poor nutrition, health, and early stimulation



Figure 4.8. Minimum Competency Rates on PASEC 2014

Source: Original calculations based on World Bank database.

Figure 4.9. Trends in Overenrollment in Primary School from 39 Countries



Source

outcomes in early childhood are often a result of the disconnect between health, nutrition, social protection, and education interventions at the community level and at the policy and planning level. Collaboration between the relevant sectors will help strengthen alignment for programs dedicated to supporting young children. For example, promoting cross-sectoral partnership between early childhood development and the gender sector is important for families, particularly women who are entering the labor force and trying to find affordable and quality childcare. Links and continuity across other human development sectors for early childhood development will help promote positive behavior change through parenting programs and connections to cash transfers. Additionally, nutrition and health programs within communities are powerful entry points to improve young children's outcomes, in many cases offering affordable options by piggybacking on existing programs. Synergies across sectors can be explored at the national and subnational levels of government as well as within the World Bank's portfolio. For example, the Mauritania Social Safety Net project provides conditional cash transfers to vulnerable families to help pay for their children's health, nutrition, and education. The program will reach over 45,000 families to develop an economic inclusion scheme and encourage community participation in good early childhood development practices. Senegal's Investing in Early Years for Human Development is a multisectoral project that will reach 2.5 million children and parents through integrated community-based nutrition and early stimulation programs. It is expanding access to

preprimary education while scaling quality, reaching over 210,000 children from formal preschools, Koranic preschools, and community-based programs.

4.4.2. Leveraging Parents and Communities: Encouraging Reading at Home

Limited learning opportunities for children at home and at school drive low levels of literacy and numeracy. Increasing opportunities for children to read and experience other early stimulation at home could dramatically improve a series of outcomes critical to later learning outcomes, including vocabulary and early literacy and numeracy skills. In fragile and conflict situations in particular, support from engaged parents and caregivers can mitigate the disruptions. stresses, or trauma that children experience. There are a number of ways to foster children's development through parents, including leveraging parents' participation in existing community-based programs (such as women's groups, religious organizations, microfinance organizations, agricultural cooperatives, or cash transfer programs). The Reading for All Children and Read@Home programs encourage parental and community engagement to enhance early grade reading and learning through reading materials available both at home and in school. Both programs also promote accountability and ownership for parents and the community. A recent study looking at 35 countries of varying income levels showed that having at least one children's book at home almost doubled the likelihood of the child being on track in literacy and numeracy (Manu et al. 2019). Under the World Bank umbrella, the Read@Home program delivers reading and learning materials to families in hard-toreach homes and helps parents to engage with their children to increase reading at home; it is active in Senegal, Cameroon, and São Tomé and Príncipe.

4.4.3. Involving Nonstate Actors, Including Community-Based Early Childhood Development

The main challenge for widespread and equitable access to quality ECE is limited preprimary facilities, particularly in rural and remote areas. Online learning, interactive audio instruction, and other remote learning

72 Western and Central Africa Education Strategy

programs are limited or nonexistent in most AFW countries. It is important to promote different types of provision and to engage with a variety of stakeholders. Different types of provision include community-based early childhood development centers; faith-based programs; private preprimary schools; public preprimary school; childcare facilities; safe learning spaces in conflict zones; and home-based and remote learning strategies, including Read@Home and television, radio, and internet-based edutainment. Combining remote learning options with scaling of ECE centers attached to primary schools could enhance access to preprimary education and reduce the cost of schooling in the region. The Côte d'Ivoire Education Service Delivery Enhancement Project (P163218) focuses on preprimary teacher training and expanding access to community-based ECE in partnership with UNICEF. The Burkina Faso Education Access and Quality Improvement Project found a cost-effective way to expand access to ECE in remote areas and in times of conflict: interactive audio instruction. The program aligns with the national curriculum standards, and the government will also use interactive audio instruction to provide untrained teachers with continuous guidance and reinforcement, linked with a project-designed system of teacher certification, opening a cost-effective, practical option for teacher training in rural areas. The Gambia's Education Support program developed a play-based curriculum annexed to primary schools and through community-based centers. The program will aim to reach over 32,000 children in early childhood development programs and develop a quality standards metric to support teacher training and curriculum development. An impact evaluation comparing the two models found better learning outcomes in the annexed approach. Zanzibar's Radio Instruction to Strengthen Education program trains community teachers to teach government curriculum competencies in nonformal settings for young children unable to access school using interactive audio instruction. This program has been running for more than a decade and has reached over 35,000 children, leading to the successful establishment of a tech-based distance learning division within the Ministry of Education. A follow-up evaluation found that students of the program demonstrated better mastery of grade-level concepts, with girls showing greater overall growth, than students who did not participate. Outside the region, the Aga Khan Early Childhood Development program in East Africa established community-based preschools. These preschools are often affiliated with
mosques and led by school management committees made up of parents and community members. This program has reached more than 60,000 children, successfully providing a better learning environment and developing a detailed costing model.

4.4.4. Considering Other High-Impact Interventions to Improve Children's Readiness to Learn

AFW countries must ensure continuity between ECE and education sectors. Service delivery for ECE is often fragmented, which exacerbates quality and planning challenges. The development of robust and effective quality assurance systems will help countries to provide stimulating environments. To develop such systems, most countries need a more formal integration of ECE into the education sector along with efforts to ensure continuity in curriculum; teacher training; and other aspects of quality, planning, and finance between preprimary education and basic education. An impact evaluation comparing the two models found better learning outcomes in the annexed approach.

AFW countries should invest in quality while scaling access. For learning to be effective at school, teachers need to receive specific training directly related to early learning and the development and specific needs of young children. ECE teachers should be trained to teach children in reading and learning in their local language. Developing flexible training pathways can provide those entering the workforce with limited formal education alternative training to gain the requisite skills. A flexible and realistic approach will be necessary in most countries to help upscale existing workforces, which, though not formally accredited, are reservoirs of talent, experience, and earned knowledge. For most countries, the temptation will be to focus on investments in physical infrastructure; the literature and evidence from countless countries, however, make clear that a responsive classroom environment (regardless of the physical structure in which learning takes place) is the most important area for investment. Where countries choose to invest in construction, it is important to incorporate affordable, sustainable, environmentally responsive features that respond to local needs. Ghana's Quality Preschool program focuses on improving school readiness for young children by providing high-quality ECE teacher training and increasing parental awareness. The program has trained teachers from over 200 schools in both the public and nonstate sectors to provide high-quality training and promote school readiness. After two years, the program demonstrated improved teacher professional development, classroom quality, and school readiness for young children.

An increasing number of developing countries have adopted structured pedagogy in early grades, with many having found encouragingly positive effects on student performance (Eble et al. 2021; Fazzio et al. 2021; Kim, Lee, and Zuilkowski 2019). Similarly, multiple countries in AFW (table 4.1) are implementing or have benefited from structured pedagogy programs to increase early literacy and numeracy skills. Particularly, a cluster-randomized trial in The Gambia evaluated literacy and numeracy interventions for primary-aged children in remote parts of the country. The intervention combined para teachers delivering after-school supplementary classes, scripted lesson plans, and frequent monitoring focusing on improving teacher practice (coaching)-all core elements of structured pedagogy. After three academic years, Gambian children receiving the intervention scored 46 percentage points (standard deviation of 3.2) better on a combined literacy and numeracy test than children in the control group (Ebel et al. 2020). A similar intervention previously demonstrated large learning gains in a cluster-randomized trial in rural India. Another example is Tusome ("Let's Read" in Kiswahili) in Kenya. Tusome is a flagship partnership between the United States Agency for International Development and the Ministry of Education. Tusome focuses on four key interventions: enhancing classroom instruction, improving access to learning materials, expanding instructional support and supervision, and collaborating with key system-level literacy actors. Students made substantial gains in English (the proportion of nonreaders fell from 38 percent to 12 percent) and Kiswahili (the proportion of nonreaders fell from 43 percent to 19 percent).

4.5. Learning Resources and Gaps in Provision to Support Teaching and Learning

Books and learning materials as well as pedagogical tools enable effective teaching and learning. Their availability varies in AFW, both across and within countries, as the following discussion shows.

4.5.1. Gaps in the Provision of Textbooks and Learning Materials

Availability of textbooks is low in most AFW countries and particularly problematic in rural areas. High costs have made it difficult to provide high-quality, age-appropriate books for teachers and students. In Nigeria, for example, each textbook is shared by 17 students. In Togo, 23 students share a single textbook.

The long process of financing, developing, selecting, procuring, printing, distributing, and implementing textbooks poses a series of key challenges in AFW. All decisions are interrelated and need to be carefully balanced to create an enabling context for textbooks. Countries must develop and validate a context-specific textbook policy to clarify options and decisions at each step. Box 4.1 outlines the key challenges involved in getting textbooks into classrooms and utilized.

4.5.2. Gaps in the Provision of Educational Technology Tools

Given the magnitude and endemic nature of the region's education challenges, business as usual is unlikely to move the needle. Innovation and leveraging the potential of technology will be key. Educational technology offers exciting possibilities for increasing access to learning inside and outside the classroom at all levels of the education sector. It can effectively manage and support teachers, ensuring they show up, teach the right material, assess children regularly, and offer targeted support at the right level of each child. Moreover, educational technology can do all of this at scale. It can enable school-, district-, and national-level decision-makers to make informed decisions based on data. Integrating new digital technologies also helps equip students with digital skills, which better prepares them for work in the digital economy.

While the possibilities are exciting and could be revolutionary, there are still many barriers to overcome before educational technology can have a real impact. Critical barriers include access to affordable and reliable internet connectivity and devices for schools, teachers, and students; availability of locally relevant and curriculum-aligned digital content; and acquisition of the necessary digital skills in all students and teachers. The AFW region, as well as Africa in general, has made tremendous strides in the adoption of technology. The mobile phone has achieved a median penetration of 99 percent. However, digital technology adoption remains quite low if measured by internet penetration and computers per household. Median internet penetration is 28 percent, almost half of global median penetration, and on computers, the situation is worse, with a Sub-Saharan African median of 7 percent household penetration versus 45 percent globally.

4.6. Providing Learning Resources and Educational Technology Tools

Given the foregoing gaps in learning resources and tools, the Regional Education Strategy advocates for increased provision through multiple high-impact interventions.

4.6.1. Ensuring That All Children Receive High-Quality, Age-Appropriate Books

Ensuring a minimum package of quality teaching and learning resources and encouraging pedagogical innovation are essential in all schools. Children cannot learn to read if they and their teachers lack textbooks and other learning materials. But shortages of basic learning materials, including textbooks, are pervasive in AFW. Low-cost approaches can ensure that all children have access to high-quality, age-appropriate books. In Cameroon, the textbook reform, which clarified the rules of the textbook selection process and created a transparent and regulated textbook supply chain, has lowered the cost of a textbook from US\$6-7 to US\$3-4; the first new textbooks were delivered to schools in October 2020. In some cases, the private sector can assist with ensuring certain services without necessarily managing the schools. In Edo State, Nigeria, the government has improved the quality of primary education by introducing technologies in the classroom and increasing the accountability of schools through a private service provider.

Box 4.1. What Does It Take to Get Textbooks into Classrooms and Utilized?

- a. Financing textbooks. AFW countries struggle to ensure regular availability of updated textbooks to support teaching and learning processes. Overall investment is limited, and the textbook unit cost is higher than in other regions. Three main sources of financing coexist in AFW: government, development partners, and parents. Sources of financing can vary inside countries from one level to another (primary, secondary) and from one subject to another. In many countries, parental financing poses a great equity challenge, and donor financing generally leads to irregular textbook provision followed by long periods of scarcity.
- **b. Developing textbooks.** Textbook development is a complex, long, and labor-intensive exercise based on preliminary decisions at the highest level. Those decisions include the following:
 - Language of instruction. Textbooks need to be available in the language of instruction. While this
 decision may seem trivial in many contexts, it can represent a major constraint in AFW if a country
 uses different languages.
 - Structure of programs and curricula. Textbooks need to reflect current curricula, teaching, and learning methodology and be contextualized and illustrated. How curricula are designed affects the whole process (design, number of subjects, number of textbooks to be created and distributed, number of pages, duration of the program,³⁷ cost, and so on.)
 - Responsibility for designing textbooks. While some countries make Ministry of Education staff responsible for designing textbooks, the current tendency is to give this mandate to private editors (national or international).
 - Copyrights. Even if textbooks are produced by private editors, states can purchase copyrights for reimpression.
- c. Selecting and procuring textbooks. Textbook policy needs to clarify who is responsible for textbook accreditation and selection. Transparency is critical as potential for corruption is important in the sector. The following questions must be raised:
 - Accreditation of textbooks to be used in a country. How many textbooks are accredited? On what basis? What criteria are used? Which governance model?
 - Selection of textbooks. In case multiple titles are selected, who is responsible for selection of the textbook? Is it the local administration, each school, or each teacher?
 - Durability of textbooks. Beyond physical solidity, textbooks need to be approved for a sufficient time to ensure a sustainable investment.
 - Procurement. Procurement of textbooks is highly dependent on each of the decisions above. In addition, the decision should be made whether the procurement relates to the textbooks only or whether it includes their distribution.
- **d. Distributing textbooks.** In AFW, limited infrastructures and library networks complicate distribution and increase the cost. Distribution for rural areas poses additional challenges. Unavailability of track-and-trace mechanisms makes close monitoring of textbook distribution impossible.

(Box continues on next page)

³⁷ To minimize program cost, curricula need to be streamlined to limit both the length of books and the number of books required. Countries also need to consider how curriculum revisions will affect textbook costs.

Box 4.1. What Does It Take to Get Textbooks into Classrooms and Utilized? (continued)

- e. Implementing textbooks. Textbooks need to be maintained and used in the classroom.
 - Utilization requires a textbook policy, or a policy that mandates textbook renewal in a reasonable number of years. Lack of such a policy hinders utilization, as teachers may not let students take books home or even not distribute textbooks at all for fear of damage.
 - Poor rationalization also leads to lack of usage. The country may assume that a textbook is given to each student, but improper distribution due to a lack of accurate data leads to textbooks kept in storage in schools where they are not required. Numbers are not updated when enrollment changes, leading to inaccurate distribution and low utilization despite availability.
 - Utilization is low because teachers know that textbooks could be costly and difficult to replace, so
 teachers resort to copying the text from the textbooks on a blackboard, denying textbook access
 to students.
 - Teachers are often absent, which means students may not have access to the textbooks on those days.

The World Bank will redouble efforts to put more high-quality texts into the hands of students. These efforts fall into five categories: promote development of local educational publishing industries to broaden availability of locally relevant reading materials; shape the supply of literacy and numeracy materials for use in low-income educational settings by collaborating with private and nonprofit educational publishers and providers of literacy materials; protect the delivery of books through greater accountability and harnessing of new technologies, including encouraging the use of results-based financing and new technologies such as "track and trace" to drive improvements along the book supply chain; disseminate key principles and techniques for development of suitable early reading materials for students and teachers; develop supplementary learning materials as a complement to textbooks; and blend printed material with digital material using new technologies when appropriate. These efforts will include putting reading materials into the homes of the most vulnerable children and innovations such as energized textbooks, which include QR codes in printed textbooks to enable access to online digital resources or high-quality open-source global public goods such as levelled readers in multiple languages and for different cultural contexts.

4.6.2. Harnessing Technology to Achieve Learning Objectives

The pandemic has forced many countries to make varying levels of investments in educational technologies. Almost every country in the region has deployed a national e-learning portal and invested in content acquisition or development. Active measures are addressing connectivity through partnerships with private providers, through global initiatives such as Glga,³⁸ and through the World Bank–funded <u>Digital</u> <u>Economy for Africa Initiative</u>.³⁹ The time is right to build on and accelerate all these initiatives to drive large-scale use of educational technology to address the long-standing education challenges in the region.

Countries will need to scale up and focus investments in digital and human infrastructure. As countries invest in technology and human capital, they will face the challenges of striking a balance between

³⁸ Glga is an international telecommunications union and UNICEF initiative in which the World Bank is a participant with a mission to connect every school in the world to the internet.

³⁹ The Digital Economy for Africa initiative aims to ensure that every individual, business, and government in Africa will be digitally enabled by 2030 in support of the African Union's Digital Transformation Strategy for Africa.

technology and the human factor and ensuring that technology is deployed strategically, always in support of student learning processes and outcomes. Countries will need to invest in human infrastructure-teacher training, teacher and student digital skills, parental support-so that all students benefit from digital learning. Countries should strive for flexible, expandable, compatible, interoperable systems and avoid vendor lock-in. Innovative public-private partnerships can help increase the use of educational technology. For example, during the pandemic, several governments have been working with telecommunication companies to provide free connectivity to online learning resources through "zero rating" mechanisms (providing internet access without financial cost under certain conditions) (World Bank 2021f). The education sector will also have to address market information asymmetry and devise innovative financing and procurement strategies for digital infrastructure. Accordingly, ministries of education should promote transparent standards that facilitate interoperability of systems, data, and content to promote a data-driven decision-making culture.

Expanded access to and use of data present challenges in terms of privacy, data ownership, transparency, and inclusion. Countries will need significant investments in essential digital infrastructure (connectivity and devices) and good-quality digital content. Countries will also need to ensure that this digital infrastructure has built-in safeguards to protect the privacy and security of users and avoid biases against disadvantaged groups. Educational technology offers opportunities for evidence-based, transparent decision-making on delivery and management of education services. The use of technology in support of teaching and learning leaves a digital footprint that can be collected, analyzed, and shared in ways that can compromise privacy, data ownership, and digital security. Clear policy guidance and rules need to be established, recognizing that trade-offs must be considered and that related guidance and rules need to evolve over time.

The World Bank advocates attention to five key principles when education systems invest in educational technology. (a) Ask why. Educational technology policies and projects need to be developed with a clear purpose, strategy, and vision of the desired educational change (for example, establishing remote learning, reaching out-of-school children, training teachers, or improving education management information systems). (b) Design and act at scale, for all. Educational technology initiatives should have a flexible and user-centered design with an emphasis on equity and inclusion; these characteristics will help realize scale and sustainability for all.⁴⁰ (c) Empower teachers. Technology should enhance teacher engagement with students through improved access to content, data, and networks, helping teachers better support student learning. (d) Engage the ecosystem. Education systems should take a whole-of-government and multistakeholder approach to engage a broad set of actors to support student learning. (e) Be data-driven. Evidence-based decision-making within cultures of learning and experimentation, enabled by educational technology, leads to more effective, responsible, and equitable uses of data.

In primary education, educational technology can promote the use of scripted lessons through digital devices (box 4.2). Scripted lessons are directed instruction plans that can be loaded to tablets/devices to help teachers with classroom delivery. These lessons provide teachers with content matched to curricula that teachers can quickly deploy in situations where (a) schools are in remote and difficult-to-reach areas with limited resources and (b) teachers are under- or unqualified. According to the Global Education Evidence Advisory Panel, which analyzed and identified "smart buys" in education, structured lesson plans produce large gains in learning with low variance across settings. An analysis of structured teacher guides across 13 countries in the Global South finds that "programs that use teachers' guides show significant impacts on learning outcomes, associated with approximately an additional half year of learning, showing that structured teachers' guides contribute to improved learning outcomes" (Piper et al. 2018, ii). Lesson plans or guides for teachers make teaching easier and provide information on what to teach and how to do it. Lesson plans can be printed and distributed to teachers or provided digitally through tablets

⁴⁰ For example, under the Chad Education Sector Reform Project Phase 2, the Chadian government reformed the payment of community teacher subsidies from cash to mobile payment. This reform improved not only the rapidity of the payment but also the governance of the payment system and security of Ministry of Education staff and teachers.

Box 4.2. Scripted Lesson Plans Implementation

To be effective, implementation of scripted lesson plans requires the following enabling conditions:

- Scripted lesson plans need to go hand in hand with teacher training/professional development programs. Research suggests that ongoing monitoring and training of teachers in the overall use of guides or lesson plans is key and can help even teachers with weak pedagogical skills (Piper et al. 2018).
- Scripted lesson plans need to be high quality, adaptable, and aligned to the curriculum. Success comes down to the quality of materials, whether printed or digital. The lesson plans should link to the competencies established in the curriculum and allow ease of use by teachers. As part of the Continuous and Accelerated Learning Program in response to COVID-19, the World Bank is developing a compendium of lesson plans that will offer examples of high-quality lesson plans in a variety of languages.
- Teacher buy-in is important as scripted lessons plans will not be effective if teachers do not use them. Providing clear information to teachers on what is expected of them, appropriate support and training, and coaching interventions can help teachers see how scripted lesson plans can facilitate their work, which will in turn transform teachers into allies (Piper et al. 2018).
- Scripted lesson plans should not reinforce gender stereotypes among students and teachers. Interventions during the pandemic have incorporated media content such as Ubongo Kids, aimed at empowering girls and adolescents.

or other devices. Providing them digitally is no less effective and can save costs in terms of distribution and when lesson plans need to be updated or revised. The EdoBEST program in Nigeria seeks to transform learning for around 300,000 children in 1,500 schools over the next four years. EdoBEST is partnering with Bridge to support teacher training and development on the Supporting Teachers to Achieve Results (STAR) component. Specifically, the programs seek to enhance teacher effectiveness through a training program that leverages technology and empowers teachers to improve children's learning. During the pandemic, the EdoBest program was adapted to EdoBest@Home. The delivery methods that were implemented combine WhatsApp, interactive text messages, and the EdoBEST@Home web platform.

4.7. Pedagogy for Effective Teaching and Learning

Language of instruction and alignment of teaching with students' ability to absorb the content of lessons are two critical challenges in achieving learning outcomes in AFW countries. The following discussion elaborates on these challenges.

4.7.1. Difficulties with the Language of Instruction

Low test scores may reflect a "near total lack of understanding of the language used for teaching and/or testing; they do not indicate any inability to learn under the right learning conditions" (p. 8). A significant and growing body of research shows that children learn better in their first language (L1) than in a second language (L2). Substantial evidence also shows that children who first learn in their L1 are more likely to become proficient in an L2 over time and more likely to remain in school. Further, instruction in an L2 without support in an L1 is more likely to affect children in the bottom 40 percent of the socioeconomic distribution. Poor language-of-instruction policies contribute to early dropout rates, repetition rates, and low learning overall. According to the World Bank's (2021c) first policy approach paper on language of instruction, an estimated 37 percent of children around the world learn in a language other than their L1. Sub-Saharan Africa is disproportionately affected, with percentages reaching as high as 90 percent of children in some countries. The percentage of the population speaking the official language of instruction (French) is as low as 12 percent in Niger, 15 percent in Mali, 21 percent in Burkina Faso, 28 percent

Box 4.3. Typology of Language-of-Instruction Models

- L1-based instruction. Instruction is fully in the L1. This model is common in much of the world (Europe, United States, Latin America, parts of Asia). Foreign languages are sometimes taught as subjects.
- Immersion. Instruction is in the L2 from school entry onward. This model is the most common model in AFW countries: "The model is often misapplied to the African context from very different environments in which it has been used in North America or Europe, based on the mistaken idea that children will learn a language if they learn in the language. Because instruction is provided primarily in a language that is not familiar to learners, with limited exposure to the language out of school, this model is often referred to as 'submersion' in the African context" (USAID 2012).
- Early exit transitional. Instruction is in the L1 for a few years before transition to instruction in English, French, Portuguese, or Arabic prior to the end of primary school.
- Late exit transitional. Instruction is in the L1 through the end of primary school (and sometimes beyond). The L1 is sometimes taught as a subject in secondary school.
- Additive bilingual. Instruction is in the L1 while children learn an L2 that is introduced gradually (as a subject and then later as a language of instruction).

Source: Based on World Bank (2021c) derived from the United States Agency for International Development EdData.

in both Senegal and the Central African Republic, and 38 percent in the Democratic Republic of Congo (Ethnologue 2020, as cited in RTI 2020). This lack of L1 instruction leaves millions of children in the subregion unable to learn in a language they understand.

Despite the broad linguistic diversity of AFW, many children speak a relatively small number of untaught

L1s. Globally, 37 percent of children are not learning in their L1. Of that figure, 27 percent speak a minority written language, which is a language that currently has more than 1.5 million speakers, is written, and is not the official language of the country. The remaining 10 percent represent what is described as a "long tail" of many languages, each with relatively few speakers. Based on estimations from 2020 Ethnologue data, over 241 million minority written language speakers reside in AFW, representing nearly 60 percent of the population in Central Africa and 34 percent of the population in West Africa (table 4.2; World Bank 2021c). By the time children who speak long-tail languages enter school, in many cases, they are already bilingual in a less widely used language and in another language used across a larger population (sometimes referred to as a "market language"). In these cases, the children may be able to use the market language as their L1. For example, although Senegal is linguistically diverse (with 31 living indigenous languages, as noted above), approximately 90 percent of the population speaks one of the six national languages recognized by the government in 2001 (Conférence des Ministres de l'Education des Etats et Gouvernements de la Francophonie 2010; Leclerc 2013, as cited in RTI 2015).

A range of models relate to language of instruction, though some are significantly less effective than others (box 4.3).

Although not captured in the typology above, language models also vary by the subjects taught in the L1. In some cases, the L1 is utilized only as part of reading instruction, with all other subjects taught in the L2 (for example, in the case of The Gambia and in pilot programs in Senegal). In other cases, the L1 is used for all subjects (as in the case of Burkina Faso models, which have a late exit program in 2 percent of schools). Table 4.3 shows a snapshot of the types of policies utilized in AFW countries. The actual situation in each country situation is, of course, more complex. For example, although Burkina Faso and Senegal officially have immersion programs based on the language-of-instruction policy, both countries also have extensive pilots in L1 instruction. Further, although The Gambia has L1 instruction in primary, this model teaches only reading in the L1.

Type of Policy	Language of Instruction	Countries
Immersion (L2)	French	Benin, Central African Republic, Côte d'Ivoire, Guinea, Republic of Congo, Senegal (early exit pilot programs exist), Togo, Niger (a selection of langue maternelle schools exist, and all others are immersion)
	French and Arabic	Chad, Mauritania
	French and English	Cameroon
	Portuguese	Guinea-Bissau, Cabo Verde
	English	Liberia, Sierra Leone
Transitional (Early exit)	Portuguese	Cabo Verde (all preschool is in Creole)
	English and local languages	Ghana (early exit, all subjects), The Gambia (reading only)
Transitional (Late exit)	English and local languages	Nigeria (transitions in fourth grade)
	French and local languages	Burkina Faso (a selection of late exit L1 schools in all subjects exist, representing 2 percent of schools, while all others are immersion) Mali (a selection of late exit L1 schools in all subjects exist, and all others are immersion)

Table 4.3. Type of Policy Utilized in West and Central African Countries

Source: Original compilation based on AFW task team leaders' interview. Note: 11/12 = first/second language.

4.7.2. Gaps between Teaching and Students' Capacity to Absorb Lessons

Many primary school children in AFW do not meet the academic standards for their grade. The PASEC 2019 found that 52.1 percent of sixth-grade children in the 14 participating countries—13 of which were AFW countries-were below the competency threshold in reading. Of these children, 21 percent were at level 1, meaning that the students had developed decoding skills and could use those skills to understand isolated words from their daily lives or very short isolated sentences, but they could not understand a simple text. About 6 percent did not even reach level 1. In Chad, more than 14 percent of students belong to this level, and that figure is 13 percent for Niger. PASEC 2019 also revealed that almost 60 percent of students do not have foundational reading skills, and more than 41 percent have not mastered basic mathematics skills. The annual secondary-grades learning assessments carried out in Sierra Leone showed that students' learning performance is poor and significantly below curriculum expectations. In Ghana, fewer than half of second-grade students could read a single word in English or an official Ghanaian language of instruction. Of fourth- and sixth-grade students, only 25 percent were proficient in mathematics and only 37 percent in English.

4.8. Teaching in a Language That Children Understand and at the Right Level

Given the problems highlighted above, the Regional Education Strategy advocates for renewed efforts by AFW countries to rationalize their policies on language of instruction and teaching at the right level.

4.8.1. Using Mother Tongue as Language of Instruction

Ensuring that children begin their schooling in a language that they understand is important for their success throughout the learning cycle. One central intervention is to teach students in the languages they use and understand. AFW has five official languages (English, French, Spanish, Portuguese, and Arabic) and 940 minority languages. When children are first taught in a language that they speak and understand from their home experience, they learn more and are better positioned to learn other languages. This approach also lays the strongest foundation for learning in a second language later in school. Students taught in a language

they do not speak at home, in contrast, have great difficulty learning and tend to leave school earlier and with less knowledge (August and Hakuta 1997; Duc and Tam 2013; Kim et al. 2016; Programme in International Student Assessment 2015; Smits, Huisman, and Kruijff 2008; Trudell 2016; Vygotsky 1986). Effects persist over a lifetime, with higher average earnings accruing to students who begin their schooling in their home language (Patrinos and Velez 2009). Some countries are already moving in this direction. For example, the Democratic Republic of Congo's Global Partnership for Education project supports the introduction of four local languages, and the first textbooks in local languages have already reached the schools. The Central African Republic Global Partnership for Education project will support use of Sango, a language spoken by almost all Central Africans. Under the Chad Education Sector Reform Project Phase 1, use of the mother tongue as the language of instruction took place in 135 schools in the province of Moyen Chari. The evaluation showed that mother tongue schools obtain better results than traditional schools, integrate into the community more effectively, and elicit greater enthusiasm from parents and students about participating in activities. Benchmarking results in 2017 show that at the end of fourth grade, student performance in reading comprehension and writing in Sar and French was significantly higher for students in pilot classrooms than for those in control schools (Enfants du Monde Tchad 2017).

Barriers to implementing better language-of-instruction policies are varied and depend heavily on the context. Linguistic, demographic, and political economy aspects all play into the question of language of instruction and are highly contextual. However, AFW does have some shared challenges. Political buy-in is critical to moving forward with language-of-instruction policy reforms. In Benin, a pilot for first to fifth grade in local languages from 2012 to 2016 showed positive results, but the government decided not to pursue the reform. Cameroon and Guinea-Bissau also piloted approaches with positive results that the governments ultimately did not implement. In the Central African Republic, a language-of-instruction reform for primary has been in discussion since 2000, but lack of political buy-in and instability due to changing governments has prevented any progress. In Guinea-Bissau, the government has been intentional about reinforcing Portuguese as the medium of instruction in schools, driven in part by nation building. In some cases, however, the reverse has been true, and government transitions have led to uptake of local language policies. For example, after Guinea gained independence from France in 1960, the country actively pursued local language instruction as per the order of the communist president at the time.

To support the teaching of children in their mother tongue, the World Bank will work with countries on understanding the language landscape, creating materials, and deploying new technology. In particular, the World Bank will help countries create or update maps of students' first languages and instructional languages. Specifically, the World Bank will help countries to

- Develop community-based approaches to language-of-instruction mapping;
- Formulate language-of-instruction policies, which can take many forms (for example, reading instruction only, early exit, late exit);
- Produce a well-developed scope and sequence in local languages that takes into account the nuances of each language;
- Develop structured teaching materials and accompanying reading materials in students' mother tongues;
- Promote authorship and build publishing capacity in different languages;
- Engage in South-South cooperation on good practices for instruction in students' mother tongues and transition to the national language of instruction where pertinent; and
- Use technology to develop mother-tongue titles and provide support for diverse learners.

In cases where shifts to local language instruction are not politically feasible, the World Bank would emphasize teaching approaches that focus on oral language development for English, French, Portuguese, or Spanish language learners since acquisition of the L2 is essential. Education technology can reduce the cost of producing content in local languages and augment the printed word with multisensory utilities such as audio playback and word tracking. Regardless of the country's choice, strengthening teachers' competency in the language of instruction is also key. *Further, the many shared languages within certain subregions may offer significant opportunities for economies of scale across countries.* For example, although the two countries vary slightly, both Nigeria and Niger have a large number of speakers of Hausa; creation of new teaching and learning materials in Hausa could therefore take into account existing resources within both countries. In cases of cross-border languages, countries should explore translation/versioning/adaptation of teaching and learning materials. This process requires close coordination with language experts and intensive support to governments.

Building capacity within the country is critical to language-of-instruction reforms. Capacity building should take place at various levels so that rationale for language-of-instruction policy changes, strategy for operationalization of the rollout, and plans for accompanying materials development are well understood. Scope and sequence, pace, and amount of emphasis on various reading subskills are highly language specific. Accomplishing this kind of curriculum development across multiple languages will require careful partnerships with technical experts, linguists, and government counterparts to be successful. Other institutions such as universities (internal and external), publishers, and materials developers are also critical.

4.8.2. Teaching at the Right Level: Targeted Instruction

Instruction needs to target children's level with a focus on foundational reading and mathematics skills. Teaching at the level of the children enables them to acquire foundational reading and mathematics skills quickly. Indeed, children learn best when presented with instruction that is suitably demanding: not too difficult and not too easy, so it can expand their capabilities. Evidence shows there are detrimental effects to asking students to complete a learning task for which they lack sufficient prior learning. Valiandes (2015) demonstrated the benefits of aligning instruction with current learning levels. The World Bank will support countries in implementing interventions to target teaching instruction according to learning level, not grade. Targeting instruction according to level ensures that students are given the tasks they need to master in their learning progression (box 4.4). For example, students who are struggling with letter sounds will continue to work on letter sounds, mastering them before moving on to word reading. These interventions have to be adapted to the country contexts and must include grouping children. Grouping can take place according to level of knowledge instead of age (Duflo, Dupas, and Kremer 2011). Grouping could also alternatively be based on parts of the school day (Banerjee et al. 2016). Groups could even be formed and gathered after school or during holidays using teachers and volunteers (Banerjee et al. 2008) or teaching assistants (Banerjee et al. 2007). Targeted instruction can benefit from educational technology as well. For example, an after-school program in India uses adaptive learning software that customizes content based on the level and rate of progress of each student (Muralidharan, Singh, and Ganimian 2019). In Botswana, targeted text messages were sent based on children's levels, focusing on remediation for the students furthest behind (Angrist et al. 2020). India conducted learning camps to improve the basic learning outcomes of primary school children (Banerjee et al. 2017). In Côte d'Ivoire, a program was embedded during the school day (90 minutes per day and five days a week); the proportion of students who could at least read a paragraph increased by 18 percent, and the proportion of students who could do subtraction increased by 26 percent. The Chad Improving Learning Outcomes Project (P175803), currently under preparation, will support the design and introduction of a "right-level" instructional model as remedial education outside school hours for primary-school students at risk of dropping out as well as for primary school-age outof-school children in the school catchment.

4.9. Nascent Systems for Student Learning Assessment and How to Improve Them

Student learning assessment keeps the focus on a performance indicator that matters to students, schools, and the education system as a whole. High-stakes examinations feature prominently in the assessment systems of most AFW countries. While they serve a useful purpose, such examinations are insufficient to provide the more dynamic tracking of student

Box 4.4. Targeted Instruction (from the Teaching at the Right Level Model Developed by Pratham)

- Definition: Targeted instruction is an evidence-based approach to improving students' foundational skills by providing instruction that is appropriate to the learning levels of each child.
- Approach: Targeted instruction entails assessing students' learning levels and grouping students accordingly—that is, by their level of proficiency rather than by age or grade. Grouping often brings together students from across classrooms or even grades. Groups tend to be implemented for specific periods during the school day. For example, Côte d'Ivoire conducted 90-minute sessions in which national trainers (trained by Pratham) trained school heads/pedagogical advisors, who then trained teachers on targeted instruction. Groups may also be implemented in after-school sessions or during vacation breaks, as Niger and Madagascar did under the School for All program supported by the Japan International Cooperation Agency. Another approach is to group students by learning level within a classroom, such as by having similar students sit in small tables to receive instruction. Teachers then align instruction to the current learning level of students rather than start at an assumed level or curricular expectation.
- Basic model: First, a brief assessment of language or mathematics proficiency is conducted with each child to understand the child's current learning level. Second, students are grouped based on the level scored in the assessment. Teachers/facilitators are trained to deliver instruction that is targeted or tailored and designed to help students move quickly through these level-based groups. The instruction focuses on foundational skills in both reading and mathematics and uses basic and simple tools adjusted to the school context. Both indoor and outdoor (play-based) activities are included. Finally, children are reassessed and moved up through the levels as they progress.
- Fundamental principles: The following five principles are necessary for an effective model: (a) Set clear learning goals. Clearly articulate those learning goals and identify which goals to achieve in a specified time duration. (b) Use assessments to understand learning levels. Targeted instruction programs and interventions depend on the use of assessments to understand baseline levels and to inform instruction and organization of groups for learning. (c) Align instruction. Instruction must be coherent with current learning levels and the targeted learning progress. (d) Provide effective support to teachers and instructors. Ongoing teacher training and mentoring should ensure delivery of instruction with program fidelity, provide continuous feedback for improvement, and highlight further training or possible modifications to a program. (e) Track progress periodically. Conduct regular assessments throughout the duration of an intervention.
- Typology of models: The program can be embedded during the school day, either for the whole day, as in the case of Côte d'Ivoire, or during a dedicated period of the day. The program could adopt a learning camp model during the school year, as was the case in Botswana, or a summer camp model, as Zambia did.
- Source: Based on the Foundational Literacy and Numeracy Hub resources on the Teaching at the Right Level method (https://the-fln-hub.webflow.io/focus-area/teaching-at-the-right-level).

learning required to improve teaching practices in the classroom. Such assessments also make it difficult to benchmark a country's learning outcomes to those in other countries. The following discussion provides an overview of current practices in student assessment in the region and elaborates on ways to strengthen these practices.

4.9.1. Current Practices in Student Assessment in AFW

Learning assessments in AFW countries heavily rely on high-stakes examinations. In many AFW countries, students take three public examinations before completing general education. The examination systems in many AFW countries face both technical and administrative challenges. First, there is a weak alignment between curriculum objectives and examinations. Second, because of their high stakes, public examinations tend to exert considerable pressure on students, parents, teachers, and schools, limiting educational success benchmarks to examination results. This pressure not only leads to neglect of critical thinking, problem solving, and practical skills, all of which are less favored in examinations, but also increases repetition rates in these countries. In addition, national examinations heavily inform the flow of students between cycles and often restrict students' progress from primary to lower-secondary or from lower- to upper-secondary education.

Classroom and large-scale assessments need strengthening to improve learning and enhance the quality of education. Classroom assessment can complement public examination and even enhance the validity of external examinations; namely, it can closely align with the national curriculum while also assessing student outcomes that external examinations, due to their format, fail to measure. Many AFW countries have the basic elements of classroom assessment in place to diagnose student learning issues. However, classroom assessment in practice tends to be weak and in need of further system-level support. Largescale assessments (national, regional, and international) aiming to provide evidence of the performance of a country's education system are becoming more common, but they are still mainly for primary education. Of the AFW countries, 17 countries have developed national assessment systems, 9 countries have carried out at least one Early Grade Reading Assessment and/or Early Grade Mathematics Assessment, and 8 countries have caried out at least one Service Delivery Indicator. All 13 Francophone countries have participated in at least in one PASEC, but only Ghana and Senegal have participated in international assessments such as the Programme in International Literacy Survey, the Programme for International Student Assessment for Development, or the Trends in International Mathematics and Science Study. Assessing student performance against international standards and comparing it with student performance in other countries is therefore difficult. Systematic use of regional assessments, such as PASEC, Early Grade Reading Assessments, and Early Grade Mathematics Assessments would help countries to identify bottlenecks and use regional synergies to address them.

Fostering a culture of regular assessment is essential to keep the focus on learning. Most AFW countries lack robust systems for classroom, national, and international assessment. Instead, these countries tend to rely exclusively on high-stakes examinations like the West African Senior School Certificate Examination. In contrast to high-stakes examinations, assessments can track student progress against benchmarks specified in the national curriculum using a variety of formats and tools such as periodic rigorous large-scale assessments and frequent in-class formative assessments. Regular classroom observation and assessment of students by teachers helps with identifying and narrowing student knowledge gaps. Large-scale assessment helps monitor the performance of education throughout a country and allows the Ministry of Education to make evidence-based decisions about managing the system. Details on how to develop and implement these critical points are below.

4.9.2. Improving the Quality of Examinations

Well-designed and well-implemented high-stakes examinations can level the playing field by giving all students the same opportunity to show what they know and can do. High-stakes examinations are typically used to select or certify students as the students move from one level of the education system to the next (or into the workforce). In many countries, these examinations provide decision-makers with a standardized measure of student knowledge that can inform important decisions. Examinations may also play an important equity role by limiting patronage and opening access to educational opportunities for students from disadvantaged backgrounds. Given their high-stakes nature, these examinations must test competencies, higher-order thinking, and reasoning skills without creating perverse incentives for teachers and students (such as encouraging shallow forms of learning like cramming and rote memorization) (El-Kogali and Krafft 2020). Measures to prevent and address misuse of examinations are essential. Depending on the objective and scope of the

Box 4.5. Improving the Quality of Examinations in AFW Countries

To increase the power of high-stakes examinations as a tool for improving student learning, AFW countries might consider the following practical measures:

- Improving the technical aspects of examinations. Decision-makers could ensure each examination's
 alignment with the national curriculum; introduce multiple-choice tests; incorporate students' real-life
 situations, practical skills, and noncognitive skills; and design assessment practices that contribute to
 meeting the challenges facing education in each country.
- Using student performance information to generate feedback. Ministries of education, as well as examination authorities, should use examination results to help improve the quality of classroom teaching.
 Examinations can generate valuable feedback that helps teachers to pay particular attention to the most common errors made by students.
- Enhancing validity. Validity, as a principle of educational measurement, relates to the appropriateness of the inferences, uses, and consequences of an assessment. Ministries of education, as well as examination authorities, should identify threats to validity in their systems and take actions to mitigate them. Threats may include lack of alignment with the national curriculum, method of measurement, choice, overpredictability, administrative conditions, and aspects of administration.
- Using technology to improve administrative practices. Many examination authorities heavily invest in technology. The use of information technology in examinations offers several advantages: increased processing speed; increased security; increased accuracy; increased opportunities for analysis of performance; and reduced costs due to savings in storage, printing, and payment of examiners.
- Eliminating examination malpractice and improving examination-related security. Appropriate legally backed sanctions should be in place, and the resulting laws and regulations should be both enforceable and enforced. Technology could help mitigate examination malpractice, enhance security, and increase efficiency.
- Abolishing unnecessary exit or selection examinations. Many countries have already abolished examinations at the primary education level because all or most students transfer to the next phase of education. Bashir et al. (2018) reported that data from some AFW countries indicated an increase in the repetition rate in the grade immediately prior to the national examination, while data from other countries indicated high repetition rates in the grade where the examination was administered.
- Creating a balanced assessment system. Much effort at assessment reform in many countries has focused on reducing the burden of examinations on students while improving the quality and the validity of the assessments. These efforts have emphasized classroom/school-based assessment and largescale assessment and should be expanded.

examination, the high-stakes decision-making process should also take into consideration criteria other than examination scores (such as school grades, capstone projects, or interviews). If stakeholders are concerned about existing inequities affecting the fairness of examination results, additional measures could be introduced to increase access to learning opportunities for disadvantaged subgroups, particularly where there is scope to expand provision of schooling. Box 4.5 highlights how AFW countries might improve the quality of their national examinations.

4.9.3. Improving Classroom Assessment Practices

Classroom-based formative assessments can help monitor student progress in real time, inform classroom teaching practices, and guide teacher professional development. Such assessments thus complement large-scale, system-level assessments that serve a separate and vital role in setting national goals, monitoring progress toward these goals, and giving a bird's-eye view of trends in student

Box 4.6. Good Practices for Classroom-Based Formative Assessments

All such assessments should measure student results against the explicit goals developed in the curriculum or national reading goals. Good practices to this end include the following:

- Clarifying expectations. Ensure that the curricula or syllabi for all subjects identify the key skills, understanding, and knowledge that students should acquire by the end of their courses. Without this clear guidance, it is difficult to implement classroom assessments successfully.
- Establishing required system-wide mechanisms for classroom-based assessments. System-wide mechanisms, such as pre- and in-service training that incorporates the classroom assessment element, help teachers conduct more effective classroom assessments and use assessment information more appropriately.
- Providing schools with guidance, resources, and materials for classroom assessment. Teachers need the assessment skills required for the task. Instructional guidance, resources, and materials are also helpful in promoting classroom assessment at the school level.
- Institutionalizing mechanisms for systematic monitoring of the quality of classroom assessment. Classroom assessment practices can be monitored, for instance, as part of school inspection and teacher supervision and evaluation.
- Including an element of classroom assessment in an examination framework to increase equity, effectiveness, and efficiency. Some countries (mainly middle- and high-income countries) have allocated a certain percentage of examination marks to school-based assessments. AFW countries cannot introduce this allocation in the short term, but it is worth considering as a long-term reform.

learning and skill development. Continuous classroom and formative assessments, in comparison, provide immediate feedback to inform classroom instruction and ongoing teacher professional development to improve teachers' pedagogical effectiveness. Classroom assessments are also critical to provide instruction to the level (and needs) of students. They can range from rigorous assessments to less formal methods such as "turn and talk," error analysis of homework, and standard observations of student responses during class. Box 4.6 highlights good practices in classroom-based formative assessments.

4.9.4. Improving Large-Scale Assessments at the National and Cross-Country Levels

AFW countries can consider introducing at least one large-scale national assessment to monitor student learning in their effort to enhance the quality of education systems. It is important to have a regular schedule for a large-scale assessment and to invest in strong national assessment programs that can produce comparable data over time. Assessment data are necessary to monitor progress in the goals set under global initiatives, such as the SDGs for education and the Human Capital Index. Ministries of education should establish regulations and guidelines for large-scale assessments and provide policy guidance to those who are developing and administering them.

AFW countries might also consider joining at least one regional or international assessment. The data would permit regional or international benchmarking for student learning and measurement of progress over time relative to regional peers or middle- and high-income countries with which AFW countries aspire to compete. Participating in such assessments also creates opportunities for peer learning and capacity building in data collection, analysis, and policy development to improve student learning. For this purpose, Francophone countries in AFW already benefit from being part of

Box 4.7. Strengthening Large-Scale Assessments of Student Learning in AFW

Large-scale student assessments generate high-quality data for benchmarking and tracking student learning progress. They require a large investment of resources and careful planning, execution, and management of the data to yield maximum benefit as a system-level tool for improving student learning. Some of the main measures to this end are identified as follows:

- Provide adequate fiscal and human resources. The team in charge of the development and implementation of activities should consist of technically proficient and well-trained staff. Such staff can help design and administer large-scale assessments in accordance with best practices and, in turn, increase stakeholder confidence in the results. Assessments are costly in general, but ensuring sufficient funding is critical to the success of a large-scale assessment. The money that countries save as a result of implementing changes to their education systems based on large-scale assessment findings exceeds the cost of investing in these assessments.
- Clearly define the knowledge domain to be assessed and align it with the national curriculum or learning standards. Large-scale assessments can provide useful information when the assessment content is well defined and aligned with relevant and representative elements of the curriculum. This alignment should be codified in the assessment framework.
- Use the results to shape classroom practices and build the capacity of teachers. National assessments
 can identify areas and groups that are lagging in terms of achievement and then design strategies to
 address these disparities. Teachers should receive guidance and training on how to make good use of
 assessment results and take corrective measures in teaching.
- Ensure that assessment findings are widely disseminated and used. The audience includes educators at both the system and school levels, and the findings should be systematically assessed for their implications for policy and follow-up action. Assessment findings should be publicly available to ensure stakeholders can learn from and leverage the results of assessment activities. Assessment results should also guide system improvement as well as program and policy design. Annex 3 presents how some countries have used assessment results effectively.

PASEC. The region's Anglophone countries do not yet have a similar hub and might consider establishing one, perhaps drawing on the experiences of PASEC and of the Southern and Eastern Africa Consortium for Monitoring Educational Quality, which both operate for the benefit of countries in southern and eastern Africa. Box 4.7 highlights key measures to enhance the usefulness of large-scale student assessments.

4.10. Priorities for Reducing Learning Poverty

Improving teaching and learning in basic education is a very important issue to address in order to reduce learning poverty. As discussed above, there are five high-impact interventions that can be grouped into two categories. The first category relates to teachers, and the second relates to children's readiness and the effectiveness of pedagogy including learning resources, language of instruction, and learning assessment (figure 4.10). These interventions are based on the general context of the region, but each country must prioritize and develop its action plan considering its specific context.

cross-sectoral areas

· Encourage reading at home

scripted lesson plans)

technology

· Involve non-state actors, incl community-based ECD

· Provide a set of core learning resources/minimum

package of learning materials (textbooks, readers, and

• Instruct in local languages in first few year of schooling

· Support frequent in-class formative assessments using

and transition to second language in later years

• Target instruction to children's level focusing on

foundational reading and mathematic skills

• Institutionalize periodic, rigorous, large-scale

assessments (national or international)

	What?	Why?	How?
R R R R R R R R R R R R R R R R R R R	Transform the teaching profession	Students of skillful teachers learn more and attain more years of schooling	 Improve the quality of new teachers in the pipeline Attract more women to teaching Recruit teachers based on merit, deploy based on needs, strengthen career management Support teachers with structured pedagogy
	Enhance students'	Students without proper early	Invest in nutrition, health, early stimulation and other

prepared to learn

without them

nutrition and stimulation are not well

Shortage of learning materials is

pervasive, and students cannot learn

Learning in a first language promotes

and targeting instruction to a child's

learning level provides quick results

development of other cognitive abilities,

Regular assessments keep the focus on

learning, provide timely information on

student performance, and allow for

better learning outcomes and

Figure 4.10. Interventions to Improve Teaching and Learning

Foster a culture of regular learning assessments

adjustments to improve student learning

Note: EdTech = educational technology; ECD = early childhood development.

readiness to learn

Provide learning

tools

resources and EdTech

Teach at the right level

and in a language

children understand



5. High-Impact Interventions to Expand Learning Opportunities

Over the past few decades, access to education has expanded rapidly in AFW, but many children and youth are still not in school. A number of countries have yet to universalize basic education in part because the supply of schooling has expanded much more slowly than the school-age population. Secondary education suffers from the same imbalance between supply and population growth, and its adverse impact on access has been greater for girls, refugees, internationally displaced persons, persons living with disabilities, and other disadvantage groups.

This chapter presents data on population trends in AFW to contextualize the challenges of expanding education access. It examines the key bottlenecks on both the demand and supply sides that prevent many children and youth from attending school. These constraints contribute to inequities in access to education across the region. Some bottlenecks operate at all levels, while others exert a greater impact on certain groups at certain levels. The chapter also identifies promising interventions to overcome the key barriers to expanding learning opportunities across the region. It concludes by highlighting priorities for consideration by policy makers in designing policies and programs to expand learning opportunities in the region.

5.1. Demographic Trends and Their Implications for Education Access

The difficulties of increasing access to education are exacerbated by the region's rapid population growth (figure 5.1). In many cases, even significant increases

in the number of schools are insufficient to catch up. The discussion of this chapter is therefore relevant in particular because expanding access to education relates to decreases in fertility. In Nigeria, for instance, each additional year of female schooling reduces fertility by at least 0.26 births per woman (Lam, Sedlacek, and Duryea 2016). Education increases women's use of contraception, strengthens their role in family fertility decisions, and makes them more aware of the trade-offs in having children (Gordon et al. 2011).

To meet the demand for formal education from the increasing number of school-age children, AFW countries will have to invest significantly in school infrastructure. Few countries in the region have adequate school infrastructure to accommodate all current school-age children. The school-age population in AFW will reach an estimated 150 million by 2030 and 204 million by 2050. Currently, the school-age (basic education) population is 123 million. Nigeria constitutes about 45 percent of this population; Francophone countries collectively constitute 44 percent. Other Anglophone and Lusophone countries represent the remaining 10 percent of the school-age population in the region.

For the medium-term, the number of school-age children will continue to increase at a high rate in most AFW countries as the region is still at a very early stage of the demographic transition. The region has the youngest population in the world, with 12 percent of its population under the age of 15 (World Bank 2021b). Currently, most AFW countries are in the pre-demographic transition phase. Out of the 22 countries in the region, six have a fertility rate of 5 or higher births per woman, with Niger having the



Figure 5.1. Estimated and Projected Growth in Basic School-Age Population in Western and Central Africa

Source: Based on World Population Prospects (2019) and United Nations (2019).

highest fertility rate at 6.8. Thirteen countries have a fertility rate between 4 and 5 births per woman. Only three countries in the region-Cabo Verde (2.2), Ghana (3.8), and Gabon (3.9)—have a total fertility rate of less than 4 births per women. Moreover, a stagnant or slow pace of decline in fertility rates in many AFW countries means that the region may take more than 60 years to fully complete the fertility transition (May and Guengant 2020). With the continuation of the fertility transition period for the next few decades, the high growth of the schoolage population will continue to present a challenge. Countries will have to strive to build new school classrooms and facilities to absorb an ever-growing number of school-age children into the formal school system.

Children who are not in school can be classified into three groups: those who have never enrolled, those who have registered but dropped out before finishing, and those attending non-integrated religious education institutions. The constraints that affect out-ofschool children's situation—and consequently, the potential solutions—are different for each group. The following sections identify the main constraints and propose a series of corresponding priority areas and interventions.

5.2. Demand-Side Constraints to Access Education

This section summarizes the main demand-side constraints that affect access to education. These constraints include the widespread financial constraints at the household level, the informational constraints, the sociocultural norms that prevent access to education, and the widespread lack of safety in and around schools.

5.2.1. Financial Constraints

Lack of resources is among the most common demand-side constraints; though basic education is formally free and compulsory, families still have to make out-of-pocket expenditures. In Liberia, for instance, 11.3 percent of primary-school-age children and 19.1 percent of junior secondary-school-age children report monetary constraints as the main reason for never attending school (De Simone and Teixeira 2021). Direct costs are mostly related to registration fees, school fees, and parent association contributions. Indirect costs include uniforms and clothing, school supplies, transport, and food. Additionally, opportunity costs such as the value of child labor, which the household waives by sending children to school,



Figure 5.2. Primary and Secondary Net Attendance Rates by Household Wealth Quintiles (a) Primary education (b) Secondary education

Source: Latest available Demographic and Health Surveys (2014-19).

are important, especially for secondary education (UNICEF n.d.).

The gap in access to primary education between children from the poorest wealth quintile households and the richest wealth quintile households in terms of net attendance rate is as high as 41 percentage points in Guinea; 39 percentage points in Senegal, Nigeria, and Mali; 36 percentage points in Benin and Liberia; and 30 percentage points in Chad (figure 5.2). The gap in access to secondary education as measured by net attendance rate is even more acute. The gap in net attendance rate between children from the poorest wealth quintile households and the richest wealth quintile households is as high as 55 percentage points in Nigeria, 47 percentage points in Benin and Guinea, 45 percentage points in Sierra Leone and Liberia, 43 percentage points in Mali, 38 percentage points in Senegal, 36 percentage points in Chad, 32 percentage points in The Gambia, and 29 percentage points in Ghana.

An analysis conducted by UNICEF (n.d.) shows that in AFW, of all expenditure on education, more than half is on direct costs, 40 percent is on equipment and school supplies, and 10 percent is on transport and food, albeit with large heterogeneities across countries. In many cases, expenditures on education represent a large portion of total household expenditure. Household contributions represent between 6 percent (Niger) and 78 percent (Sierra Leone) of what the government spends per student in primary school. For lower-secondary education, these values go up to the point that, for some countries, households spend more than the government.

5.2.2. Information Constraints and Sociocultural Norms

Even when financial constraints are not an issue, informational constraints prevent many children and adolescents from attending schools. Information about the income-earning benefits of education and the quality of schools is limited; the perception of the value of education thus tends to be poor. Other factors such as the lack of information on school quality may also hinder school attendance.

Sociocultural norms are another critical constraint that prevents access to schooling, especially for girls at the secondary education level. Sociocultural norms are informal rules that a group uses to determine which behaviors and values are appropriate and which are not. On many occasions, sociocultural norms influence the role that women are expected to play, preventing girls from attending schools. In Ghana, if forced to choose, 50 percent of parents would keep their sons in school, and only 10 percent would give their daughters priority.

The understanding that schools are not the right place for girls is associated with many other roles that women are supposed to play at very early ages. For instance, AFW is home to the countries with the highest rates of early marriage in the world. In Niger, for example, the latest data indicate that about three-quarters of girls 20-24 years old were married before the age of 18, the highest percentage in the world. Sahelian countries tend to be at the top of the list concerning child marriage. With more than 22 million child brides, Nigeria has the highest absolute value globally. The prevalence of child marriage before the age of 15 is also the highest globally, with Niger, Chad, Mauritania, Guinea, Mali, and Nigeria above 15 percent. These values tend to be higher in rural areas and for girls living in the poorest quintile of the income distribution (United Nations Population Fund 2018).

Another issue related to sociocultural norms regards those children who do not attend official schools but do attend non-integrated religious schools. Many non-integrated religious schools are Koranic schools aiming to prepare children to be good Muslims with strong moral values (World Bank 2021). These schools are rarely recognized by governments, except in Mauritania, where they are recognized but not supported financially. In many countries, the share of out-of-school children attending these institutions is significant, including 42 percent in Chad, 26 percent in Niger, and 23 percent in Nigeria (World Bank 2021). Values and religious reasons are key motives why parents choose Islamic schools. 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 critical reason for their school choice, with smaller proportions listing academic (25.8 percent) or teacher (12.9 percent) quality (World Bank 2021).

5.3. Easing the Demand-Side Constraints on Education

Addressing the challenges that children and youth face to access education requires a combination of demand- and supply-side interventions. In most cases, an effective solution will require a combination of multiple interventions. This section highlights promising interventions to ease the demand-side constraints on education access: reducing the cost of schooling, providing information to families and children, and shifting sociocultural norms that prevent access to education.

5.3.1. Reducing the Cost of Education

Reducing the cost of schooling is critical to ease demand-side constraints. With the exception of a few, AFW countries have legally abolished school fees. This decision has generated important improvements in education outcomes. However, many families still have to pay direct and indirect costs for education. Randomized evaluations consistently find that reducing the out-of-pocket cost of schooling or instituting subsidies increases school participation, often dramatically (Glewwe and Olinto 2004; Maluccio and Flores 2005; Schady and Araujo 2006; Fiszbein et al. 2009). Eliminating primary school fees has increased school enrollment and completion rates. It has generated other benefits as well, such as reduced adolescent marriage and pregnancy and increased employment and financial inclusion in countries such as Ethiopia, Malawi, and Uganda (Moussa and Omoeva 2020; Ajayi and Ross 2020; Adu Boahen and Yamauchi 2017); higher employment and financial inclusion in Kenya (Ajayi and Ross 2020); and reduced adolescent marriage in Ghana (Adu Boahen and Yamauchi 2017). Some studies have also shown effects for secondary education in The Gambia (Blimpo, Gajigo, and Pugatch 2016); Ghana (Duflo, Dupas, and Kremer 2021); Kenya (Brudevold-Newman 2017); and Uganda (Masuda et al. 2016).

The design of these interventions is as important as their existence. For instance, deferring payment of conditional cash transfers to coincide with the fee deadlines for the next level of education has a larger impact on subsequent enrollment than evenly spaced transfers throughout the year (Barrera-Osorio et al. 2007). Thus, transfers in the form of scholarships or cash transfers (including conditional) can reduce the cost of secondary education. Successful examples include cash transfers provided under the Nigeria Partnership for Education Project and the Girls' Education and Women's Empowerment and Livelihood in Zambia.

Other important ways to reduce the cost of schooling have also proven effective. For instance, recent studies have found that the provision of free school uniforms can lead to 10-15 percent reductions in teen pregnancy and dropout rates (Evans et al. 2018). School feeding programs can also be transformative. These programs led to boosts in attendance and learning outcomes in recent studies for Ghana (Aurino et al. 2019) and Senegal (Diagne et al. 2014). In Burkina Faso, providing take-home rations boosted attendance for boys and girls and enrollment for girls (Nikiema 2017). Other nutrition programs, even though not necessarily focused on reducing the cost of schooling, have also shown positive effects on attendance rates. In Mali, for example, providing iron pills and multiple micronutrients to students increased attendance rates significantly (Ayoya et al. 2012).

5.3.2. Providing Information to Parents and Students

When the main bottlenecks in accessing education are informational, providing information to parents and children on the income-earning benefits of education, sources of funding, and local schools' quality also has a high impact. The recent report on Smart Buys for education identifies this intervention as the only "great buy," that is, an intervention that is likely to be highly cost effective, either because of its large benefits or low costs (World Bank 2020).

The means for information-sharing differ depending on the local context but may include text messages, videos, parents' meetings, or school report cards. The impact of providing information is accompanied by a meager cost per child. For example, in Madagascar, school attendance increased by 3.5 percentage points for those exposed to statistics showing returns to education (Nguyen 2008). In Pakistan, school report cards increased primary enrollment by 4.5 percent, highlighting the importance of providing information to facilitate comparisons across providers and improve enrollment efficiency (Andrabi, Das, and Khwaja 2017). Informing students about the extent to which earnings vary with schooling can increase school participation with minimal expenditure (Jensen 2010; Nguyen 2008). Partnering with initiatives from other organizations-such as UNICEF's "Data Must Speak"-to create easyto-use profile cards accessible to low-literacy audiences can help parents, teachers, and students stay informed, hold school managers to account, and increase attendance.

Importantly, to be effective, these interventions need to provide specific and context-relevant information. Such information is key to shifting people's beliefs about the benefits of education or the quality of schooling; general encouragement to consider education positively is not sufficient (World Bank 2020a). In short, these interventions are not public communication campaigns. However, for these interventions to succeed, locally relevant quality information from a trusted source needs to be available in the first place, and the delivery method needs to adapt to the local context (World Bank 2020a). Additionally, the recipients must have the means to act on the information; for example, there must be schools nearby so that families who are encouraged to keep their children in school can do so safely, and communities that receive the information need enough access to organizational decision-making structures to spur action (World Bank 2020a).

5.3.3. Shifting Sociocultural Norms and Behaviors in Favor of Schooling, Especially for Girls

Shifting sociocultural norms that affect school enrollment, especially for girls, is essential in the medium term. A first step is involving communities in advocacy work and comprehensive stakeholder engagement to sensitize key stakeholders about the importance of education, especially for girls at the secondary level. These interventions will be particularly relevant for Sahel countries and certain regions of some countries, such as Northern Cameroon and Northern Nigeria (box 5.1).

A second step is conducting comprehensive communication campaigns focused on school enrollments and changing behaviors and social norms that prevent school attendance. This step includes typical traditional multimedia campaigns that approach the recipient from multiple angles, such as the communications campaigns implemented in projects like Adolescent Girls Initiative for Learning and Empowerment in Nigeria. To be effective, these campaigns need to follow the lessons of behavioral sciences (Prentice and Paluck 2020). One lesson highlights the importance of institutional changes and the voice of authority in changing perceptions of social norms; changing perceptions can guide behavior, even when individual opinions do not necessarily change (Tankard and Paluck 2017). Thus, involving traditional and religious leaders is critical in shifting behaviors that prevent girls from attending schools.

Another lesson highlights the importance of peer effects in changing social norms rapidly. Even at the school level, identifying and training leaders to confront criteria that prevent girls from attending schools can have a cascading effect, producing social network changes like the ones evidenced in Paluck's (2010) study on reducing prejudice.

For girls in particular, interventions that address health needs can also affect the demand side and increase attendance. For instance, providing sanitary pads to female students in Kenya reduced absenteeism significantly (Benshaul-Tolonen et al. 2019). **Communication campaigns can also take place through entertainment audiovisual products that shape norms and behaviors.** For example, in Brazil, soap operas have had significant effects on reducing fertility (La Ferrara et al. 2012). Many programs are being produced in AFW with similar objectives, including cartoons, radio, and television shows that aim to reduce early pregnancies and increase girls' enrollment in school.

Finally, it is also important to explore the potential of innovative programs that use cutting-edge technology. For instance, some programs in the region are now using bots that combine artificial intelligence and behavioral insights to chat with students and shift norms and behaviors to increase girls' attendance and reduce early pregnancies (Rascon n.d.).

5.4. Supply-Side Constraints on Education Access

This section summarizes the main supply-side constraints that affect access to education. These constraints include the lack of schools, the poor infrastructure, the low accessibility of some available schools, and the limited supply of services for vulnerable groups.

5.4.1. Scarcity of Schools

The lack of schools and educational facilities continues to be a main challenge to accessing education in *AFW*. This challenge is fueled by the rapid population growth in the region, which tends to be especially acute at the secondary level. Nigeria, for example, has a critical shortage of secondary schools, with a ratio of 4.3 primary schools for every junior secondary school and 6.1 for every senior secondary school. In the country's north, 23 percent of primary schools do not have a junior secondary school within four kilometers, compared to only 5 percent in the south.⁴¹ Thus, many children in the region, especially in rural areas, cannot attend school even if their families have the resources and feel that education is worth it.

⁴¹ Team's analysis of National Personnel Audit, 2017/2018.

Box 5.1. Education as a Tool to Catalyze a Demographic Change in Western and Central Africa

A demographic dividend is the economic growth potential resulting from shifts in a population's age structure. When the share of the working-age population is larger than that of the non-working-age population, which is typically defined as those younger than 15 and older than 65, there is an opportunity to grow due to the demographic dynamic (United Nations Population Fund 2016). The greater the number of people who produce in relation to those who only consume, the greater the savings, which generates the potential for an increase in investment in human capital accumulation. In such scenarios, there is also reduced pressure regarding spending on education and other programs targeted at families with children, such as conditional cash transfers and family allowances. Such spending and programs could stimulate productivity and lead to sustained economic growth.

Western and Central Africa currently has a very young population, with close to 60 percent of the population below 24. Niger has the highest age-dependency ratio globally, with more than one dependent per working-age person. In the largest country in the region, Nigeria, the age-dependency ratio reaches 86 percent. This young population is partly due to the region's very high fertility rates of close to 5 births per woman, more than twice the global average. This high-speed population growth creates many challenges for delivering public services, including education. As was highlighted in this chapter, increasing access to education is not enough to achieve universal access if the rate of progress is not higher than the growth of the school-age population.

These large groups of youth will soon move to the productive bracket of the working-age population. As such, there will be an opportunity for a demographic dividend. But a few conditions apply: the fertility rate needs to decrease at a faster pace, the under-five mortality needs to decrease, and productive jobs need to be available to the youth entering the labor market. The demographic dividend is not an automatic process; members of the population who are economically active must be able to find productive employment (De Simone and Teixeira 2021). The interventions proposed in the Regional Education Strategy aim to support a demographic dividend from multiple angles.

First, this chapter in particular focuses on access to education, especially at the secondary level. The evidence shows that each additional year of schooling reduces fertility rates by 0.26 births, decreases the chances of maternal death by 20 percent, increases survival to age five of students' children by 50 percent (Osili and Long 2008), and reduces the probability of child marriage for girls by an average of 6 percentage points. Additionally, it increases future income by at least 10 percent (International Center for Research on Women 2018). Fertility decline, in turn, has a strong effect on education by allowing for fewer, healthier, better-nourished, and better-educated children (Canning et al. 2015).

Second, this chapter—and the entire strategy—focuses on girls. The strategy follows the 4 E's approach to catalyzing a demographic dividend established in the Africa Human Capital Plan (World Bank 2019): empower, educate, and employ women and enhance health services. Better-educated and healthier women are likely to have fewer children. And women who have fewer children are much more likely to enter the paid labor market, have higher earnings, and be more empowered (Canning et al. 2015).

(Box continues on next page)

Box 5.1. Education as a Tool to Catalyze a Demographic Change in Western and Central Africa (continued)

Finally, the strategy also puts special attention on providing the right skills for youth to find productive jobs. These skills can be acquired at the secondary education level, as highlighted here, and at the post-secondary level, as will be stressed in the next chapter.

The right policies can stimulate a demographic dividend. Increasing access to education at the secondary level and ensuring youth have the right skills to find productive jobs are vital elements to take advantage of the demographic trends. The risk is that, if the right policies are not promoted, the demographic trends can create a disaster instead. of a dividend (Canning et al. 2015), making more room for instability, conflict, and violence, given the large number of youths that might not have opportunities to meet their expectations.

Countries in the region will have to build an estimated 1.5 million new classrooms by 2030 to accommodate current out-of-school children and cope with the school-age population increase. The average student-classroom ratio for most countries in the region is already 40 or above. AFW will have to build an estimated 1.2 million new classrooms to maintain this ratio while accommodating all out-of-school children as well as the additional children expected between 2020 and 2025 due to population growth. AFW will need a further 325,000 classrooms by 2030 to accommodate all anticipated school-age children added between 2020 and 2030. These estimates are lower bound. They do not take into consideration the overcrowding of existing classrooms or the non-uniform distribution of students across geographic locations. Nigeria alone will need to build at least 458,000 new classrooms by 2025 to accommodate all schoolage children and maintain a student-classroom ratio of 40 (figure 5.3). Estimates suggest that by 2025, seven countries in the region will each have to add over 50,000 classrooms in order to accommodate all children in classrooms with 40 students or fewer. These countries are Niger (137,000 classrooms); Mali (91,000); Chad (85,000); Burkina Faso (82,000); Côte d>lvoire (66,000); and Senegal (59,000).

5.4.2. Deficient Infrastructure

Even when schools are available, their infrastructure is typically deficient. For instance, many schools in

the region are dilapidated due to lack of maintenance or the effect of conflict and violence on educational facilities. School infrastructure has been linked to increased enrollment rates, retention rates, and equity (Barrett et al. 2019). In addition to the many schoolage children who are out of school in AFW countries, those who attend school often study in extremely overcrowded classrooms that are not conducive for learning. The student-classroom ratio is over 40 in most AFW countries (figure 5.4a). Some countries such as the Republic of Congo, Chad, and the Central African Republic have an average classroom size of over 60. Even in countries with a relatively low overall student-classroom ratio, within-country variation is high. In Nigeria, although the average student-classroom ratio is 40 for the country, the ratio is above 60 in eight out of the country's 37 states (figure 5.4.b). For example, the highly populous states Kano and Katsina have a student-classroom ratio of 79 and 94, respectively. The variation is even higher at the school level. Nigeria's average student-classroom ratio in rural schools is 43 as compared with 37.5 in urban schools. This wide variation of the student-classroom ratio across schools occurs within many AFW countries (figure 5.4). For bigger countries like Nigeria, the wide variation is present even for schools within specific geographic or geopolitical regions.

One critical deficit in infrastructure is the lack of water and sanitation facilities. Only about 46 percent of primary schools, 63 percent of lower-secondary schools, and 72 percent of upper-secondary schools



Figure 5.3. Estimated Number of Classrooms Required to Enroll all Currently Out-of-School Children and the Number of Children (6 –15 Years Old) Added with Population Growth from 2020–25 to 2025–30

Source: Original estimates based on population estimates for 2020 from the United Nations (2019) and rate of out-of-school children from analysis of microdata by the Demographic and Health Surveys (for Benin 2018, Cameroon 2018, The Gambia 2020, Guinea 2018, Liberia 2019, Mali 2018, Senegal 2019, and Sierra Leone 2019); Living Standards Measurement Surveys (for Burkina Faso 2014, Gabon 2017, Niger 2014, and Nigeria 2018); and Multiple Indicators Cluster Surveys (for Central African Republic 2019, Chad 2019, Republic of Congo 2015, Côte d-Ivoire 2016, Ghana 2017, Guinea Bissau2019, Mauritania 2015, and Togo 2017). Note: ODSC = out-of-school children.

in the region report having access to safe drinking facilities (figure 5.5). Similarly, only 56 percent of primary schools and 68 percent of lower- and upper-secondary schools report having access to proper toilet or sanitation facilities (figure 5.6). Access to safe drinking water and handwashing facilities is critical for ensuring a safe learning environment, especially in the context of COVID-19 and other communicable diseases affecting the region. Access to gender-friendly sanitation facilities is also important to ensure a safe and inclusive learning environment for all, including girls. Of course, schools are not isolated islands in their own countries or communities. Access to these services among the general population largely determines the capacity and willingness of relevant authorities to make these services available in schools. Data show that, in comparison with the proportion of households in the country, a lower proportion of schools have access to drinking water, but a higher proportion of schools have access to basic sanitation facilities. According to recent Demographic and Health Surveys for AFW countries, about two in three households report having access to an improved drinking water source, and one in two households report having access to an improved sanitation facility.

Similarly, lack of access to electricity in schools is a widespread problem in the region. Lack of electricity leaves many schools unable to make use of the technology that is increasingly implemented even in low-resource settings to improve teaching and learning practices. Only 27 percent of primary schools, 45 percent of lower-secondary schools, and 64 percent of upper-secondary schools have access to electricity (figure 5.7). Access to electricity is especially important for incorporating digital technology and computers into secondary-school curricula. It is not surprising that only a small fraction of schools in the region have access to an internet connection and computers for pedagogical purposes (figure 5.8 and figure 5.9).

An even more significant number of schools lack access to the internet and basic connectivity. Data on internet access in schools for pedagogical purposes are more limited, but the few countries with data show immense needs. In a ranking of AFW countries by access to the internet in primary schools, Senegal and Cabo Verde rank at the top, with only 13 and 15 percent of schools, respectively. Most countries are below 5 percent. For lower-secondary education, the values are slightly higher (for example,



Figure 5.4. Distribution of Student-Classroom Ratios in Selected Countries and States of Nigeria

Sources: PASEC 2014 and National Learning Assessment 2018.

42 percent in Senegal and almost universal access in Cabo Verde), but still below 10 percent for most countries. Similarly, only a few countries such as Ghana, Cameroon, Senegal, Cabo Verde, and Côte d'Ivoire have more than one-fourth of their upper-secondary schools with internet access for pedagogical purposes. To put things into perspective, globally, 63 percent of upper-secondary schools have access to the internet, whereas the value is 49 percent for lower-secondary schools and 40 percent for primary schools (UNESCO Institute for Lifelong Learning 2020). These values hide two realities. The first is significant heterogeneities, as more schools with internet access are in urban areas. The second is that, even when schools have internet access, the access tends to be bad quality and unstable.



Figure 5.5. Proportion of Schools with Access to Drinking Water (%)



Source: Analysis based on World Development Indicators and National Personnel Audit 2018 for Nigeria. Note: WCA = Western and Central Africa.



Figure 5.7. Proportion of Schools with Access to Electricity (%)

Source: Analysis based on World Development Indicators and National Personnel Audit 2018 for Nigeria. Note: WCA = Western and Central Africa.



Figure 5.8. Proportion of Schools with Access to Computers for Pedagogical Purposes (%)

Source: Analysis based on World Development Indicators and National Personnel Audit 2018 for Nigeria.

5.4.3. Lack of Accessibility, Especially for Vulnerable Groups

In many cases, even when schools are available, the schools are difficult to reach or inaccessible, which drives enrollment and attendance rates down. For instance, in Nigeria, living 20 or more minutes away from a school reduces the odds of attendance by 52 percent (Kazeem et al. 2010). Even when transport is available, the cost can be prohibitive. In countries such as Sierra Leone, for instance, people spend around the same amount of money on transport to school as on school fees.

Constraints to accessing education affect many groups in the region, but some marginalized groups face additional challenges or difficulties that particularly limit their access. Refugees are among the groups with the lowest access to educational opportunities. The region has a total of 5 million forcibly displaced children. During the 2020–21 school year, more than half of the refugee children in AFW did not attend school. This problem is acute for secondary school. While 60 percent of refugee children are enrolled in primary school, only 15 percent are enrolled in secondary, and only 1 percent of those 18–24 years old have access to higher education and vocational training. These numbers are lower than the numbers not only for non-refugees but also for refugees in other parts of the world. For example, globally, 3 percent of refugees are enrolled in higher education (UNHCR 2021c). In addition, for those who do access education, the quality of learning environments tends to be very low.

Similarly, persons with disabilities face many bottlenecks to enroll and progress in the education system.

Figure 5.9. Proportion of Schools with Access to Internet for Pedagogical Purposes (%)

Wodon et al. (2018) observed large gaps in education outcomes for persons with disabilities based on census data for 11 Sub-Saharan African countries, including four from AFW (Burkina Faso, Ghana, Liberia, and Mali). Statistical differences in educational outcomes were attributable to exclusion related to disabilities instead of other (observable) characteristics of children with disabilities. Girls with disabilities are particularly disadvantaged. Tan (2020) found that girls with disabilities in Burkina Faso, Mali, and Niger are less likely to receive an education, less likely to be employed, and at greater risk of abuse, including sexual violence, compared to all other groups (boys with disabilities, boys without disabilities, and girls without disabilities).

Limited available data suggest that only a small number of schools in the region have school infrastructure that accommodates the needs of students with disabilities (figure 5.10). In addition, notably, the provision of ramps to access classrooms or school buildings and any accessibility services inside the school is futile if the schools themselves are not accessible to children with disabilities. It is important to situate schools in locations that are connected by roads or by wheelchair-friendly paths with major population centers.

5.4.4. Insecurity around Schools

The lack of safety in and around schools is an apparent factor affecting enrollment and attendance rates and one of the most distinctive characteristics of AFW. In this region, FCV is highly prevalent. Exposure to violence can lead to significant declines in educational attainment, both in the short term and the long run (Chamarbagwala and Moran 2011).

The Armed Conflict Location and Event Data project offers the most comprehensive and wide-reaching database presently used in disaggregated conflict events (https://acleddata.com/data-export-tool/). An analysis of the data shows that the majority of the conflicts that targeted schools in the region occurred in the form of protests, riots, and violence against civilians (including beatings, shootings, rape, kidnapping, and disappearances), which account for 43 percent, 30 percent, and 12 percent of incidents in the region, respectively.

Figure 5.10. Proportion of Schools with Access to Adapted Infrastructure and Materials for Students with Disabilities (%)



Source: World Development Indicators database.

Schools are targets for multiple reasons (Bradford and Wilson 2013). First, in many cases, schools are a symbol of Western-style education, which many groups oppose. Second, attacks on schools produce substantial media attention, which helps militant groups increase their impact. Third, schools are a relatively safe and unguarded place where people congregate, which offers the potential for mass attacks. AFW is one of the most affected regions in the world. Most attacks occur in the Lake Chad basin and the Central Sahel. More than one-guarter of the 742 verified attacks on schools globally in 2019 occurred in five countries across AFW.

The effects of these attacks on education are pervasive. The first effect is the most straightforward: the direct disruption of educational activities due to attacks and violence. According to UNICEF (n.d.), as of June 2019, AFW saw 9,272 schools close or become non-operational, triple the number recorded at the end of 2017. More than 1.9 million children and 44,000 teachers were forced out of school due to the upsurge in attacks and threats of violence against public schools, students, and teachers across the region (Nakell 2019). At the beginning of 2021, almost 5,000 schools were closed in affected areas in Burkina Faso, Mali, Niger, the Far North of Cameroon,

Chad's Lac Province, and Nigeria's north-eastern regions, depriving hundreds of thousands of children of their right to education and putting them at risk of exploitation and abuse (Regional Education in Emergencies Working Group 2021).

Other effects are more indirect but very significant. For example, a recent study has shown that, in the case of Nigeria, one additional conflict event in a five-kilometer radius from a child's village during the previous academic year reduces the child's probability of school enrollment by 2 percentage points (Bertoni et al. 2019). This reduction implies a 4 percent decrease (from 68 percent to 64 percent) in average school enrollment. In other words, even those attacks that do not directly target schools negatively affect educational outcomes. The number of attacks in the region has risen in recent years. Analysis of data from the aforementioned Armed Conflict Location and Event Data project indicates that, within the region, the total number of incidents has increased by an average of 40 percent annually from 2016 to 2020. Most recently, attacks increased by 50 percent from 338 in 2019 to 507 in 2020, and as of July 2021, the number of attacks had nearly surpassed the five-year average during 2016–20.

There is also strong evidence that attacks affect children emotionally and have long-term effects on learning outcomes. A recent assessment in conflict-affected areas of Burkina Faso, Niger, and Mali showed that more than half of the students did not feel safe inside the school, and 62 percent felt unable to concentrate when doing schoolwork (Regional Education in Emergencies Working Group 2021). Moreover, the effects of these attacks on education tend to be unequal. For instance, violence tends to affect girls disproportionately. Attackers, or even government forces, often engage in sexual abuse of girls, affecting girls' probability of continuing their education. The Global Coalition to Protect Education from Attack found that girls were less likely than boys to return to school following conflicts because girls could not pay school fees, with families prioritizing education for boys. Girls feared sexual violence and general insecurity at school or on the way to or from school. Nigeria, following the closure of schools across the northern states, saw an increase in reported cases of child marriages and early pregnancies of school-age girls (Amnesty International 2021).

Another manifestation of these attacks is school kidnappings, ranging from individual to mass kidnappings, which have skyrocketed recently. In the region, more than 1,037 people, mostly students and teachers, were kidnapped in and around educational facilities during the first seven months of 2021. This number is more than double the count for 2020 and includes incidents with as many as 300 students kidnapped (De Simone et al. 2021). Such attacks were initially a modality used by extremist groups, with the kidnapping of the Chibok girls in 2014 drawing global attention. However, kidnapping has recently evolved as a criminal activity performed by gangs and bandits whose primary motivation is to obtain ransom money. Other issues such as climate change also affect these violent trends. Some sources indicate that these groups consist of former cattle herders; as climate change has affected their livelihoods, these cattle herders have, in turn, developed well-organized armed groups specializing in abductions for ransom (Olukoya 2021).

Besides conflict and organized violence, high levels of interpersonal violence are also present in some countries. Interpersonal violence includes gender-based violence and violence against children. Data from the Igarape Institute indicate that the average homicide rate in the region is approximately 8 per 100,000 inhabitants (https://homicide.igarape.org.br/). Five countries-Nigeria, Central African Republic, Côte d'Ivoire, Mauritania, and the Republic of Congohave homicide rates greater than 10, which is the threshold that the World Health Organization uses to classify epidemics. Nigeria and the Central African Republic have a rate of 34.5 and 20.1, respectively, significantly higher than the threshold, indicating that these countries are facing epidemics of violence (United Nations Office on Drugs and Crime 2021).

The detrimental effects of interpersonal violence on education outcomes are well documented. One recent empirical study showed that exposure to crime, measured by homicide rates, has a negative and significant impact on academic achievement (Gimenez and Barrado 2020). Koppensteiner and Menezes (2021) found that, in Brazil, violence has a detrimental effect on both school attendance and standardized test scores and that it increases the dropout rates of students substantially; additionally, violence tends to lower educational aspirations and positive attitudes about education for both students and parents. In developed countries, even police violence led to persistent decreased high school completion rates (Ang 2020).

Another form of interpersonal violence with a more direct link to educational outcomes, but of a completely different nature, is violence in schools exercised by teachers or administrative staff. Most countries in the region allow corporal punishment in schools-only nine countries prohibit corporal punishment in all schools. Though six countries in the region have policies that prohibit corporal punishment in schools, it remains lawful or permissible despite these policies (End Violence Against Children n.d.) Corporal punishment, bullying, and gender-based violence profoundly affect students' learning ability and teachers' ability to teach. The available evidence suggests that students exposed to corporal punishment are more likely to adopt negative behaviors and to regress academically in terms of learning compared to peers who were not exposed to those practices (Fevre et al. 2021). PASEC data for Francophone countries shows that almost two-thirds of students reported being beaten by teachers, and one-third reported that other children do not play with them or are scared in school (Wodon et al. 2021). The adverse effects of the proxies for violence are large, outweighing even the potential impact of variables concerning the socioeconomic background of the student; the student having either a hearing or visual disability; and many other factors affecting learning such as teacher absenteeism, the level of education of teachers, or some of the characteristics of the schools (Wodon et al. 2021).

5.5. Improving Safety in and around Schools to Ease Supply-Side Constraints

The main supply-side interventions involve ensuring safety in and around learning environments; ensuring safety is the first of several actions toward easing the supply-side constraints on access to schooling. Specific measures include reducing physical attacks on schools; offering schooling through alternative arrangements in situations where violence makes normal service delivery unfeasible; eradicating violence on students committed by teachers and school administrators; and using schools to model and practice non-violence.

5.5.1. Reducing Attacks on Schools

Ensuring that schools are safe is crucial. Governments might invest in schools, teachers, curricula, and educational materials, but if schools are perceived as unsafe, education outcomes are unlikely to improve. Safety in and around schools is critical, especially in places affected by conflict and violence. First, it is important to know and register what happens. Maintaining a database of attacks on educational facilities is an excellent practice to help identify schools at risk (Global Coalition to Protect Education from Attack 2016). Similarly, development of comprehensive school-based safety and security plans should include early warning systems and identify the measures to take before, during, and after an incident (Global Coalition to Protect Education from Attack 2017). Once identified, schools at risk should be equipped with unarmed physical protection measures such as infrastructure and guards. When using armed physical protection, schools must take all the necessary precautions to minimize potential risks for students. These plans require strong leadership from principals and school management or protection committees, with active community members and parents' associations (Kapit-Spitalny and Burde 2010). In terms of school construction, less heavy infrastructure and alternative service delivery could prove useful since schools without walls are less likely to experience attacks.

Additionally, advocacy is important. All governments should sign the Safe Schools Declaration and promote the Guidelines for Protecting Schools and Universities from Military Use During Armed Conflicts. Regarding those governments that have already signed, advocacy efforts should push the governments to internalize the principles therein and support those principles with actions. Encouraging the countries that have not signed—Cabo Verde, the Republic of Congo, Gabon, Guinea, and Guinea-Bissau—to endorse and enforce the declaration and its principles is imperative.

5.5.2. Delivering Education Services via Alternative Arrangements When Schools Are Unsafe

In certain situations, continuing formal education in some schools might no longer be safe. In these situations, taking certain measures can minimize the effects on children and avoid a total disruption of education. For example, education can be provided through alternative means. To the extent possible, these measures should be executed in collaboration with community members. The simplest option is to relocate education activities to safer places, such as community buildings, homes, or other government facilities. Using religious spaces for education could be helpful because places considered sacred are less likely to experience attacks.

For more extreme cases, a second option is to set up temporary learning spaces. Some countries have successfully implemented "learning circles" that operate off-site from the formal "mother schools" but are officially linked to them through a shared regular curriculum, academic calendars, grading systems, and extracurricular programs. In these circles, children learn in small groups of around 15 students with the aid of a tutor who facilitates learning, providing personalized attention to children using community centers, local churches, and family homes until the students are ready to transfer to the "mother school." A recent evaluation of these circles demonstrated improvements in coverage, self-esteem of students, and academic achievements on national standardized tests; strengthened democratic behaviors; and peaceful coexistence (Cerdan, Bustillo, and Colbert 2020).

Finally, expanding remote learning can create resilience to disruptions in education service delivery. During the COVID-19 pandemic, many countries have scaled up their remote learning programs. These programs need to go beyond disruptions caused by pandemics to cover disruptions associated with conflict and violence. When schools close, radio, television, and online platforms can provide a substitute to mitigate the damage. Recently, some organizations in the region have been using Interactive Voice Recording to make remote learning more dynamic and obtain real-time feedback from students and parents. Any deployment of technological solutions, nevertheless, must strive to avoid unwanted collateral effects.

5.5.3. Modeling Behaviors and Teaching Nonviolence as Part of the School Curriculum

Eradicating violence against students by teachers and school administrators is a useful first step. The available evidence shows that whole-school approaches effectively reduce violence (Wodon et al. 2021). Whole-school approaches work at multiple levels, involving teachers, school management, children, the physical school environment, the school community, and parents. For instance, in Uganda, the Good School Toolkit, implemented by a nongovernmental organization, was an 18-month whole-school approach to violence prevention. A rigorous evaluation found it to be effective in preventing physical violence by school staff in primary schools, leading to a 42 percent reduction (Devries et al. 2015). A much shorter program in Tanzania (only six days) also had positive effects on reducing emotional and physical violence by teachers and students through the use of psychological interventions (Nkuba et al. 2018).

School curricula should challenge social and cultural norms that promote violence, including stereotypes around gender, sexual orientation, religion, ethnicity, and disability (World Health Organization 2019). Similarly, promoting political, religious, and ethnic tolerance can be a powerful tool to prevent violent extremism and radicalization (Bellis et al. 2017).

Schools can act as 'great equalizers,' with the distribution of services reducing societal inequalities and promoting social cohesion/reconciliation, resulting in a peacebuilding impact. Curricula should aim to "deconstruct structures of violence" and "construct structures of peace," with teachers equipped to carry them out, along with other enabling support structures (World Bank, forthcoming). To ensure that service delivery addresses historical cleavages and that curricula address grievances and promote social cohesion and reconciliation, the design of education policies and curricula must involve diverse actors.

Similarly, in higher education, developing programs on conflict studies can be valuable. Attendees of such programs may gain a better understanding of the dynamics of violence and conflict, and the programs can create job opportunities and access to education for youth.

School systems can also prevent and reduce interpersonal violence. After-school programs can have significant effects on violence reduction and conflict prevention. In some cases, such programs achieve this impact by reducing the time youth spend outside of schools. In other cases, the effects are mediated by youth acquiring multiple types of skills. For example, after-school programs that build soft skills can reduce various forms of violence. Recent empirical evidence has shown that youth empowerment programs reduce the prevalence of violence against girls, even during high-risk periods, such as the high-risk period triggered by COVID-19 (Gulesci et al. 2021).

One intervention that has proven effective in reducing violence among men in the region has been implementing cognitive-behavioral therapy programs. In one of the most cited studies, researchers recruited criminally engaged men from Liberia. The researchers randomized half of the participants to eight weeks of cognitive-behavioral therapy to foster self-regulation, patience, and a noncriminal identity and lifestyle. They also randomized US\$200 grants. Cash and therapy alone initially reduced crime and violence, but effects diminished over time. When money followed therapy, crime and violence declined dramatically for at least a year. The intervention seemed to shape behavior and self-perception, including patience and identity (Blattman, Jamison, and Sheridan 2017). Another lesson of this research is the importance of combining education, skills, and social protection interventions to reduce engagement in violence.

For countries in transition out of fragility, the main objective is to support that transition while building resilience toward new shocks and preventing long-term effects from the recent events. Cognitive-behavioral therapy is also helpful at this stage. For example, in Sierra Leone, a 10-session cognitive-behavioral therapy intervention for multisymptomatic war-affected youth showed significant postintervention effects, namely improved emotion regulation, prosocial attitudes/behaviors, stronger social support, and reduced functional impairment; the intervention also had considerable follow-up effects on school enrollment, school attendance, and classroom behavior (Betancourt et al. 2014). Other comprehensive programs that incorporate sports and education to promote reconciliation are also promising.

For example, in Liberia, after the Ebola crisis ended, the Ebola Recovery and Restoration Project funded the implementation of a Comfort for Kids program that encouraged psychological healing and promoted resilience in children who had experienced a crisis or disaster (Mohammed-Roberts and McCune 2017). The Comfort for Kids program primarily centered on the "My Story" workbook and other related classroom activities, providing children with the opportunity to share their emotions about their experiences through artistic expressions such as drawing and writing and discussion groups (Saavedra and Bousquet 2020). These programs increased school enrollment to levels higher than before the Ebola epidemic (Darvas and Namit 2016).

5.6. Adding New and Better Schools and Facilities to Ease Supply-Side Constraints

Many AFW countries have an inadequate or dilapidated stock of schools and school facilities. New investments in the capital stock could increase the availability, accessibility, and resilience of schools.

5.6.1. Constructing and Renovating Schools

On the supply side, increasing the availability of schools is fundamental. Building schools produces gains in access and learning outcomes, as shown in studies from Burkina Faso (Ingwersen et al. 2019), Benin (Deschênes and Hotte 2019), and Niger (Bagby et al. 2016). Availability is particularly important for secondary schools since the data for many countries show that transition rates to secondary school are low in part due to the lack of secondary schools near primary schools. Building schools improves not only school enrollment and educational outcomes in the short to medium term, but also employment prospects and wages in the long run (Duflo 2001; Akresh, Halim, and Kleemans 2021).

The construction of schools can include amenities specifically designed to attract girls. For example, in Burkina Faso, a 'girls-friendly' school construction program showed very positive results, even long term. Ten years after the construction, primary school-age children in villages selected for the program attended school more often and scored significantly higher on standardized tests. In a similar vein, youth and young adults old enough to have finished secondary school completed primary and secondary school at higher rates and performed significantly better on standardized tests. The benefits even exceeded the education sector, with women old enough to have completed secondary school delaying marriage and childbearing (Ingwersen et al. 2019). Similarly, a program that constructed schools with separate latrines for boys and girls, a water source, and housing for female teachers in rural Niger increased school enrollment by 8.3 percentage points, decreased absences of more than two consecutive weeks by 7.9 percentage points, and had a larger impact for girls than for boys (Bagby et al. 2016). In Benin, a school construction program increased the probability of girls attending school in rural areas and had other unintended effects on women's well-being, such as a reduction in early marriages and in the probability of finding wife-beating tolerable (Deschênes and Hotte 2019).

To be effective, school construction must target the *neediest areas*. Such targeting requires sound information systems with demographic information and geo-referenced data on existing schools. Many World Bank projects follow these criteria. For example, the Adolescent Girls Initiative Learning and Empowerment project is based on geo-referenced data to identify a lack of schools, and the Secondary Education Improvement Project in Ghana incorporates in its design both school standards and school selection criteria.

Technology and innovations can guide cost-effective investment in new schools. For instance, the Geo-Referenced Infrastructure and Demographic Data for Development tool works with countries to generate, validate, and use geospatial data on population, settlements, infrastructure, and boundaries. The tool has helped decision-makers to optimize the location of schools and maximize school attendance. For instance, in Sierra Leone, the tool enabled a school coverage assessment based on population estimates, disaggregated by age. The assessment compared the location of the population to the location of existing schools, thereby determining the straight-line home-to-school distance and offering a better understanding of current school coverage. The findings revealed that primary schools have the highest coverage rate, with 99 percent of children age 6–11 within three miles of a school. Coverage rates for preprimary (age 3-5), junior-secondary (age 12-14), and senior-secondary (age 15–17) schools, however, are much lower (54 percent, 71 percent, and 53 percent, respectively) (Geo-Referenced Infrastructure and Demographic Data for Development 2021).

Figure 5.11 presents examples of how analysis of geospatial data can generate useful information for planning of school construction and school infrastructure improvement. Geo-referenced school and school infrastructure data enable critical insights that would otherwise go unnoticed. For instance, applying geospatial data analytics can generate answers to the following questions: What percentage of the schoolage population do not have access to schools located within two or three kilometers? How many schools need to be built? Where should the new schools be located to provide easy access for all children?

Other technological tools can help with monitoring progress in school construction remotely. The Geo-Enabling Initiative for Monitoring and Supervision, for instance, can help track progress in construction even when the sites are dispersed and even in FCV settings.

Improving infrastructure can also increase attendance, especially when schools are dilapidated or in poor condition. Key improvements include increasing access to drinking water, providing separate and functioning toilets for boys and girls, and providing adequate gender-sensitive sanitation facilities. A UNICEF study found that programs that provided toilet facilities for girls in Bangladesh produced an 11 percent increase in girls' attendance rates every year (Patchett, 2010). The Burkina Faso Emergency Local Development and Resilience project is focusing on rehabilitating existing schools (figure 5.12). When renovating schools, the focus should be on increasing safety, making girl-friendly infrastructure, and increasing access to electricity and connectivity.

Infrastructure improvement should prioritize access to electricity and internet connectivity in schools. To ensure that schools and educational facilities enjoy that access, working across sectors is necessary. In some cases, innovative delivery models involving the private sector for sustainability investments may be appropriate. For example, off-grid solar systems and mini-grids have become a reliable way to provide affordable modern electricity services, especially to schools in rural communities. Private sector providers can commit to providing energy in schools via solar panels and the necessary maintenance of
Figure 5.11.a. Primary Schools within and beyond Three Kilometers of Nearest JSS in Nigeria



Figure 5.11.c. Primary Schools within and beyond Three Kilometers of nearest JSS in Katsina State Nigeria Figure 5.11.b. Network of JSS in Nigeria



Figure 5.11.d. Large Public Primary Schools beyond Three Kilometers of Nearest JSS in Katsina State, Nigeria



Source: Analysis based on National Personnel Audit 2018.

Note: JSS = junior secondary school; KM = kilometer; LGA = local government authority; PCR = pupil per classroom ratio.

equipment. Schools can pay a low-cost monthly fee instead of facing the significant upfront costs of buying equipment and ensuring its resilience, which is challenging in most places.

5.6.2. Increasing the Accessibility of Schools

Increasing the accessibility of existing schools can be a more efficient way to improve access, depending on the context. School construction can be very effective, but in some cases, it might be inefficient given the high costs and the lack of targeting mechanisms. In certain environments, reducing travel time to schools in underserved areas can have significant effects. Dickerson and McIntosh (2013) found that a shorter distance between students' home and the closest school is positively related to the probability that low-performing students continue into postcompulsory education. Falch et al. (2013) concluded that reduced commuting time has a positive effect on graduation from upper-secondary schools, and this effect is larger for students with low academic achievement. In Zambia, improved roads also decreased teacher absences as teachers were not spending multiple days each month cycling to the nearby town to collect their salaries (Starkey 2007). In Moroccan villages, improved road access resulted in girls' enrollment increasing from 17 to 54 percent while the national average for girls' enrollment stagnated during the same period (Levy 2004). In AFW, the current Dakar Bus Rapid Transit Pilot Project / Abidjan Urban Mobility Project is working along the same lines. With the new Bus Rapid Transit lines in place, 59 percent of residents in Dakar and 70 percent of residents of Abidjan will be able to reach at least one other secondary school within 30 minutes.

Increasing accessibility does not always entail improving roads or public transportation. In Zambia, the provision of bicycles to rural girls reduced commute time, increased punctuality to school, and reduced the number of days girls were absent from school by 28 percent in the previous week. The program also improved empowerment measures, including girls' sense of control over the decisions affecting their lives (Fiala et al. 2020).

5.7. Involving Nonstate Service Providers to Ease Supply-Side Constraints

In most AFW countries, the government lacks sufficient resources to universalize access to quality basic education as quickly as desired. Private and nonstate providers have been growing and can play an important role in expanding access, particularly if they meet minimum standards for curriculum content and quality. The religious Koranic schools that operate in many Islamic countries in the region can likewise contribute to the effort, and options for their integration into the school system also warrant attention.

5.7.1. Expanding the Supply of Education Through Nonstate Providers

Expanding regulated private and nonstate providers can also increase the availability of schools and provide more learning opportunities. Private sector enrollments are growing faster than public enrollments at all levels across the region, and parents and communities tend to perceive the quality of private schools as higher than that of public schools (Simmons Zuilkowski 2018). However, the limited evidence suggests that learning gains are comparable (for instance, in Kenya [Simmons Zuilkowski, Piper, and On''ele 2020]). In the average AFW country, 25 percent of primary students are enrolled in private schools; outliers include Liberia, where the number is over 50 percent, and Gabon and Mali, where it is near 40 percent. To increase the supply of education, governments can facilitate the creation of private institutions by creating clear regulations that ensure minimum quality standards. Some examples show that this approach can be effective. For instance, in Uganda, a public-private partnership program for low-cost private secondary school led to large enrollment increases and significantly higher student performance (Barrera-Osorio et al. 2020). The evidence from countries elsewhere, such as Pakistan, shows that appropriately implemented, low-cost private schools can increase enrollment (Qureshi and Razzaq 2021). The private sector also includes very small enterprises and can be helpful at all levels of education. For early childhood programs, one promising way to increase the supply is to help women training in childcare skills to start their own private services, as demonstrated in Burkina Faso. Cameroon, and Liberia.

Involving nongovernmental organizations can also be important. Setting up community schools in community buildings or residences increases school participation and learning costs less than building new schools. For example, Afghanistan increased enrollment and test scores among all children, especially girls. In AFW, the inclusion of community schools in Cameroon and the Central African Republic has led to increased enrollment rates. However, the sustainability of community schools can be questionable, so mechanisms must be in place to support these schools effectively over the long term.

5.7.2. Integrating Religious Schools into the Education System

Koranic and Islamic schools can be critical partners to reach out-of-school children. Introducing



Figure 5.12. Locations and Travel Time by Public Transport to Nearest Primary and Secondary School in Ouagadougou, Burkina Faso

Source: World Bank (2021e).

content from the official curriculum into Koranic schools is a promising pathway for many children out of the formal system to receive a formal education, especially focusing on mathematics and literacy. Partnerships can take different forms, including "integration," in which Koranic and secular education takes place within the same schools, and "articulation," in which children spend some time in Koranic schools and some time in informal learning centers to cover the official curriculum in an accelerated fashion (World Bank 2021). In Nigeria, for instance, the Better Education Service Delivery for All program has been supporting the government in its efforts to integrate children who attend religious schools into traditional public schools. Other examples include Senegal and Niger, especially under the Learning Improvement for Results in Education project. Governments should first recognize and then formally regulate Koranic schools; after, they can consider supporting the schools using performance-based contracting.

Notably, religious schools tend to remain open even in situations of conflict. Thus, when integrating them into formal education is not possible, working to provide minimum foundational skills on mathematics and language without changing the schools' overall objectives can be promising. The aforementioned education program in Nigeria has adopted this approach. Under this approach, children who attend Koranic schools can receive programs of one academic year in which an instructor teaches basic numeracy and literacy skills two to three times a week. Such programs cannot replace formal schooling. But they can at least provide some foundational skills while opening a path for joining the formal school system.

5.8. Expanding Education Access for Vulnerable Groups

Increasing access to education for those with disabilities is critical. First, community mobilization campaigns must sensitize communities to the importance of educating children with disabilities. Second, the learning environment needs to become inclusive. Inclusive environments offer appropriate infrastructure for children with disabilities in school and on the way to school as well as teachers trained in inclusive education. Third, information on children with disabilities must be collected to monitor their progress and target appropriate responses while guaranteeing their inclusion in the education system.

In Ghana, the Disability Inclusive Education in Africa program supports system strengthening as well as educational and social inclusion activities in primary schools. These activities aim to transform current special schools and regional assessment centers into inclusive education resource centers while piloting the training of teachers and staff in their new capacities. In Burkina Faso, the Improving Education of Children with Disabilities project focuses on strengthening community participation, in part by removing affordability constraints; enhancing the quality of teaching; providing remedial education; and improving access to preprimary and primary schools for children with disabilities.

Similarly, it is important to focus on education for refugees and internationally displaced persons. Expanding access to quality education for refugees is at the heart of both the Global Compact on Refugees and the 2030 Agenda for Sustainable Development (World Bank and UNHCR 2021). These efforts both aim to include refugees and displaced populations in national education systems (Abu-Ghaida and Silva 2021; World Bank–UNHCR 2021). In AFW, all refugees in school join the national education systems of their host countries with the exception of Nigerian refugees enrolled in secondary education in the Diffa region of Niger; these refugees, due to the language barrier, continue to follow the curriculum of their country of origin in distance learning centers (UNHCR 2021b). In 2018, the Chad government declared 108 schools in refugee camps to be public schools, which refugees and local students alike can now access (UNHCR 2018). Maintaining and increasing the inclusion of refugees in national education systems is vital. Similarly, many countries in the region have thousands of internationally displaced persons who need to be included in education systems. A few interventions are crucial to ensuring inclusion actually happens.

First, accelerated education programs can provide learners with equivalent, certified competencies for primary education using effective teaching and learning approaches that match learners' level of cognitive maturity (UNHCR 2017). These programs are widespread in East Africa and have proved effective. An impact evaluation of the Speed School program in Mali, which is also being implemented in Burkina Faso and Niger, showed that in French language learning, children in the Speed School program improved by 42 percent relative to the comparison group, allowing them to almost catch up with their peers. In math, students improved by 25 percent, which enabled them to completely catch up with their peers. The average cost per student for the nine-month program in Mali was US\$172 (Innovations for Poverty Action 2016). According to the Inter-Agency Network for Education in Emergencies (2020), accelerated education programs differ from other forms of nonformal education such as remedial and catch-up programs because they focus on learners 10-18 years old who cannot directly enter the formal education system and who have missed more than one year of schooling. These programs also provide access to disadvantaged children and youth who might otherwise lack any opportunity to acquire certified learning; scaling up these programs, as most are still small, would therefore provide opportunities to many more children. In addition, some evidence exists that accelerated education programs not only improve access to education but also contribute to the well-being of children and improve numeracy and literacy. For instance, a program in Mali reported that in terms of literacy assessments, the students who transferred to fourth grade demonstrated skills significantly higher than those of the students' formal school counterparts only 4.5 months after the transfer; this achievement occurred even though the students' oral reading fluency rate started slightly lower than that of students completing third grade in government schools (Inter-Agency Network for Education in Emergencies 2020).

Second, it is critical to provide psychosocial support programs, understood as "a process of facilitating resilience within individuals, families, and communities" (International Federation of the Red Cross Reference

Figure 5.13. Interventions for Widening Opportunities for Learning

(What?	Why?	How?	
F	Reduce the cost education, especially for the poor	Financial constraints are one of the main obstacles to access education	 Eliminate school fees Provide transfers (cash transfers, scholarships, free uniforms, school feeding) 	
िस् स्र	Inform parents and students on funding, quality of schools, and benefits of education	Lack of information affects demand for education, and these interventions are very cost-efficient	Conduct informational campaigns for parents and students using SMS, videos, and other tools	Demand
	Shift socio-cultural norms to reduce prejudice, especially against girls	Socio-cultural norms affect demand for education, especially for girls	 Conduct communication and media campaigns using behavioral sciences Implement advocacy campaigns and involve traditional leaders 	
	Include vulnerable groups	Refugees and people with disabilities are disproportionally excluded from education systems	 Include refugees in education (accelerated learning programs, psychosocial support, teacher training) Include people with disabilities 	
	Ensure safe and inclusive learning environments	Lack of safe and inclusive educational facilities in and around schools is common in the region, and prevents many from attending education	 Ensure safety in and around schools (Safe Schools Declaration, physical security measures, whole-of-school approaches). Use education systems to prevent violence (safe spaces to change behaviors, school curriculum). Continue service delivery when education is disrupted (pop-up schools, learning circles, remote learning) 	Supply
	Increase availability, accessibility, and resilience of schools	Lack of facilities, especially for post-primary levels, is one of the main supply-side causes of low enrollment	 School construction & renovation; Improve WASH infrastructure Improve commuting routes and options Involve non-state actors (private sector, community schools, and religious schools) 	

Centre for Psychosocial Support 2009). After a crisis has disrupted their lives, individuals need help with recovering and returning to school with normalcy. Psychological support programs can reduce distressing emotions and physical illness and increase interest in attending school, sense of safety, and homework completion (Inter-Agency Network for Education in Emergencies 2016). Socioemotional learning must be an essential component of psychosocial programs.

Finally, providing teacher training for inclusiveness of refugees and displaced populations is key. In Kenya, for instance, the Teachers for Teachers program provides camps with teacher training, peer coaching, and mobile mentoring. In Chad, Sudanese teachers participate in a certified two-year teacher training program to learn how to teach the Chadian curriculum and familiarize themselves with the standards of the Chadian education system (Save the Children, UNHCR, and Pearson 2019).

5.9. Priority High-Impact Interventions to Widen Learning Opportunities

Expanding opportunities to accessing education must a priority for a region with a large number of out-of-school children. Though the interventions to increase access and enrollment proposed in this Regional Education Strategy focus on girls and on secondary education, they can apply to other groups and all levels of education. On the demand side of the equation, reducing the cost of schooling, providing information to parents and students, and shifting sociocultural norms are critical. On the supply side, fundamental steps to ensuring that the region can provide education to its growing number of children and youth include supporting vulnerable groups (such as refugees, internationally displaced persons, and persons with disabilities); ensuring safe learning environments; and increasing the availability, accessibility, and resilience of schools (figure 5.13).



6. High-Impact Interventions to Build Job-Relevant Skills for All

AFW's economic transformation hinges on the skills of its workforce and its ability to accelerate the pace toward building an effective national innovation system. AFW needs a workforce that can grow and transform its economies while helping countries recover from the COVID-19 pandemic, navigate climate change, and benefit fully from digital technologies. Developing this workforce requires strategic reforms and investments in postbasic education to complement efforts in basic education aimed at reducing learning poverty and widening access. Strengthening the relevance and quality of the region's skills development system through multiple channels, including formal TVET and higher education, as well as informal and nonformal training options, would not only benefit individuals but also provide AFW countries with a wide range of competent workers to fill jobs at all levels across the economy. These jobs include, for example, craftworkers, technicians, and engineers; scientists, researchers, and inventors; health workers, nurses, and doctors; instructors, teachers, and professors; legal assistants and lawyers; bookkeepers and accountants; and entrepreneurs, business leaders, and managers. The challenge is to produce these workers in response to demand in the labor market (both current and emerging), connect the graduates of training programs to employers, and support continuous worker reskilling and upskilling (via lifelong learning) for movement from old jobs to new ones or for professional growth as the economy evolves and expands. Well-functioning skills development and higher-education systems could not only lift individuals out of poverty but also bring economic development to whole nations and regions. Beyond developing a skilled workforce, countries can also reimagine national ecosystems that promote and nurture innovation in the medium to long term.

This chapter examines the challenge of job-relevant skills development and research in AFW and identifies high-impact interventions to improve the performance of current systems for skills acquisition. It contextualizes the discussion by highlighting the region's emerging economic landscape, which consists of a growing digital economy and a green agenda of increasing relevance and urgency. The chapter documents the current state of the region's workforce and options for skills acquisition available to youth and adults, including those already in the workforce. To address weaknesses common across AFW countries, the Regional Education Strategy identifies high-impact interventions in four key areas: governance, access, quality and relevance, and sustainability. Adapting these interventions to fit each country's setting is essential to achieve impact. Skills development should align with job creation to spur economic growth, an effort that goes beyond the education sector and will require a whole-of-government approach in partnership with the private sector.

6.1. AFW's Emerging Digital and Greening Economy

The seven megatrends described earlier—especially rapid population growth, climate change, the digital (fourth) industrial revolution, and the COVID-19 pandemic—present both challenges and opportunities for human capital development, job creation, and innovation in research. Business as usual would exacerbate the shocks from these megatrends and is therefore not an option for AFW countries. Instead, countries must make smart investments to combat climate change, close the digital divide, create jobs, and economically recover from the pandemic. Because much of the region's infrastructure is yet to be built, there is an opportunity to invest in green technologies such as smart cities and transportation, clean energy, and low-carbon manufacturing and services. The region can also leverage a range of emerging technological fields to accelerate sustainable and inclusive development, including smart agriculture, digital finance, e-health, and digital education. Investments in postbasic education are essential to equip the region's workforce with the requisite skills to make effective use of new technologies. These skills will also enable AFW countries to advance toward several SDGs, including zero hunger, clean water and sanitation, affordable and clean energy, and sustainable cities and communities.

AFW's emerging economic landscape has important implications for the future of its job growth, skills demand, and skills acquisition. There is growing global interest in Africa's digital economy due to its vast potential. The World Bank has committed US\$25 billion to Africa's digital transformation through the Digital Economy for Africa initiative. In 2020, Facebook and other telecom partners announced the 2Africa partnership, which will deploy the most comprehensive subsea cable for Africa and the Middle East. This fully funded project promises to ensure better and more affordable internet connectivity in Africa. In parallel, there is also the global recognition of the negative impact of climate change and, critically, how climate change is disproportionately affecting the region. New jobs are emerging and will continue to emerge as countries commit to a green transition, generating new skills needs and also opening up new frontiers for scientific research in the region. The emerging economic landscape has two important implications. First, the general population in AFW countries will need a basic level of skills to participate in and benefit fully from the digital and green economies. For example, to maximize the benefits of the increasing ICT infrastructure development, all AFW citizens must have the necessary digital literacy. Second, a critical mass of the workforce will need the requisite skills (such as engineering, ICT specialist, and technician skills) to serve as a collective asset for attracting investments; to fill high-productivity jobs in high-growth sectors of the economy, including in research; and to form a pool of entrepreneurs who can create firms in the new areas of growth in the digital and green economies. This workforce must be skilled enough not only to deploy and maintain the digital infrastructure and platforms but also to innovate and create technologies, tools, and solutions to address development challenges in an inclusive and sustainable manner (for example, through the field of greening by ICTs).

6.1.1. The Demand for Skills in the Region's Digital Economy

Digital skills are a key enabler for the inclusive and efficient use, adoption, and creation of digital technologies. If tackled strategically, digital technologies could transform the nature of work, as well as the delivery of and access to social and financial services, for many people in AFW, especially the poor, as witnessed globally as a result of the COVID-19 pandemic. Firms around the world have accelerated the digitalization of their customer and supply-chain interactions and operations by 3-4 years, transforming conventional ways of doing business (McKinsey & Company 2020).⁴² Digital technologies can help to reach and accelerate skills development for all workers, going beyond just a privileged few; beneficiaries include those with low education and limited opportunities. Digital technologies can also boost productivity and create better jobs in all enterprises, including informal ones. Mobile-friendly digital platforms are beginning to disrupt aspects of the informal economy in several African countries, increasing access to existing and new digital markets (e-commerce), promoting financial inclusion, and accelerating cross-border trading (Ong 2021).⁴³ The ICT sector itself will require a workforce with a range of digital competences from intermediate to advanced and highly specialized levels. Moreover, demand will also emerge from the traditional sectors, which are increasingly adopting digital technologies. In agriculture, construction, transportation and logistics, manufacturing, banking and finance, and health

⁴² Digital technologies such as cloud computing have enabled the development of new business models and processes (McKinsey & Company 2020).

⁴³ The United Nations Development Programme's Global Accelerator Lab Network is seeing important cases of digital platform usages in various African companies including Jumia (Uganda), Tambula (Namibia), and Sanduk (Sudan and South Sudan) (Ong 2021).

and public services, the different categories of occupations such as scientific and professional as well as middle-level and vocational occupations will require new digital skills. For example, with the growing list of countries implementing digital identifications, AFW countries will need professionals who can counter cyber security, develop regulatory frameworks on data protection, and ensure interoperability of information systems across government agencies.

More and more jobs in the region are also shifting from agriculture to services, where the digital adoption rate

is the highest across economic sectors. In Nigeria and Côte d'Ivoire, for example, the International Finance Corporation and World Bank (2021) estimate that the adoption rate for service sector jobs will reach 50-60 percent by 2030, compared with 25-30 percent in agriculture. For these two countries, the demand will translate into 67 million⁴⁴ training opportunities through 2030. About 70 percent of the training needs will be in basic digital skills, with the remainder in intermediate and advanced digital skills; the skilling needs will split evenly between training new workforce entrants and reskilling of existing workers. Other key drivers of digital adoption include affordable and reliable access to both internet and electricity. A critical reason for the active participation (rather than passive consumer approach) of AFW countries in the digital economy is that some digital tools such as artificial intelligence and machine learning, which are heavily data-dependent and increasingly used across various sectors globally, can have inherent biases that can profoundly affect citizens in the region. Therefore, it is of great importance to have professionals who are not only experts in these fields but also prepared to engage at the global level and lead national-level efforts on data collection and usage.

6.1.2. The Demand for Skills in Greening Economies

Sub-Saharan Africa, the lowest contributor to global carbon emissions, is disproportionately affected by climate change. All AFW countries are experiencing the effects of more extreme weather patterns. Adverse weather shocks have lowered agricultural incomes and productivity, affecting especially vulnerable households and individuals, especially women. Although addressing climate change is costly, the cost of inaction in the region will be significantly greater (International Monetary Fund 2021). These countries need both mitigation and adaptation strategies as well as the capacity to implement these strategies while balancing economic development and environmental sustainability. AFW countries need professionals who can help identify, analyze, and explain climate risks and design cost-effective solutions related to disaster preparedness, response, and recovery. The workforce must, for example, be able to develop climate-resilient infrastructures and leverage digital technologies for real-time early warning systems that track and model climate hazards. AFW countries with an adequately skilled workforce can gradually increase local climate-friendly and cost-effective products and solutions that will not only lead to a greener and smarter region but also create green jobs. Innovation and research that incorporate digital technologies (such as greening by ICTs) in fields like precision agriculture, clean and smart energy, climate science, sustainable water usage, valorization of waste, and smart transportation will play key roles in how the region accelerates climate action. In Sub-Saharan Africa, energy, construction, and agriculture will create the largest number of green jobs in the coming years (United Nations Women and African Development Bank 2021). Compared to non-green jobs, jobs in the green economy typically require higher levels of cognitive and interpersonal skills as well as prior preparation through formal education, work experience, and on-the-job training.

6.2. AFW's Workforce and Current Channels for Skills Acquisition

The informal sector, including subsistence agriculture, employs the bulk of the AFW's workforce, typically in unpaid or low-wage, low-productivity jobs with limited opportunities. Transitioning from this present reality will be challenging but is possible as shown by

⁴⁴ Specifically, the projection is 57 million digital skills training opportunities for Nigeria and 10 million for Côte d'Ivoire (International Finance Corporation and World Bank 2021).

examples in Asia (the Asian "tiger economies"). On average, the share of workers in the informal sector, among those 25–64 years old, is 85 percent, ranging from 60 percent in Cabo Verde to 97 percent in Benin. This figure is higher among the youth (15–24 years old), where the average is 94 percent.⁴⁵ The Africa Center for Economic Transformation (2018) affirms that "for many African countries, agriculture presents the easiest path to industrialization and economic transformation."⁴⁶ The Food and Agriculture Organization (2018) notes that modernizing agriculture, a long-neglected challenge in Africa, can leverage the agri-food chain to expand attractive job opportunities for the region's burgeoning youth population.

In low-income economies, growth originating in agriculture has high potential to expand informal and formal sector jobs, raise incomes, and reduce poverty. Research on 55 countries, including those from Africa, for varying periods during 1980–2000 shows that GDP growth originating in agriculture reduced poverty by 2.9 times that originating in manufacturing and 1.8 times that originating in construction (Loayza and Raddatz 2010). China's dramatic success in reducing poverty is especially noteworthy, with some estimates putting agriculture's contribution to the fall in poverty between 1978 and 2001 at four times that of industry or services (Ravallion 2009).47 In China, agriculture's large contribution stemmed from rising agricultural productivity, which boosted incomes, and from the release of surplus labor to other sectors and to urban areas; many factors aided the former trend, including "considerable effort to spur the development of agricultural research and extension and connect it better to farming practices" (World Bank 2022).⁴⁸ To unlock the potential of agriculture to improve lives, AFW countries must likewise consider enhancing, among various factors, the provision of appropriate training through both formal and informal channels. This training should improve farm-level knowledge and practices (including adoption of technologies), strengthen applied agricultural research in universities, and enhance the diffusion of such research through extension services.⁴⁹

Formal sector jobs offer much better pay and prospects, but they are not being created fast enough. Few foreign firms in the region create formal sector jobs. Of the few that do, most prefer to fill these jobs with talent from elsewhere, usually outside of the region. In Ghana, only 10 percent secure such jobs among the 200,000 people who enter the labor market each year (African Center for Economic Transformation 2018). The success rate is even lower in other AFW countries. For young people entering the workforce, becoming a productive entrepreneur is another option, but it is a high-risk path, especially for those with no capital or skills. Across 11 AFW countries,50 the data show that higher pay typically accrues to the better educated, with each additional year of schooling yielding an estimated private return of 11 percent, on average-slightly better than the global average of 9 percent (Psacharapoulos and Patrinos 2018).

Education also affects access to wage jobs. Across all workers, the probability of wage employment averages about 15 percent; it rises to 50 percent among those with TVET and tertiary education, compared with just 2 percent for those with no schooling. Higher pay juxtaposed with few jobs in the formal sector is a pervasive problem in the region that implies a waste of benefit for the broader economy. To reduce this waste, some AFW countries, such as Ghana, Senegal, and Nigeria (Edo State), are reimagining the role of new technologies, especially digital technology, in their economic strategy; namely, these countries are aiming to create large numbers of moderately skilled jobs, complemented by a smaller but critical number of highly skilled jobs, while also training young people for absorption into these jobs. For people in the workforce who are functionally illiterate, a stepladder

⁴⁵ According to the latest International Labour Organization data available (https://ilostat.ilo.org/).

⁴⁶ ACET (2018) elaborates on the two main processes involved: "modernizing farming as businesses, and strengthening the links between farms and other economic sectors in a mutually beneficial way."

⁴⁷ In 1978, the start of China's economic modernization reforms under Deng Xiaoping, 69 percent of its population worked in agriculture, compared with the AFW regional average of 44 percent in 2019 (WDI indicators accessed on April 16, 2022, at https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS).

⁴⁸ In addition to research, extension, and farming practices, the World Bank (2022) identifies the following key factors in the rise in agricultural productivity during China's economic modernization: "the deepening of rural land reform, the liberalization of the output market and price systems, the gradual reduction of the tax burden and the shift to net agriculture subsidies, the massive investment in mechanization, irrigation and use of modern inputs, and the marketization and integration of agricultural production into value chains."

⁴⁹ The World Bank (1996) has documented relevant experience in World Bank operations during this period of China's reform.

⁵⁰ Benin, Burkina Faso, Chad, Ghana, Guinea, Guinea-Bissau, Mali, Niger, Nigeria, Senegal, and Togo. The data pertain to 2018 for all countries except Ghana, whose data are for 2016. Analytical details are in the full report for this Regional Education Strategy.

approach can support acquisition of basic skills and job placement and then progressive accruement of additional skills through short- and long-term training opportunities. Better yet, beyond the private returns, tertiary education has the potential to lift nations toward economic development. No developed nation has transformed its economy without upgrading its tertiary education and overall skilling sectors.

Taking strategic steps to address weaknesses in AFW's systems for skills development can help improve the poor quality of human capital in the region's workforce. These steps must aim to achieve two goals in parallel. The first is ensuring that new workforce entrants are better prepared with job-relevant skills. The second is filling skills gaps among those already working, especially young adults. United Nations population data indicate that, of the region's 460 million people, some 90.5 million (about 20 percent) are youth 15–24 years old; of these youth, 30 percent are illiterate, and at least 25 percent classify as NEET. In a 2020 survey of chief executive officers of 150 Africa-based companies (40 percent based in AFW), 44 percent of the officers highlighted lack and/ or inadequacy of skills as their main human resource challenge (Deloitte 2020). In the following subsections, the Regional Education Strategy addresses the skilling needs and available skilling options for three groups: the 'stock' of youth and young adults who have left school and are already in the workforce; the 'flow' of youth and young adults still within and passing through the formal education system (including TVET, general education, and those who conduct research); and working adults in both the informal and formal sector).

6.2.1. Skills Acquisition by Youth through Informal Channels

For the 'stock' of youth and young adults who have left school and are already in the workforce, informal and nonformal TVET is the main way to acquire skills. The most important avenues are traditional apprenticeships, firm-provided trainings, bootcamps, second-chance education, and catch-up programs. Traditional apprenticeships, which typically last three to five years, are the most common route to learn job-related skills for employment in the informal sector. These systems can be sizable, accounting for as much as 80–90 percent of the skills training sector in some countries, with many individual private providers (master craftsmen) offering training of variable quality (often using outdated techniques) in a highly unregulated market with limited provision for skills certification. Although the modalities of traditional apprenticeship vary between AFW community groups, they are by far the most important source of skills training in most AFW countries. For instance, Darvas and Palmer (2014) found that in Ghana, fewer than 10 percent of vocational skills are acquired at public TVET institutions, with roughly 1.5 times as many trainees attending private TVET institutions and 10 times as many completing informal apprenticeships. The youth trained through traditional apprenticeship often lack digital literacy as well as financial and entrepreneurial skills, which are important for their future self-employment. Monitoring the quality and outcome of training in such traditional systems is extremely challenging.

Despite efforts to adopt the German dual apprenticeship model, without further changes, traditional apprenticeships will continue to remain the main source of skills acquisition in AFW, especially for youth from disadvantaged backgrounds. There are four reasons for the persistence of this situation:

- The number of medium and large enterprises capable of taking on apprentices is not adequate to make the dual model feasible.
- With few exceptions, the private sector is insufficiently organized to play its expected role in the dual system.
- Most TVET and tertiary education institutions lack the capacity to play their expected role in the dual model.
- Youth from disadvantaged backgrounds (a large swath of the population) seldom meet the entry requirements of the formal TVET and tertiary education systems.

Besides traditional apprenticeships, training offered by firms is another option (box 6.1). However, only a few firms host such training, typically as part of corporate social responsibility or to supply skills for jobs in their line of business that are unavailable in the local workforce. Bootcamps (or skills accelerators) are yet another option; they are short-term intensive programs designed to make a trainee immediately employable after the training. Coding bootcamps, for example, which are usually organized by the private sector, have become common in recent years in response to the rising

Box 6.1. Informal/Traditional Apprenticeship

The central focus of traditional apprenticeships is to develop skills for self-employment through onthe-job learning. Traditional apprenticeships introduce apprentices to a business culture and networks, building apprentices' social capital and making it easier for them to find jobs or start businesses when they graduate (Brewer and Hofmann 2011). These apprenticeships rarely have a fixed training time or set curricula and therefore are not comparable to formal TVET provision. The method of training is observing and helping a master artisan/craftsperson. Most businesses conduct 'cognitive apprenticeships' in which the master craftsperson or skilled workers demonstrate and explain a task; the apprentice observes, imitates, and practices; and the trainers provide feedback and make corrections. In some cases, in addition to doing unpaid work while learning, the apprentice must also pay the master artisan a fee. In some rare cases, the master craftsperson offers basic trade-related theory as a supplement to the practical training.

Informal apprenticeships are most widespread in trades related to the construction sector (such as carpentry and joinery, plumbing, and bricklaying); tailoring and hairdressing; metal fabrication; various disciplines of auto-repair; and handicrafts (such as woodcarving). Women who pursue informal technical training or apprenticeships tend to end up in heavily concentrated sectors with limited demand, especially tailoring or hairdressing.

demand for digital skills. Second-chance and catch-up programs add to the mix of options, typically offering courses to the poor and other vulnerable groups (such as young women in the informal sector and refugees); these programs serve as a bridge either back into the formal education system or into the labor market.

6.2.2. Skills Acquisition by Youth through Formal Education

Options for acquiring job-relevant skills for the 'flow' of youth passing through the formal education system have expanded in recent years, but access remains low, and program quality remains poor (figure 6.1). Enrollments in formal secondary TVET and tertiary education have grown in recent decades, especially private tertiary education (for example, in Ghana, Côte d'Ivoire, and Nigeria). Nonetheless, coverage is still less than in other regions. Enrollment rates remain too low to have a significant impact. In tertiary education, the range of providers includes universities, polytechnics, community colleges, and other specialized institutes. Unfortunately, across AFW countries, most of these programs (except for a few private institutions) are supply driven with limited engagement with industry, are poorly funded, and are inadequately staffed; moreover, they operate with poor infrastructure for teaching, learning, and research (stifling innovation), often lacking affordable and reliable broadband internet connectivity. In some countries, student-faculty ratios are exceptionally high. The rate of hiring of faculty has not kept pace with the expansion of the tertiary education sector, leading to overcrowding. In Burkina Faso, for example, the student-faculty ratio in public higher education institutions is 112 to 1 (World Bank 2018b). In public TVET institutions, quality of teachers is an even greater challenge, though Côte d'Ivoire⁵¹ is an exception (ACET 2022). For example, in Niger, only 12 percent of TVET teachers have the requisite qualification.

Formal TVET and higher-education institutions (especially those that are publicly funded) are not agile in responding to the changing nature of work. The curricula remain outdated and typically require extended bureaucratic processes to update. Therefore, graduates do not acquire the twenty-first-century skills

⁵¹ According to a recent ACET report (ACET 2022), Côte d'Ivoire has a strong institutional framework due to strategic investments in its National Pedagogical Institute for Technical and Vocational Education, which has standardized training and regulates the curriculum. The institute also tracks and provides continuous upskilling of trainers.





Source: (a) Based on data from UNESCO Institute for Statistics database using latest available data for each country (2014–20); (b) Based on data from UNESCO Institute for Statistics database and original calculations using national enrollment data and population data from the United Nations, Department of Economic and Social Affairs, and Population Division (2019). Latest data used (2014–20).

(including entrepreneurship)⁵² needed to thrive in the changing world of work. Due to their poor quality, TVET programs in most countries offer very few pathways to further education or to better jobs and are often regarded as the last resort for youth who are struggling in general education. Enrollment rates in formal TVET and higher education are insufficiently oriented toward STEM fields (figure 6.2), which are critical for the digital and green economies. The low uptake arises from various factors, including a weak pipeline of students (low competences in numeracy and literacy) graduating from upper-secondary schools, low exposure of students to hands-on STEM courses, and a lack of affordable and attractive local programs.⁵³ Participation rates in STEM (especially in engineering and ICT) fields among women and other disadvantaged groups are often very much below average, reflecting the impact of factors such as societal norms and expectations, absence of role models and mentors, information gaps, and lack of gender-focused funding. In addition, adoption of dual apprenticeships/internships, which are necessary in offering youth hands-on experience and exposure to jobs in their fields of interest, remains low within the formal system.

Finally, although the research output of the region has increased over the past decade, AFW countries need to foster a more enabling environment to expand research production and its impact further. Research output

⁵² The varying frameworks for what twenty-first-century skills encompass cut across cognitive, socioemotional, and technical skills. Some of the most common twenty-first-century skills include communication, creativity, critical thinking, problem solving, and digital literacy (Shmis et al. 2021).

⁵³ Noteworthy is that in 2019, over 245,000 students from AFW countries were enrolled in tertiary programs abroad.



Figure 6.2. Tertiary Enrollment and Graduation by Field of Study for Senegal

Source: Original calculation using national higher-education data from four key public universities in Senegal.





Source: SCImago. SJR — SCImago Journal & Country Rank (2020). https://www.scimagojr.com. H-index is better than many other bibliometric measures in that it considers both productivity and impact, is not biased by a small number of very successful articles, discounts the value of papers that are not influential, and uses only publicly available data (Usher 2012).

and impact remain low (figure 6.3). AFW faces infectious diseases (most recently, Ebola and COVID-19); climate change impacts, which necessitate mitigation and adaptation; and a growing digital economy. Accordingly, investments in local research and development in these fields are critical. Ghana, which has the highest scientific output in AFW, is producing three times less than South Africa. The 2020 Global Innovation Index Ranking of 130 countries ranked the 12 AFW countries with data between 100 (Cabo Verde) and 130 (Guinea) (Dutta, Lanvin, and Wunsch-Vincent 2020). The same report highlights that the innovation ecosystem in Africa is broadly characterized by several factors, including low levels of science and technology activities (lower use of ICT), weak financial markets (low access to venture capital deals and high dependency on government and donors), limited science industry links, and limited use of intellectual property. Also contributing to this low performance in AFW are the absence of national science and technology policies and related sustainable financial resources for implementation; the lack of a critical mass of academics, especially ones who can commit substantial efforts and time to research instead of only teaching; and an insufficient scientific infrastructure in terms of advanced laboratories and internet connectivity.



Figure 6.4. Indicators of the Education Level of the Workforce

(a) Adult illiteracy rate

Source: (a) Based on data from the UNESCO Institute for Statistics database using latest available data for each country (2014–20); (b) Original calculations using latest available employment data for each country (2014–20) from the International Labor Organization Statistics database.

6.2.3. Skills Acquisition by Working Adults

The poor quality of the human capital among working adults is evident in the educational attainment pyramids of AFW countries. These pyramids typically feature a large, poorly educated base and a small number of tertiary-educated workers at the top. Of the AFW workforce, 42 percent has no education, and only 11 percent has a tertiary education; in the East Asia and Pacific region, in comparison, the corresponding figures are about 0 percent and 55 percent, respectively, even though this region had similar development challenges to AFW in the 1950s. The adult literacy rate in AFW averages 52 percent, falling to only 19 percent in Chad (figure 6.4). This share of the population has low literacy, numeracy, digital, and financial skills. A large swath of the workforce is thus functioning below their potential. According to a UN-ESCO Institute for Lifelong Learning (2020) report on adult learning and education in Africa, more needs to be done for the poor, for women, and for adults with disabilities to help them access adult learning and education training opportunities. Yet the paucity of data limits assessment and monitoring of the needs of these vulnerable groups, undermining support for relevant evidence-based policies. Some of the governance needed for the successful implementation of relevant policies and strategies has emerged, but substantial work remains with respect to access to, as well as recognition, validation, and accreditation of, informal and nonformal adult learning and education (UNESCO Institute for Lifelong Learning 2020). Financial investments in adult learning and education in the region are also insufficient. For formal-sector workers, ensuring that skills acquisition prior to entry to the workforce is effective remains a key challenge. For a growing number of these workers, lifelong learning is gaining relevance as the nature of work and job opportunities change with digital and green technologies. To remain productive, formal-sector workers must be able to deepen their expertise or acquire new skills through periodic upskilling and/or reskilling. With the

(b) Share of workers employed with tertiary education

majority of enterprises being small and medium-sized enterprises, AFW countries need policies that can incentivize and help these enterprises to invest in and/ or promote the upskilling or reskilling of their employees. Finding sustainable approaches to enable lifelong learning could thus initiate a virtuous cycle for skills development in the region.

6.2.4. Strategic Trade-offs for Skills Development in AFW's Emerging Economic Landscape

AFW countries face difficult trade-offs in crafting strategies for building job-relevant skills given the early stage of industrialization, weaknesses in the human capital base, nascent systems for formal skilling, and tight budgets. These countries must strive to find a balance between two main common tradeoffs (Arias, Evans, and Santos 2019). The first tradeoff is between investing in skills for high economic productivity versus skills for economic inclusion of the unemployed as well as the mostly agrarian and self-employed population in the informal sector. The second trade-off is between skills for today's jobs versus skills for tomorrow's jobs. Experiences in Chile, Ireland, Korea, Malaysia, and Singapore over several decades since the 1970s suggest that following divergent pathways can successfully soften these trade-offs to help nascent formal skilling systems mature, depending on each country's unique development aspirations, economic strategy, organizational structure, and roles granted to the private sector (Tan et al. 2016). Key lessons include the need for strategic, whole-of-government steering of the jobs and skills agenda; prioritization of innovations and reforms to model agile responses to emerging labor market needs; use of graduate employment results as a key indicator of institutional performance and response to labor market needs; and consolidation and integration of proven innovations to embed and disseminate good practices.⁵⁴ AFW countries can use these lessons to shape their own plan for strengthening their systems for skills building, taking into account the region's jobs-and-skills landscape.

6.3. Fortifying Governance to Improve the Ecosystem for Skills Building

Fortifying the governance of training providers is the first of four complementary sets of high-impact interventions to address weaknesses in AFW's skills development systems. As indicated above, the current system of formal, publicly funded TVET and higher-education programs is insufficient on its own to meet the demand for skills acquisition in the region. The gaps are filled by the informal service providers, typically master craftspeople, and to a smaller extent by private training firms among others. The skilling ecosystem is highly fragmented, and training providers operate with limited alignment to national economic strategies. Better governance can create a more integrated system that benefits users and providers of training services alike in the public and private, formal and informal sectors. To this end, three areas of governance warrant attention: reforming traditional apprenticeship models; formalizing the role of employers in skills development; and developing simple, yet inclusive, skills qualifications frameworks.

6.3.1. Reforming Current Apprenticeship Models for Skills Acquisition

Reforming traditional apprenticeship models can help improve the productivity of apprentices when they become workers in the informal sector and enable some of them to gain a foothold in the formal sector (box 6.2). As traditional apprenticeships seem likely to remain the main source of skills acquisition in AFW for years to come, these reforms are a necessity. The success of these reforms will depend on strategic national-level coordination among all stakeholders, including the government, trade groups (informal sector), industry partners (formal sector), and formal TVET institutions. These reforms should upgrade traditional apprenticeships to match the skills requirements of the post–COVID-19 economic reality. First, traditional apprenticeships should start including classroom-based

⁵⁴ An example of this process is the evolution of the training centers first established in 1972–75 by Singapore's Economic Development Board in partnership with various foreign companies and governments (Tan and Nam 2012). These centers were upgraded to technology institutes during 1979–92 and consolidated in 1993 to form Nanyang Polytechnic under the Ministry of Education. One benefit was the institutionalization of many of Nanyang Polytechnic's innovations in industry-responsive skills development, including its signature "teaching factory" model.

Box 6.2. Examples of Reformed Apprenticeship Programs

Côte d'Ivoire dual apprenticeship pilot project. In 2010, the government of Côte d'Ivoire and the World Bank jointly launched an emergency youth employment and skills development project. The project aimed to improve access to temporary employment and skills development opportunities for youth. It included a formal apprenticeship program, which targeted low-skilled youth 18–24 years old in the main urban areas of the country. The project sought to place these youth in firms, where they would receive on-the-job training as well as theoretical training under a supervisor. The most popular positions included car or motor mechanic, metal worker, boilermaker, welder, and bricklayer. Of the 361 firms offering apprenticeship positions, 84 percent had no formal legal status, and 68 percent did not keep financial records.

The project lasted one to two years, based on the occupation. Youth received insurance coverage, work equipment, and a monthly allowance for meals and transportation costs. In addition to practical on-thejob training within the firms, youth were also eligible to receive 180 hours of complementary theoretical training per year and could request one-on-one advice from apprenticeship counsellors. At the end of the apprenticeship, each participant was tested on their practical skills and theoretical knowledge of the job.

Short-term impacts included the following: (a) firms in the program hired more formal apprentices but fewer traditional apprentices than firms not in the program; (b) apprentices in the program worked on average 23 percent more days relative to individuals in the comparison group; and (c) quality of work by program apprentices was 62 percent higher per month relative to those who were not in the program. No direct impacts on firm profits and revenues emerged, but the aforementioned short-term impacts that did emerge may be sufficient to make the program cost effective in the short term.

Ghana Technical and Vocational Education and Training (TVET) Voucher Project for informal sector training. In the Ghanaian informal sector, master craftspeople and workers of small enterprises and microenterprises usually gain their vocational skills through traditional apprenticeship. However, such enterprises are increasingly struggling to keep pace with technological progress. Furthermore, skills acquired through traditional apprenticeships do not lead to a qualification recognized by the Ghanaian national qualifications framework.

The government has decided to implement the modular competency-based training approach as an adequate response to the specific needs of the informal sector. Taking advantage of the existing traditional apprenticeship system, competency-based training units contain both workplace training and complementary skills training offered by accredited training institutions. A full set of competency-based training units leads to formal qualifications.

The Ghana TVET Voucher Project aims to meet the demand of the informal sector for skills upgrading through an innovative voucher financing scheme.

This project provides vouchers for training to master craftspeople, their apprentices, and workers. The vouchers finance (a) competency-based training courses provided by accredited training institutions; (b) the assessment and certification of acquired skills through accredited awarding bodies; and (c) related coordination and monitoring services provided by respective trade associations of the informal sector.

(Box continues on next page)

Box 6.2. Examples of Reformed Apprenticeship Programs (continued)

The vouchers are issued to beneficiaries in the form of electronic codes via mobile text messages (e-vouchers). A web-based Voucher Management System facilitates the operational management of the project. This system includes the registration of training offers; the decentralized application for vouchers through mobile devices; continuous monitoring of training attendance; generation of invoices; disbursement control; daily updated reporting on project performance; and various business intelligence features for the Council of TVET, the national TVET authority, and KfW Bank (Germany).

The project finances training in cosmetology/hairdressing; consumer electronics; automotive repair; construction/welding; garments; and six new trade areas, namely block-laying, tiling, plumbing, catering, electrical installation, and woodwork.

The training is provided by a network of 98 accredited public and private TVET institutions. During a preparative phase, GIZ (the main German developmental agency) implemented a comprehensive preparatory exercise creating the precondition for successful implementation of the e-voucher project. The preparatory activities included development of curricula and assessment procedures, training of instructors, upgrading of training centers to meet the accreditation criteria, and development of the necessary management tools. As of February 2021, the exercise had trained 15,000 persons.

Sources: Crépon and Premand (n.d.); Hirji (2020); the Ghana TVET Voucher Project website (<u>https://cotvet.gov.gh/gtvp/about-gtvp/</u>). Note: TVET = technical and vocational education and training.

training, as these apprenticeships currently tend to focus exclusively on practical training provided at a workshop or on the premises of an enterprise. Benin, for example, is testing a partnership arrangement with local TVET institutions to incorporate classroom-based instruction on entrepreneurship and digital and soft skills. For those in communities with no TVET institutions in proximity, zero-rating courses that are mobile friendly could be appropriate. Second, traditional apprenticeship programs can provide career counselling (including links to jobs and microfinance) that targets disadvantaged youth for additional support. Bringing apprenticeship programs under the TVET coordinating agency could ensure solid capacity in financial management and complex coordination. Third, traditional apprenticeship programs can provide trainees with suitable training tools and stipends that match or exceed what the trainees would have earned in an informal job. Fourth, assessment-based certification of both trainers (masters) and trainees would validate the skills gained through traditional apprenticeships and facilitate recognition of such skills. Systematic provision of further training to those who instruct apprentices in informal businesses would improve the skill levels of youth who receive training this way and the opportunities for the trainers, who are informal workers themselves, to formalize informally acquired occupational skills. Benin, Ghana, Côte d'Ivoire, and Senegal, for example, have tried to reform their traditional apprenticeship system with varied success. In countries such as Ghana, new regulations endeavor to formalize traditional apprenticeships and bring them in line with a standardized program. The Ghana e-voucher project is an example of such a program.

Wherever possible, efforts to improve traditional apprenticeships should be inclusive and sustainable and carried out in cooperation with local groups and associations that exist in the informal economy. Equal access to these improved systems is key; regardless of socioeconomic background and gender, women and vulnerable youth must be able to benefit from improvements in traditional apprenticeships too (Adams, Johansson da Silva, and Razmara 2013).⁵⁵

⁵⁵ Adams, Johansson da Silva, and Razmara (2013) offer an excellent overview of strategies for improving the quality of skills development in the informal sector.

6.3.2. Formalizing the Role of the Private Sector in Skills Development

Formalizing the role of the private sector, including formal-sector employers, as skills providers is crucial for AFW. With the rapid changes in the nature of work, strategic public-private partnerships are a necessity. Increasing the menu of dynamic and responsive options in the TVET and higher-education sectors requires the involvement of the private sector (including employers and their employees) in the policy development, financing, and actual delivery of skills training. The expansion of training opportunities needed is so substantial that the public sector alone cannot absorb all the trainees and students. Many countries in the region already have national bodies responsible for TVET and higher education. Unfortunately, in countries such as Côte d'Ivoire, employers' appetite for engaging these national bodies has been weak, partly due to the limited de facto influence of the bodies, and partly due to the costs associated with their participation in activities.

In addition to relieving the pressure on limited government financial resources, the participation of private providers has, in many economies, introduced a positive dimension of healthy competition. Private TVET and higher-education institutions are often closely aligned to labor market needs and tend to respond more flexibly to the evolving demand than public institutions. Competition is an important element for ensuring the quality and relevance of programs. Because their survival depends on their capacity to attract good students, private institutions have stronger incentives to launch curricular and pedagogical innovations. AFW governments therefore need to develop a clear vision regarding contributions from these private providers; establish effective quality assurance mechanisms for licensing and accreditation and for terminating programs and institutions that do not meet minimal quality standards; and monitor the socioeconomic distribution of their students, allowing low-income students to access student loan systems where such systems exist. In countries such as Chad and Côte d'Ivoire, private enrollments have quadrupled in the past decade. Governments should clearly define their vision regarding contributions of private TVET and higher education as a substantial pillar of the expansion strategy.

Some large domestic companies and multinational corporations in AFW are addressing acute shortages

of skilled workers in their firms by establishing their own in-company training centers/schools. Usually, the companies establish these centers in collaboration with the public TVET authorities. For the countries where they are located, these company-based training centers are a 'win-win' operation. The centers relieve the government's burden of investing in highly specialized TVET programs. At the same time, the centers ensure that the company's growth is not hampered by shortages of qualified staff. Effective training centers provide hands-on practical training to youth, leading to their certification. The companies then hire some of the graduates, and those graduates who are not recruited can easily find work elsewhere, based on the highly transferable skills acquired from their training. To address skills shortages, some AFW governments have established formal partnerships with individual corporations (for example, ArcelorMittal in Liberia [ArcelorMittal 2021], Dangote in Nigeria, and Toyota in Kenya [box 6.3]). Other governments have established partnerships with groups of firms operating in technology parks and hubs (such as Edo Tech Park in Nigeria). Governments can strategically extend these types of public-private partnerships to many more employers.

Other employers also provide on-the-job training for existing employees to boost firm productivity and profitability; such investments offer opportunities for lifelong learning, thereby increasing the adaptability of the workforce to the changing nature of work. To incentivize employers to offer training, some countries collect training levies toward a training fund. Giving employers an effective voice in managing the training fund is essential to ensure that the levies are used as intended to upgrade the skills of workers in areas of relevance and need to employers. Mexico's Integral Quality and Modernization program exemplifies a successful payroll-based levy collected by the government to promote skills upgrading in small and medium-sized enterprises. Malaysia's Penang Skills Development Center uses a different model, relying on membership fees to fund skills upgrading for the participating firms (Banerji et al. 2010). The Malaysian Center fund also supports a substantial number of small and medium-sized enterprises. The Center for Port and Logistics Training model in Senegal (box 6.4) offers an example of an alternative model in which several firms form a partnership to benefit from sector-specific trainings. For AFW, this alternative

Box 6.3. Examples of Company-Based Training Academies for the Youth

The Dangote Group in Nigeria. Dangote Academy was established in 2010 to provide technical and management training for the Dangote Group, which has engagements in cement manufacturing, sugar refining, fertilizer manufacturing, mining, energy, agro-business, and transport and logistics. Currently, Dangote Academy has centers in Lagos and in Obajana, Kogi state. Dangote Academy was created to meet the demands of the Dangote Group for specialized technical and management recruits based on the identified training and practical skills gaps affecting a large proportion of Nigerian postsecondary graduates. The official vision is to provide a technical talent pipeline for the Dangote Group while filling the industrial skills-gap in Nigeria. Dangote Academy's main training schemes include the following:

- The vocational trainee scheme, which targets recent polytechnic graduates seeking to become skilled technicians and operators. This 12-month practical training program allows trainees to practice in workshops and factories.
- The graduate engineer trainee scheme, which focuses on graduates in mechanical, electrical/electronic, and chemical engineering. This scheme runs for 12 months and includes workshop skills and inplant training.
- The junior technical skills scheme, which trains students in basic engineering then intensive technical skills via a training workshop under specialist instructors. This scheme is followed by in-plant training in one of the Dangote factories under the supervision of an engineer and manager. It is an 18-month program open to secondary school and technical college students.
- The Dangote Graduate Drivers Academy, which aims to improve the quality of transport fleet drivers. It offers safety and defensive training and covers highway management standards with an aim to reduce accident rates and improve drivers' attitudes and aptitudes on managing assigned consignments.
- The ADF-VDMA Technical Training Program, which is based on the German dual-track vocational training model. The program, which the academy runs at its facility in Obajana, is a tripartite collaborative arrangement involving VDMA (the Mechanical Engineering Industry Association); the Government of Germany (through its development agency, GIZ); and Aliko Dangote Foundation. The program offers an 18-month residential training in industry mechanics to youth 16–24 years old for free, operating in batches/cohorts of 120 youth. It also offers a variety of short courses to industry professionals (at subsidized rates).

Thus far, Dangote Academy has graduated 650 participants from the vocational trainee, graduate engineer trainee, and junior technical skills schemes and seen 85 percent of the graduates hired into different business units within the Dangote Group. Dangote Academy will graduate the first batch of 120 trainees (of which 10 percent are women) from the ADF-VDMA program in the third quarter of 2022.

Toyota in Kenya. Since 2014, Toyota has operated the Toyota Kenya Academy in Nairobi, which is part of the corporate social activities under the Toyota Kenya Foundation. In addition to its technical automotive training (including for technicians in the informal automotive service industry) and managerial staff development, the academy also trains technicians in construction equipment, agricultural equipment, and other areas outside of the automotive field. The academy provides further education opportunities appropriate to real on-site skills needs.

(Box continues on next page)

Box 6.3. Examples of Company-Based Training Academies for the Youth (continued)

The curricula are developed by Toyota but aligned with the Kenya Qualification Framework. The threemonth courses are fee-based, but stipends are available through the Toyota Kenya Foundation. Many of the graduates receive offers of employment from Toyota Kenya on completion of their training. The academy collaborates with the Technical and Vocational Education and Training Authority, Japan International Cooperation Agency, and Kenyan universities.

Sources: Dangote Academy's website (<u>https://www.dangote.com/our-business/dangote-academy/</u>); Dangote Group's submission to the World Economic Forum for Dangote Academy (<u>shorturi.at/cACX2</u>); Toyota Kenya's website (<u>https://toyotakenya.com/toyota-academy/</u>).

model is relevant for industries with strong, well-functioning employer associations and clearly defined training needs.

Finally, some governments have created conditions for the participation of the private sector in the overall national TVET system. For example, some have created conducive conditions for accrediting private institutions to provide industry-linked TVET trainings as seen in Nigeria's Vocational and Innovation Enterprise Institutions.⁵⁶A few non-AFW countries have successfully outsourced responsibility for the management of major elements of their national TVET system to the private sector. One example is SENAI, Brazil, which operates a network of more than 700 training centers. SENAI is partially government funded and linked to the Brazilian Confederation of Industry, whose training centers align skilling with specific industry skills needs. In Morocco, the government has achieved considerable success with the Institutes à Gestion Déléguée (decentralized institutes) in selected industries. Although the state pays all operational costs, management is the responsibility of industry associations (box 6.4). The Moroccan model is relevant for AFW countries eager to attract foreign investors within a specific industry. However, to be successful, the model requires the existence of well-functioning industry associations capable of managing a sophisticated training center.

6.3.3. Developing Simple and Inclusive Skills Qualification Frameworks

AFW countries must put in place simple yet inclusive national qualifications frameworks (NQFs) to clarify learning pathways and ensure the quality and comparability of trainings provided. NQFs and regulatory frameworks help countries align competency-based curricula to skills outcomes and expected career pathways. NQFs facilitate progression within the education system and create simple pathways for students to transfer their credits across different streams of education. For example, NQFs can provide horizontal pathways for qualified youth in the TVET system to rejoin the general education stream. NQFs should also recognize emerging innovative learning models such as microcredentials and stackable credentials.⁵⁷ NQFs should provide avenues for the youth (either in training or in the workforce) and the adult population to grow their skills profiles. Developing and operating a comprehensive NQF takes time, resources, and sustained commitment; therefore, governments should pursue NQFs in phases. First, NQFs should serve as a tool for defining progression pathways for students. Defining these pathways is particularly important for countries struggling with FCV, as capacity for implementation is very low. Countries with more capacity can choose to target initially those priority industries where certifications are most pertinent. Development of NQFs could prioritize emerging areas of skills needs

⁵⁶ In Nigeria, the government has partnered with the private sector through the establishment of Vocational Enterprise Institutions and Innovation Enterprise Institutions. These institutions focus on providing skills-based, vocational, technical, and professional training at postbasic and postsecondary levels to equip school leavers and workers. Both institutions provide financial aid.

⁵⁷ Stackable credentials refer to a series of certificates that build on each other. When a student has collected a 'package' of predefined microcredentials, the student may transfer the credits to a next-level certificate or degree.

Box 6.4. Examples of Sustainable Approaches to Training Programs for the Existing Workforce

Center for Port and Logistics Training. Initially created in response to demand from the National Employers Association in 2007, the Center for Port and Logistics Training, Senegal is the result of a successful public-private partnership. A tripartite convention outlining the future operations of the center was signed in 2006 by the Senegalese state, the president of the Port Industry Community, and the Agence Française de Développement. With financial support from the Agence Française de Développement and the Senegalese government, management of the center was left to the Association for Training in Port Trades, which coordinates private companies in the port industry. Today, the center trains at three levels (Level 5: Drivers, Level 4: Specialized Technicians, and Level 3: Specialized Senior Technicians) in the fields of transport, logistics, handling, and port operations.

Each program lasts for two years, with an obligation of trainees to spend one-third of the time in an internship. The center has more than 100 partner companies from the industry. These partnerships are valuable for the students, as the companies offer them internships during the training. The center's link with the private sector is strong due not only to the management of the center but also to the teachers, who are professionals from the sector. Teachers contribute to training by ensuring the students receive relevant and up-to-date content. Between 2011 and 2021, more than 900 trainees successfully graduated from the center, and more than 5,500 attended short skills-upgrading courses.

Institutes à Gestion Déléguée. As part of the Vocational Training Strategy for 2021, the Moroccan Government aims to increase the role of the private sector in technical and vocational education and training. A key element of the strategy is establishment of Institutes à Gestion Déléguée in sectors with a strong value-added and strategic importance for further economic development. The institutes have formed in partnership with private professional organizations (national and international). Currently, there are 10 institutes in five sectors: aeronautic, automobile, renewable energy, textile/garment, and transport & road safety.

Most of the institutes are located in the sector-specific special economic zone for which the institute provides tailored training courses. An example is the Institut des Métiers de l'Aéronautique, opened in 2011. The institute, situated next to Mohammed V International Airport in Casablanca and within the aeronautics-focused Midparc Casablanca Free Zone, offers both initial and advanced skills training. An expansion project completed at the beginning of 2017 allowed for the institute to increase its yearly capacity from 800 to 1,200 trainees in training programs and to add 300 spots for continuing education. This expansion was part of an effort to meet the 2020 goal of adding 23,000 technicians to the aeronautics segment.

The institutes are primarily considered a means to attract foreign investors in need of a highly skilled, **specialized workforce.** The principle is that the state covers all costs of establishing and running the institute, including salaries, learning materials, and maintenance. Typically, the management is outsourced to the association of private enterprises within the sector. The state has no role in day-to-day management, and the institutes are free to define the contents of the training according to the specific needs of the partners.

Sources: Busso (2020); www.cfmpl.sn.

(such as digital skills) and accelerate the process by adapting ideas from elsewhere to suit national conditions and priorities. Governments can also use NQFs as a tool for quality control and accreditation of both public and private service providers.

When harmonized with other countries' frameworks, NQFs ease regional mobility of the labor force. Regional qualification frameworks allow employers to recognize qualifications acquired in other countries and stimulate exchange of students and teaching staff across the community of countries. Regional qualification frameworks vary considerably in their objectives, sector coverage, design, and use. Some act as a common reference framework (such as the European Qualifications Framework or the Qualification Reference Framework of the Association of Southeast Asian Nations). Others are more expansive and aim to establish common standards (such as the South African Development Community's Qualifications Framework inspired by the South African National Qualifications Framework). UNES-CO, in collaboration with the Economic Community of West African States (ECOWAS) Commission, has arranged several regional events with the aim of encouraging the development of qualifications systems within the region and stimulating the creation of a regional qualification framework. Thus far, five member states in ECOWAS (Nigeria, The Gambia, Senegal, Ghana, and Capo Verde [African Union 2020]) have developed or are in the process of developing an NQF or national vocational gualifications framework. AFW countries can also target a priority industry or field (such as engineering) and harmonize qualification standards in that field.

Furthermore, an NQF should allow for formal certification of competences achieved through recognition of prior learning (RPL). RPL offers those who have acquired their skills through informal or nonformal training an opportunity to search for jobs in the formal sector. RPL is a process to identify, assess, and certify the knowledge, skills, and competencies of a person regardless of how, when, and where their learning occurred. Assessment is measured against prescribed standards (learning outcomes) for a partial or full qualification. RPL has a long tradition in countries like Australia and the United Kingdom, but it is a more recent phenomenon in low- and middle-income countries. RPL serves different purposes. In many countries, it is an instrument for assessing the competences of applicants for admission into higher education, especially applicants who do not fully meet the entry requirements. In some countries, it is a tool to test the qualification of migrants. In the context of AFW, it could help foster improved quality of training in the traditional apprenticeship system. Creating a system for RPL requires clear guidance and tools (especially digital technologies) for assessing skills competencies and subsequent certifications. The system should therefore roll out in phases, targeting first a few industries or trades where certifications are most relevant and in demand; identification of those industries or trades should be based on data. Box 6.5 provides an example of how RPL works in Kenya.

6.4. Dismantling Barriers to Skills Acquisition

The second set of interventions aims to dismantle access-related barriers to skills acquisition. These interventions include diversifying the options for skills acquisition and reducing the costs of training. Remedial programs and bootcamps are one way to help large numbers of youth and adults, especially the poor and illiterate, to access job-relevant training. These interventions can fill learning and skills gaps that would otherwise disqualify prospective participants. Additional interventions include increasing the supply of high-quality, affordable skilling opportunities and targeting financial aid for students based on merit and need.

6.4.1. Diversifying Program Offerings to Meet the Needs of a Range of Learners

Remedial programs, bootcamps, and second-chance programs can serve diverse learners, including university entrants with weak preparation for STEM degrees, jobseekers in need of a quick upskilling boost, and adults and youth with weak foundational skills. Critical constraints hampering skills development and access to postsecondary education can be eliminated through these short-term training programs. Remedial programs may offer underprepared students an opportunity to acquire the prerequisites to meet the threshold for entry into a

Box 6.5. Recognition of Prior Learning in Kenya

Recognition of prior learning (RPL) policy in Kenya provides an umbrella framework to all RPL-related activities carried out in Kenya. RPL is integrated into the existing legal and policy frameworks in the education and training sector and aligned to the Kenyan national qualifications framework. The RPL policy outlines the objectives and expected outcomes of RPL and defines the various institutional frameworks and their specific roles and processes in carrying out RPL.

The aim of RPL is to promote access, employability, mobility, and progression while giving fair chances to disadvantaged, discouraged, and traditionally marginalized groups. Moreover, the policy intends to expand engagements in RPL by government agencies, employers and employees, training institutions, and RPL practitioners. The RPL policy supports the implementation of the Credit Accumulation and Transfer system in Kenya as Internationalization of Kenyan Qualifications.

The National Industrial Authority has been implementing RPL in technician levels 2, 3, and 4. The Big 4 Agenda 2018–22 identifies promotion of RPL as a priority in addressing the existing skills shortage in Kenya. The Kenya National Qualification Authority, in consultation with stakeholders, has developed the RPL Policy Framework 2020; the RPL Implementation Guidelines; and the Kenya National Qualification Authority accreditation, assessment tools, and certification guidelines.

The RPL guidelines can be found at www.knqa.go.ke/wp-content/uploads/2020/05/Guidelines-for-RPL-2020.pdf.

Source: Peer Learning Webinar African Continental Qualifications Framework, March 6, 2021, Session 4 Juma Mukhwana Director General, Kenya National Qualification Authority.

Note: RPL = recognition of prior learning.

particular stream of education. These programs are particularly useful in developing STEM fundamentals and digital skills. The programs may level the playing field for underrepresented groups, including women, and for vulnerable youth with low-quality prior education, especially those interested in STEM programs. For example, The Gambia's African Higher Education Centers of Excellence (ACE) Impact project provided pre-engineering remedial courses to upper-secondary school graduates. At times, these programs take the form of a bootcamp: short-term, intensive training. Bootcamps are particularly popular within ICT in courses such as coding, database design, and software development. Often these courses are provided in collaboration with ICT giants such as Google, IBM, Microsoft, and CISCO and lead to a certificate recognized by the ICT industry. Bootcamps are a cost-effective way to boost the skills of specific target groups for employment within a relatively short time, which means that bootcamps have huge potential in the region. The Moringa School in Kenya provides bootcamp trainings related to technical, entrepreneurial, and other soft skills and helps link the graduates to jobs. The school has an 85 percent graduate employment rate.

Second-chance programs ensure inclusivity and help address learning gaps by reteaching foundational skills to out-of-school or disadvantaged youth and illiterate adults. These programs can create pathways for school dropouts, including those interested in re-entering the formal education system. Successful programs are those that have "multiple entry and exit points and close associations with formal education" and combine technical, cognitive, and life skills training (Keiko et al. 2015). Most AFW countries have second-chance programs in the form of adult education. Often the programs combine functional literacy training with teaching of life skills (nutrition, health, and civil rights) and elementary vocational training. Typically, the programs are provided at designated adult learning centers, but in

Box 6.6. India – Digital Skills Training for Street Vendors

According to Praveen (2021), the Indian government is taking steps to digitalize the country. At present, only upper-class and middle-class people make large-scale digital payments; ordinary people and small traders clearly lack knowledge about digital payments. In response, the government has recently launched the Mein Bhi Digital 3.0 campaign to train street vendors to make and receive payments digitally. The campaign will train street vendors in 223 cities across the country.

India's leading digital payment companies will conduct the training on behalf of the government. These companies will train street vendors in different parts of the country on digital payments, Unified Payment Interface identification, and QR codes. In addition, the companies will provide all the necessary information related to digital payments. This training and information will enable small and less educated merchants running shops on the streets to make and accept digital payments.

some countries, such as Ghana and Senegal, adult education is also available in the form of continued and distance education for persons already in employment. In the last decade, a wide range of basic digital literacy courses for adults have emerged in the region. Considering the large number of illiterate adults and youth in AFW, governments can embark on sustained mass-literacy campaigns for young adults age 15-34 (with a special focus on those age 25–34) that leverage the penetration of mobile phone technology in the region to reach a significant number of this population over a shorter period of time. Trainings are most effective when tailored to the line of work/trade and to the mother tongue of the trainees; examples include Niger's mobile phone-based Project Alphabetisation de Base par Cellulaire and India's digital skills training for street vendors initiative (box 6.6). In Ghana, the Grameen Foundation works with community agents and uses a Digital Farming platform to provide cocoa farmers with timely training and tailored advice on sustainable agriculture practices and suitable investments for their farming businesses. The AFW Sahel white paper suggests a series of additional interventions to support adult literacy programs.58

6.4.2. Expanding Access to Flexible, Affordable, Quality Skilling Opportunities

AFW governments can take advantage of new and innovative ways to increase access to flexible, lowcost, and high-quality pathways for skills acquisition. The high number of youth not transitioning to tertiary education or other postsecondary non-tertiary skilling programs that characterizes AFW countries represent a waste of human resources. In countries struggling with FCV, young people excluded from education and employment tend to feel socially excluded, making them potential recruits of insurgents. In addition, higher education in the region is still not equitable. AFW governments, the private sector, and skilling institutions can consider two interventions regarding expanding access through the provision of affordable, quality skills training and education. The first is reducing the costs associated with providing postsecondary education and TVET such as by relying on online or blended learning. The second is defraying the cost of attending the training or education for the poorest students.

More TVET and higher-education institutions in AFW countries should take full advantage of the opportunities offered by digital technologies for education. AFW governments can learn from the COVID-19 crisis and maximize the use of their growing investments in

⁵⁸ Although high adult illiteracy rates are endemic in AFW countries, they are more pronounced in the Sahel subregion. Therefore, the Sahel Education White Paper (World Bank 2021) and this Regional Education Strategy align closely in addressing this challenge.

digital infrastructure to offer youth and adults already in the workforce, as well as youth enrolled in the TVET and higher-education sectors, a wide range of online courses and resources, responding directly to the labor market's skills demands. Enrollments in online courses at the tertiary level have expanded globally in recent years due to its flexibility and low cost to students. The format of digital education within tertiary education includes blended learning programs hosted by traditional brick-and-mortar institutions (for example, African Development University, Niger) and fully online programs offered by open or virtual universities (such as virtual universities in Burkina, Nigeria, and Senegal). Virtual universities can help ease some of the overcrowding in brick-and-mortar universities. Given the hands-on nature of TVET training, some providers have started to integrate blended platforms for learning (for example, industrial welding skills training in Kenya [box 6.7]).

Increasingly, short-term online courses are being offered by the private sector (by IBM and Microsoft, for example) in partnership with development organizations and tertiary education institutions. Governments in coordination with the private sector and development partners can also consider mass-skilling (digital skills training) of youth through mobile-friendly digital platforms at both national and regional levels (as in, for example, the Harambee Youth Employment Accelerator in South Africa and the African Development Bank's Coding for Employment program). These mass-skilling opportunities will offer affordable training to the youth who are upper-secondary school graduates but in the NEET category, are in vulnerable jobs, or are refugees. Online courses can help the trainees acquire, at their own pace, a series of certificates, digital badges, and/or degrees, known as 'stackable' or 'micro' credentials in a particular subject area. They provide a pathway for persons who cannot afford a full degree program or commit to a longer-term program. Adequate quality control is crucial in governing these credentials, and employers and tertiary institutions must be informed about the essence of these credentials and the specific competencies associated with the different certificates. Stackable credentials are globally still emerging but could be transformational for a region like AFW. Key enabling factors required to successfully deploy digital education

include access to affordable and reliable electricity and internet; access to devices (laptops, desktop computers); digital skills for trainers and trainees; and capacity in digital education pedagogy for trainers and faculty.

6.4.3. Targeting Financial Aid for Students Based on Merit and Need

Expanding access to skills and higher education will require diversifying student financing options to support marginalized and vulnerable youth. For trainees in pretertiary TVET programs, especially youth from underprivileged families, options like voucher schemes, stipends (such as the Tanzania Skills Development Fund Bursary Scheme), and no-cost skills training packages are ways to ease access to education and training. Regarding tertiary education, some schemes offer low-interest loans and targeted scholarships. Examples include Rwanda's student loan and bursary program, managed by the Development Bank of Rwanda (2019), and the Ghana Education Trust, which dedicates a share of the value-added tax to scholarships for gifted but financially needy students. Such schemes have proved to be effective ways to increase access for youth from underprivileged families. Some countries-Malaysia and Mexico, for example—have mandated a minimal proportion of 5 to 10 percent of low-income students to whom private providers should grant full financial support. For the poorest students, online training programs can still be costly. Access to digital devices, reliable internet, and the cost of the overall training can be expensive; in these cases, financial aid may still be necessary to defray the cost of enrolling. Affordable approaches to digital education include negotiations with telecommunication companies for preferential pricing (zero-rating) in accessing educational resources. Implementing innovative models for purchasing devices for students and other digital technologies may also help; examples include the student laptop purchasing scheme supported in Senegal's higher-education project and the framework agreements/contracts in Burkina Faso's higher-education project (box 6.8). Schemes providing financial support to youth from less privileged families have great potential in AFW, but their success hinges on strong management and a high level of transparency.

Box 6.7. Blended Learning Approaches in Technical and Vocational Education and Training and Higher Education

Industrial welding skills in Kenya. Industrial welding skills, especially from local communities, are likely to be in high demand due to the government infrastructure projects and the projected and ongoing oil and gas exploration in Turkana and Garissa counties in Kenya (including the construction of a pipeline). Accordingly, the Turkana County Government in northern Kenya, in collaboration with the Kenya Association of Manufacturers and the East African Institute of Welding, offered a five-month industrial welding skills program to youth from the refugee and host communities. A dual learning approach was adopted, with 60 percent of the course involving company training and 40 percent involving institution-based training.

The Ministry of Health issued safety precautions on re-opening of technical and vocational education and training (TVET) due to COVID-19. As the institutions reduced their intake to accommodate students, the Ministry of Education recommended e-learning as a panacea to the crisis. The newly developed learning management system went on to host mostly theoretical lessons (digital skills, entrepreneurship, employability, and occupational safety and health topics). Practical lessons were conducted at the institute. Technology features included online lectures via Zoom; notes (text, audio, video); exercises; and discussions/chat sessions. These technological features were compatible with mobile devices such as smart phones and tablets to complement computers for remote access of content. The technology was set up to work both online and offline, with content updating when the user was online but staying accessible even when the user was offline.

Regarding lessons learned, the success of this blended-learning approach depends significantly on the trainer's capacity to deliver digital lessons. A lot of training is required to build trainers' capacities. Not all content can be delivered digitally in TVET, but with reality-modelled practical training (welding simulators), students can practice some skills digitally. Digital technologies allow educators to design learning opportunities and therefore become part of the learning process. Choice of a partner is key. Private institutions tend to be more flexible and have capacity to leverage resources as opposed to public institutions.

African Development University in Niger. The African Development University in Niger (<u>https://ilimi.edu.</u> <u>ne/</u>), which started its activities in 2017, is a school of continuing education using virtual learning technology as its core delivery method.

The university's version of blended learning includes in-person and synchronous teaching. All classes are taught on campus in a classroom setting, but students also have online access from their homes. Virtual classes are taught by remote faculty and supported by newly hired faculty associates (also known as teaching assistants). The faculty associates lead in-class activities, monitor live-streams, facilitate exams, and provide academic support such as tutoring and make-up sessions. In-person classes continue to run as normal with full-time faculty members. In both class formats, students can partake in engaging discussions and group work with their classmates and interact with their faculty and faculty associates.

Due to the inadequate internet infrastructure throughout the country, even virtual classes are taught on campus. These infrastructure challenges nationwide resulted in the university boosting its internet capabilities, obtaining a learning management system, and restructuring its curriculum format so that faculty and students can take advantage of the learning process. These actions placed the university in a unique position to deliver education in the country, albeit limited and interrupted education, as the internet still goes down or becomes extremely slow periodically.

(Box continues on next page)

Box 6.7. Blended Learning Approaches in Technical and Vocational Education and Training and Higher Education (continued)

As a small school and growing institution with tight resources, the university had to be resourceful. Creating interactive classes included the use of repurposed, refurbished, or personal laptops and the purchase of video cameras. Campus wide, the interactive classes required boosting the on-campus internet capacity and spending time encouraging and persuading students to give the new format a chance. The university's model requires that the legislation allows teaching staff to be contracted on a part-time basis, which is not the case in all Western and Central African countries.

Source: International Labour Organization (2020). Note: TVET = technical and vocational education and training.

6.5. Managing the Quality and Relevance of TVET and Tertiary Education Programs

The third set of interventions seeks to improve the quality and relevance of TVET and tertiary education programs. Among the interventions for improving program quality and relevance, the Regional Education Strategy highlights three that are especially pertinent to the region's nascent systems of TVET and higher education: (a) forging closer links between service providers and employers; (b) increasing access to digital technologies for innovations in teaching, learning, and research; and (c) investing in research and development by capitalizing on regional approaches.

6.5.1. Forging Closer Links between Service Providers and Employers

Because the work of service providers and employers rarely brings them into passing contact with each other, let alone for sustained interactions, skills providers must be proactive in facilitating and incentivizing productive collaborations. Engaging industry-leading employers and professional organizations (such as national professional engineering groups) is particularly important; such employers bring with them standards for quality (in terms of products and services) and influence over their entire industry, for example, through their networks of clients, suppliers, and subcontractors (Development Bank of Rwanda 2019).⁵⁹ "Moral persuasion" by high-level officials, along with powerful incentives, financial and otherwise, can help unleash interactions that ripple through the TVET and higher-education system, providing models and templates for strengthening the quality and relevance of more and more training programs.⁶⁰

The interactions between training service providers and employers benefit both parties in multiple ways. Importantly, these engagements can ensure that students acquire market-relevant skills. Academic staff, trainers, and students can be placed in companies through internships and formal apprenticeship arrangements; industry experts can serve on governing councils/boards of tertiary institutions and curriculum design committees; training institutions can provide consultancy services on prototyping and product development for industry partners; and joint applied research projects can be undertaken to solve problems that undermine firm productivity and profits. Industry experts can deliver courses as lecturers or work as part-time staff at training centers. For example, an "entrepreneur in residence" role can be established to recruit seasoned entrepreneurs to teach entrepreneurship modules. These entrepreneurship

⁵⁹ In Korea, the government created the BRIDGE model, which links the country's consortium of small and medium-sized enterprises to Samsung and other leading conglomerates (Almeida and Cho 2012).

⁶⁰ O'Hare (2008) describes the role of regional technology centers, the Dublin Institute of Technology, and the National Institutes of Higher Education in accomplishing this result in Ireland.

Box 6.8. The Virtual University of Senegal's Student Laptop Loan Scheme

The Virtual University of Senegal was established with support from the African Development Bank, World Bank, and other donors. Its objectives are to (a) meet a growing demand for access to higher education; (b) reduce inequalities of access; (c) integrate into the social fabric; (d) deliver training in line with market demand (employment and self-employment); (e) act as the vector of concepts related to autonomy, the use of information and communication technology for pedagogical purposes, the abilities stemming from lifelong learning, and the abilities required for collaborative work; (f) make the concept of "training for all" a reality; (g) accelerate digital development of the territory; and (h) strengthen the country's position in the knowledge economy.

The university has open digital spaces in different locations (including rural areas) where students can congregate for group work or other projects. These spaces also help students to receive support through career guidance and build a sense of belonging. The university offers opportunities for community service as well: students can submit proposals to competitive grants, implement community projects that faculty have identified, and collaborate on activities led by staff.

As part of its student loan scheme, the government partners with a commercial bank in Senegal. The government removes taxes from laptops to minimize the cost and further brings down the cost that students have to pay to about 10 percent of actual cost. Further, the government serves as a guarantor to the students, which gives the bank more confidence.

Source: Fatou et al. (2019).

modules, complemented by courses that incorporate soft skills that build resilience and develop complex problem-solving, leadership, teamwork and creativity skills in students, will be important in enabling graduates to successfully navigate a mostly informal and resource-constrained economy. Dual apprenticeship (German model), which is the predominant TVET model in many European countries, combines structured work-based learning anchored in a formal apprenticeship contract with structured off-the-job learning in a TVET institution. In most cases, the apprenticeships last several years. With the exception of South Africa, Côte d'Ivoire, Malawi, and Mauritius, formal apprenticeship programs are not very common in Sub-Saharan Africa. However, most formal TVET programs incorporate a period of industrial attachment through an internship component, usually at the end of the program. Further, there are proven avenues to ease the training-to-job transition period for students and trainees. Youth who are ready to enter the workforce, skills providers, and employers can connect on digital recruiting platforms that link the youth to training, career guidance services, and jobs and help employers reduce the cost and time involved in finding, training, and hiring suitable talent. For jobseekers, formalized short-term, on-the-job training may provide the additional practical experience required to get a job. Experience from Rwanda suggests that for most occupations, these programs should have a duration of at least six months, often more, in order for the trainee to acquire the level of skills needed to obtain gainful employment.

In AFW, compared to other regions, the private sector is smaller and less organized, and the TVET and higher-education institutions are weaker; as a result, building a strong culture of employer-skills provider models has become increasingly relevant for AFW countries. TVET and higher-education institutions can support these activities by setting up dedicated career centers. In Tunisia, for instance, all TVET institutes and universities have recently established, with support from the World Bank, 4C departments, that is, Centers for Careers and Competency Certification. These centers accomplish several missions: liaising with firms to find internship opportunities for students, conducting regular tracer surveys, organizing job fairs, and holding workshops to train students in job-related competencies.⁶¹ Initiatives exemplifying successful efforts to forge closer links between service providers and employers include Sèmè City in Benin; Educate! in Kenya, Uganda, and Rwanda; Giraffe in South Africa; Learn and Earn in India; and Najja7ni in Tunisia—all of these examples seek to improve the learning and employability of marginalized youth (box 6.9).

6.5.2. Increasing Access to Affordable Digital Technologies for Teaching, Learning, and Research

Widening access to digital technologies could enhance learning, research, and pedagogical innovation, in turn modernizing and increasing the relevance and quality of TVET and higher education. Combining digital technologies with innovative education approaches can improve the quality and relevance of education and training programs. Ashesi University in Ghana (box 6.10) and African Development University in Niger, for example, have well-rounded curricula and positive graduate outcomes thanks to strong technical courses and a quest to ensure students acquire the technical and twenty-first-century skills necessary for the digital and green economies. There are several critical innovative approaches to consider. The first involves developing modernized curricula and related facilities (especially for reforming computer science and engineering programs) accompanied by innovative pedagogies and student-centered assessments. This approach includes promoting critical thinking and leadership skills, facilitating collaboration, encouraging complex problem solving, and integrating advanced technologies; as a result, it can make learning and research more stimulating, engaging, practical, and effective. The second approach adopts computer-assisted adaptive learning applications for remedial training to track poor-performing students and boost the quality of the pipeline of students. The third approach uses microcredentials and other digital resources to fill gaps created due to lack of qualified instructors/ faculty. The fourth aims to incorporate simulations, virtual laboratories, and other digital tools (such as virtual reality in medical training and other areas); cloud computing; artificial intelligence; and machine learning. This approach enables high-quality teaching and research, especially in STEM programs, even when budgets are tight. The use of these digital technologies can build digital skills in both the instructors and the students.

Digital technologies can play a critical role in helping service providers and governments regularly assess the performance of institutions through various institutional data collection and analysis. They allow for more effective management information systems for student, trainer/faculty, and staff data as well as for efficient graduate tracer studies. Policy makers, leaders of TVET and higher-education institutions, and students need such data to understand the quality and relevance of the programs offered to students. Evaluating such data is the first step in identifying areas that require performance improvement. For example, enrollment and graduation rates of students across the various programs will help ascertain if institutions have the right balance between STEM and non-STEM student enrollments. Graduate tracer studies can also provide important information on the employability of graduates and feedback from alumni about how to strengthen the programs offered.

These technology-oriented interventions must be inclusive, scalable, and sustainable, aiming at closing the digital divide. Facilitating such digital transformation, especially in the public sector, will require additional investment in hardware and capacity building, which some AFW governments are starting to engage in. Specifically, these investments will entail (a) governments and service providers working closely with the private sector to provide devices and internet to students and teachers/trainers through sustainable and affordable schemes and (b) access to these technologies being accompanied by strong student, faculty, and staff capacity building with respect to the use of the technologies. In Senegal, the government is providing students in public higher education with free on-campus internet and access to 5 gigabytes of data per month

⁶¹ These job-related competencies include communication, preparation of CVs, digital skills, and entrepreneurship.

Box 6.9. Innovative Examples of Youth Skilling Initiatives and Programs Attuned with Industry Needs

Educate! The Educate! initiative uses a scalable model in working closely with governments, schools, and youth to implement its programs (<u>https://www.experienceeducate.org/</u>). The initiative works in three ways. First, it works with governments on systems-level adoption of skills-based education and employment solutions. As the largest youth skills provider in East Africa, the initiative has worked with governments and schools in Kenya, Rwanda, and Uganda to integrate core components into the national curricula. Second, it also partners with schools to support transferable and entrepreneurial skills training in schools. Third, the initiative provides industry- and group-specific skills bootcamps for out-of-school youth (those who cannot access secondary school).

Educate! helps youth acquire transferable skills like critical thinking, creativity, and communication in addition to entrepreneurial skills. The initiative reports that its training leads to improved soft skills, increased secondary-school completion rates (25 percent increase in university enrollment for young women), more youth selecting STEM and business majors, delayed fertility (21 percent less likely to have a child), reductions in risky behavior, and declines in intimate partner violence. Results from a quasi-experimental evaluation covering the 2015–17 period, conducted toward the end of the secondary education of participants, found that participants (a) had a 95 percent (244 percent for girls) income increase, compared to a comparison group; (b) were 50 percent (113 percent for girls) more likely to be employed, compared to a base of 17 percent; and (c) were 44 percent more likely to own a business (91 percent for girls). The initiative's vision for 2024 is to measurably impact 1 million students and reach 4 million students more broadly across Africa each year. Long term, Educate! aims to fully incorporate its skills-based education model into national education systems across Africa. The initiative can reach a large number of youth at low cost as its model uses existing school infrastructures; makes use of exceptional Educate! graduates (mentors); and uses innovative technologies to deliver, manage, and monitor results. The initiative also invests in rigorous evaluations.

Sèmè City. Sèmè City is Benin's international knowledge and innovation city (<u>https://www.semecity.bj/</u><u>en/</u>). It aims to educate youth for future jobs across technical and vocational education and training, higher education, and lifelong learning; ensure the production of scientific research results with an intended impact; and support high-growth entrepreneurs in Benin.

Sèmè City is already operational in Cotonou. Its first programs have been developed with leading international partners and leverage peer-to-peer teaching (coaches, no teachers); project-based learning; real-world/hands-on projects; and a design-thinking approach in its coding and design schools. One of the main attractions is its ability to mix academic institutions, research labs, and a new business incubator that has already supported over 1,000 start-ups.

Sèmè City's main site is being developed on 336 hectares in Ouidah, a peri-urban area. This smart eco-city will provide students, researchers, and entrepreneurs with a stimulating and unique environment using innovative solutions for renewable energy, eco-construction, mobility, waste management, circular economy, and urban agriculture. The aim is to position Ouidah as one of the first "living labs" in West Africa experimenting with innovative solutions, ensuring job creation and skills transfer, and putting data and technology at the city's service.

Sèmè City has been established with financial support from the World Bank and the French Development Agency, among several other partners.

Box 6.10. Innovative Education at Ashesi University (Ghana)

Ashesi University (Ghana), in addition to its strong technical courses, has received international recognition for its innovative multidisciplinary curriculum aiming at developing critical thinking, leadership skills, ethical reasoning, and effective communication skills (https://www.ashesi.edu.gh/). Since graduating its first batch of 30 students in 2002, the young private, not-for-profit institution has grown to a total enrollment of about 1,300 students. Ashesi University was among the first African higher-education institutions to combine the liberal arts and sciences with professional majors to serve the purpose of educating entrepreneurial leaders with a strong ethical commitment. In 2017, the Qatar Foundation's World Innovation Summit in Education awarded the founder of Ashesi, Patrick Awuah, its Prize for Education in recognition of how Ashesi's innovative curriculum is empowering Africa's youth. At the heart of the Ashesi experience is an interdisciplinary core curriculum; a strong emphasis on experiential learning; and a campus culture emphasizing ethical behaviors, leadership, and sustainability.

while off-campus, which is possible due to an agreement between the Ministry of Higher Education and SONATEL—the country's principal telecommunications operator (Bashir 2020).

Research and education networks can be powerful instruments for experience sharing and pooling of research and ICT resources. In several countries around the world, national research and education networks have scaled up their ICT-related support to educational institutions (including schools) and served as critical conduits for collaboration and sharing of digital resources. However, in AFW, the few networks that exist are barely functional owing to the lack of funding, cost of high-speed broadband, and gaps in technical capacity. Few TVET and tertiary education systems in the region are connected to reliable existing national research and education networks. Institutions do not have consistent budget line items supporting connectivity, computer labs, and the like. Removing these barriers can enable innovations and collaborations in teaching, learning, and research. National research and education networks play a vital, if still embryonic, role in AFW's systems of formal TVET and higher education. These networks connect students and faculty to an enormous and vibrant ecosystem of information, learning resources, and research outputs from across the globe. The networks serve as a body for securing their members access to more reasonably priced and secure broadband connections and other digital technology services and platforms (learning management systems, secured email, virtual private networks, video conferencing services, and so on [table 6.1]). The networks can also host high-performance computing equipment to support research that demands high-speed data-processing capacity and complex calculations (such as in bioinformatics, genomic sequencing, and climate change modeling). Implementing sustainable funding models and provision of technical support to strengthen the networks is a necessity.

6.5.3. Investing in Research and Development by Capitalizing on Regional Approaches

Although the region has many challenges with respect to unemployed, unskilled, and vulnerable youth and adults, it still needs in parallel a sufficient focus on research and development within the higher-education agenda. This focus will ensure that homegrown innovative solutions respond to and address the region's many pressing economic, social, and environmental challenges and that the region can improve its global competitiveness. However, investments in research and development and highly specialized skills training can be expensive for countries. The region has small, fragmented, and often siloed economies. Six out of the 22 AFW countries (four from the Sahel) are either land- or sea-locked. Natural resource endowments and human capital vary widely from one country to another. At the same time, the countries have shared challenges such as climate change, energy, water, food security, infectious diseases and many others already listed in this strategy.

	Types of Technology	Teaching & Learning	Research	Academic Management
Connectivity Technology	Computers / Internet / NRENs Remote connection to digital labs	J J	5 5	1
Individual Digital Technologies	Cellular phones and mobile applications Drones for remote sensing Satellite imaging Blockchain for secure microcredit & degrees 3D printing, AR/VR Online educational content AI and ML tools	✓ ✓ ✓	5 5 5 5	J J
Digital Platforms	Learning Management System/Online Educational Portals with Learning Resources (including MOOCs, microcredentials) Labor market information system Multi-device-friendly skilling and job platforms ICT-based management information systems for education	✓ ✓		J J J
Converging Technologies ⁶²	Al-driven personalized and adaptive learning Big data for formative assessment feedback Predictive analytics for identification of at-risk students Big data analysis and remote sensing	√ ✓	V	5 5 5

Table 6.1. Digital Technologies for Teaching, Learning, Research, and Management

Source: Skills and Higher Education Background Paper for the AFW Education Strategy (adapted from World Bank [2021f]).

Note: AI = artificial intelligence; AR = augmented reality; ICT = information and communication technology; ML = machine learning; MOOCs = massive open online courses; NREN = national research and education network; VR = virtual reality.

Regional integration and collaboration are therefore a vital lifeline for AFW. AFW countries can capitalize on regional approaches to share and consolidate resources in conducting research and in training the next generation of quality researchers and faculty in highly specialized skills. Regional approaches offer opportunities to harness each country's competitive advantages, benefit from peer-learning, and leverage economies of scale in efficiently facilitating cross-border mobility of knowledge, data, students, researchers, and faculty. AFW governments can crowd in resources and focus on key priority research areas such as climate change, ICT, health, renewable energy, and sustainable agriculture, building on the World Bank's implementation of the ACE project⁶³ (box 6.11) and the Regional Scholarship and Innovation Fund (under the Partnership for Skills in Applied Sciences, Engineering, and Technology). In forming a medium- to long-term agenda, AFW governments also need to consider steps toward building effective national innovation systems.

Thematic networks of researchers, where the collaboration may take the form of joint research activities and joint training and education programs, provide avenues for sharing limited resources in an effective manner. Examples of an existing regional education network includes the Partnership for Enhanced and Blended Learning. The main purpose of this partnership is to address the challenge of staff shortages. Today, the partnership consists of universities and technical partners based in the United Kingdom, Canada, and more than 20 African countries. The initiative is supported by the Foreign, Commonwealth, and Development Office of the United Kingdom. Members in West Africa include six universities in Nigeria and six in Ghana. Another example is the Regional Center of Excellence for ICT in East Africa funded by the

⁶² Converging technologies are the synergistic combination of four groups of technologies: information technology, biotechnology, nanotechnology, and cognitive technologies (World Bank 2021a).

⁶³ In AFW, the ACE project has supported Benin, Burkina Faso, Cameroon, Côte d'Ivoire, The Gambia, Ghana, Guinea, Niger, Nigeria, Senegal, and Togo.

Box 6.11. An Example of a Regional Intervention: The Africa Centers of Excellence

The Africa Higher Education Centers of Excellence (ACE) project. Western and Central Africa (AFW) was the first region, in 2014, to launch the highly innovative ACE project, a flagship project in higher education. The ACE project has since grown through a series of three manifestations (ACE I and ACE Impact in AFW and ACE II in Eastern and Southern Africa). It has supported more than 70 centers in more than 50 universities across 20 countries (11 from AFW) in Sub-Saharan Africa. In total, the World Bank and the French Development Agency have supported Sub-Saharan African governments with US\$587 million and US\$72 million, respectively. The ACE project seeks to build Africa's knowledge economy, train a highly skilled workforce, and improve applied research capacity in key thematic areas such as STEM (for example, energy, mining, water, and information and communications technology [ICT]); transport; education; environment (climate change); health; and agriculture. All of these areas are part of key sectors for Africa's development. As of January 2021, the centers across the series had enrolled almost 60,000 students (~20,000 Masters; ~5,400 PhD; and the rest in professional short courses); established 73 internationally accredited programs; led to over 7,000 research publications; and generated more than US\$140 million in external revenue. The centers were at the forefront of both the Ebola and Covid-19 crises in AFW in terms of genomic sequencing; mass testing and screening; public health campaigns; data provision for national- and regional-level public health policy making; and production of personal protective equipment (such as using 3D printing) and hand washing/sanitizing machines. Key lessons from the program include the following:

- Results-based financing has proven to be an effective tool in incentivizing behavior change related to key objectives within higher education.
- **Ownership and collaboration** at both the institutional and national levels and strong center leadership are key factors that determine the ability of centers to reach their targets.
- Links with the private sector are critical to knowledge transfer and integration of center graduates into their sectors.
- **Regional platforms** promote knowledge sharing, which ensures regular peer-learning and cross-border mobility and partnerships.
- Regional networks among various centers create a collective cognition of regional challenges and solutions leading to sustained collaborations beyond the project lifetime. Twelve thematic regional networks have been established by the AFW centers and their partners.
- **Centralized digital data collection** allows for a comprehensive and more efficient process for evaluating results and improves data quality from multiple centers.
- Investments in infrastructure and pedagogy for digital education are critical to advancing access, teaching, learning, and research goals in higher-education institutions.

ACE Impact (centers in AFW) and regional thematic networks. At the inception of the ACE Impact project in 2019, the French Development Agency committed to support, with a \in 6 million grant, four thematic regional networks under the project through an initiative called ACE PARTNER. The networks, which are a collection of centers, focus on health, water, ICT, and sustainable mining. Each network has an assigned a coordinator who sits at the lead center. As of January 2022, altogether, the networks have supported 38 fellows; funded 44 research and development programs (for mobility and joint research publications); and organized 10 thematic workshops (two being bootcamps for the ICT and mining networks). Members have participated in 10 international research workshops. Eight start-ups have been incubated via the 100% digital French Development Institute/Kedge Business School incubation program for the ACE

Box 6.11. An Example of a Regional Intervention: The Africa Centers of Excellence (continued)

project. Joint massive open online courses have been created for training, and €2.6 million has been raised from partners (mostly by the health network for COVID-19). The networks have also pulled in several partners (Atos, World Water Council, SEN'EAU, and Rockefeller Foundation, among others).

At the peak of the COVID-19 crisis, ACE Impact sought more opportunities for center collaboration across disciplines, faculty and student mobility, regional and international partnerships, joint grant writing, and development of online courses. Therefore, in 2021, ACE Impact competitively selected eight multidisciplinary thematic networks. Each selected network has received a seed grant of ~US\$100,000 from the World Bank regional grant, managed by the regional facilitation unit of the project (the unit is hosted at the Association of African Universities). The eight networks focus on sustainable engineering; transport and logistics; marine litter; energy; food safety; food security; digital education; and reproductive, maternal, and child health.

Note: ACE = Africa Higher Education Centers of Excellence; AFW = Western and Central Africa; ICT = information and communications technology; WANIDA = West African Network for Infectious Diseases.

German Government.⁶⁴ The center serves as a regional innovation hub supporting East African universities in providing technical skills that meet the needs of the private sector, public sector, and civil society stakeholders in the region's digital transformation. The ACE project, jointly funded by the World Bank and the French Development Agency, through which multidisciplinary regional networks have been established, serves essentially the same purpose. Considering the shortage of quality teaching staff, higher education in AFW would benefit from creation of more regional networks of this nature.

6.6. Fostering Sustainable Service Delivery

The fourth and final set of interventions focuses on fostering sustainable service delivery. With tight fiscal constraints continuing throughout the region, it is essential to ensure sustainable service delivery of programs in TVET; higher education; and upskilling of the existing workforce, especially in the public sector. Nontertiary-level TVET and nonformal education and training, including apprenticeships, have traditionally attracted the least amount of government spending; a reassessment and possible increase in allocations is in order. For tertiary-level TVET, higher education, and the existing workforce, fostering sustainable service provision will require measures to mobilize more resources and manage the cost of service delivery.

6.6.1. Diversifying Sources of Funding

Developing and maintaining high-quality skilling and higher-education systems requires substantial investments. No AFW countries have the financial resources to undertake this responsibility on their own. Innovative financing mechanisms that include partnerships with the private sector are required. Sustainable resource mobilization includes income generation through philanthropic donations; contract research; consultancies; continuing education, possibly in the form of professional short-term tailored courses for private clients, nongovernmental organizations, and the public sector; and increased tuition fees for those who can afford to pay. Participating in grant competitions can also provide new funding. For example, one center supported by the World Bank under ACE

⁶⁴ www.giz.de/en/worldwide/80869.html

I (2014–20) with an US\$8 million grant raised more than US\$100 million in additional funding through other international competitive grants. Experience suggests that financial incentives increase an industry's willingness to engage in skills development beyond its own immediate internal needs. Co-funding of programs by companies and governments is another common way to increase resource mobilization, both in TVET and higher education. In some countries, the government has introduced a shared funding model, whereby industry finances the costs of the on-the-jobtraining while governments finance the costs of the off-the-job training in TVET institutions (as discussed earlier with regard to formal dual apprenticeships). In other countries like Ghana, the Ghana Education Trust Fund is funded by a percentage of the national value-added tax to support tertiary education.

The fast-changing nature of work requires that the labor force has opportunities to constantly upskill or reskill to adapt to evolving market skills needs. Collectively, governments, training providers, and industry partners must prioritize strengthening of the skilling ecosystem so that funding is always available to support the lifelong learning of workers. Few AFW countries have effective lifelong learning systems. The capacity of institutions and companies to deliver short-term intensive training programs to address spikes in demand for specific skills needs should be boosted through funding sources like skills development funds (box 6.12). Often, private training institutions are more efficient at responding to emerging needs for upskilling. Most skills development funds are geared toward providing funding to employers for upskilling of their existing workforce, but some also target TVET training centers. In some countries, companies—depending on size and purpose—are required by law to pay a certain percentage (typically ~1 percent) of their payroll bill to a fund earmarked for training purposes. Payroll levies were first introduced in Brazil in the 1940s and then spread to other countries in Latin America and the Caribbean and other parts of the world, for example, Fiji, South Africa, Tanzania, and Mozambique (Palmer 2020). In some countries, governance of the funds may transfer to bodies that include representatives from government and industry partners, such as employers' associations and trade unions. For example, Singapore's Skills Development Fund under the Singapore Workforce Development Authority is governed by representatives of employers (seven seats), the government (four seats), and workers (three seats). Other skills development funds are typically funded by development partners such as the World Bank and offer competitive grants (often application based) to training centers/trainers.

When introducing co-funding mechanisms like the Skills Development Fund in Singapore, it is essential that those who finance the training levy have a say on how the funds are spent, governed, and managed to ensure that they feel they are getting value for their money. Successful and sustainable co-funded skills development funds also have (a) well-defined and regularly reviewed objectives and purposes; (b) a national revenue authority that collects the funds rather than the agency managing the training fund (in line with international experience, although countries like Singapore have done well outside this approach); (c) an updated database of levy-eligible employers and public data on the funds usage and accumulated surpluses (if any); (d) a reasonable levy rate (internationally ~1 percent of payroll bill of employers); (e) mechanisms in place to ensure that the planned direct allocation to training centers and/or employers toward training costs are met; (f) innovative approaches to allow employers in the informal economy to benefit from the skills development funds; and (g) considerations for allowing individuals to choose or buy training to encourage lifelong learning, especially by the existing workforce.

6.6.2. Promoting Performance-Oriented and Equitable Resource Allocation

Based on global experience, with respect to public allocations to TVET and higher education, linking allocations to performance indicators and key national objectives can make a substantial difference in the performance of institutions and may contribute to innovation and optimization of resource utilization. Based on global lessons, during allocation of public funds to TVET (especially tertiary level) and higher-education institutions, governments should consider eight guiding principles: (a) close alignment with national priorities, (b) explicit link to performance, (c) equity among all population groups, (d) consistency and compatibility among the various
Box 6.12. Variations in Skills Development Funds

World Bank-funded skills development funds. With funding from the World Bank, skills development funds are operating in several African countries, including Ghana, Tanzania, Sierra Leone, Uganda, and Rwanda. The funds aim to support the provision of demand-driven, short-term skills training. Typically, the target groups include workers in the formal and informal sectors, out-of-school youth, and TVET institutions interested in developing innovative training programs. The duration of the trainings varies from 1 to 26 weeks. Topics covered are very broad, from simple practical skills such as welding, cake-baking, and growing of avocados to beekeeping, use of computers for diagnostics by auto mechanics, aquacultural practices, and fashion design.

The funds are so-called challenge funds awarded based on applications. The applications are evaluated according to their labor market relevance and the capacity of the applicants. Usually, the funds receive two to three times more applications than they can finance. A Grant Committee with participation of private sector and government representatives has the mandate to select the proposals considered adequate for funding.

Experience shows that the funds have achieved excellent results in terms of stimulating innovative training programs and short-term skills upgrading in many different fields.

Singapore Skills Development Fund. Under the Skills Development Levy Act 1979 (<u>https://sdl.ssg.gov.</u> <u>sg/</u>), employers must pay a monthly levy for all employees rendering services in Singapore, including foreign employees and employees employed on a casual, part-time, or temporary basis. Domestic servants, gardeners, or chauffeurs are exempted from the levy.

The levy payable is at 0.25 percent of the monthly remuneration for each employee, with minimum and maximum payable amounts based on the earnings of the employees. All levies collected are channeled to the Skills Development Fund, which supports workforce-upgrading programs and provides training grants to employers when they send their employees to attend training under the national Continuing Education and Training system. The scheme allows the Workforce Development Agency (WDA) to fund its network of training centers. Currently, employers are eligible for subsidies covering 50–90 percent of course fees for WDA-supported courses and 75–97 percent of the cost of Ministry of Education–funded courses. The Skills Development Levy and Skills Development Fund are administrated by the SkillsFuture Singapore Agency.

Individuals cannot apply for the Skills Development Fund on their own. They must ask their company to sponsor them for training. Individuals can, however, apply for SkillsFuture Credits to pay for their training. The SkillsFuture Credits consist of credits that citizens can use to pay for out-of-pocket course fees for attending work-skills-related courses. The credits can apply on top of existing course fee subsidies provided by the government. The scheme is managed by the WDA.

Note: WDA = Workforce Development Agency.

financing instruments, (e) objectivity and transparency in the allocation process and criteria, (f) funding stability over a reasonable period of time, (g) allocation as a block grant, and (h) institutional autonomy and accountability (Salmi 2017; Arnhold et al. 2018). Governments should carefully consider their capacity to monitor results when considering these allocation mechanisms.

Policy Measure	Equity	Quality & Relevance	Research Output	Efficiency in Re- source Utilization	Resource Mobilization
Funding formula	1	1	✓	✓	-
Performance contracts	1	1	1	1	1
Competitive fund	1	1	1	-	-
Matching fund	-	_	-	-	1

Table 6.2. Impact of Funding Approaches on Policy Objectives

Source: Developed by the authors.

Governments can implement various types of performance-based allocations (either separately or in combination) with the above-mentioned principles in mind, including funding formulas, performance contracts, and competitive grants. Funding formulas are the most objective and transparent for allocating to recurring expenses. Governments can use mathematical formulas to incentivize institutions by tying resource allocation to important indicators (input and output) of institutional performance (such as student enrollment or research outputs). South Africa uses funding formulas to allocate public resources to higher-education institutions with equity-linked incentives incorporated into the formula (for example, proportion of Black students enrolled). Performance contracts are non-binding regulatory agreements negotiated between governments and TVET/higher-education institutions defining a set of mutual obligations. The government provides additional funding once the institutions meet the set performance targets. Chile has used performance contracts to trigger substantial progress of its institutions. The ACE project uses performance contracts (between governments and the universities) to incentivize performance of the centers. Competitive grants serve as an effective and flexible resource allocation mechanism for transformative investments. These grants can have different windows to which institutions can submit proposals for review and selection. Experience from Tunisia, Chile, and China confirm the ability of competitive funds to improve quality and relevance, pedagogical innovations, management, and revenue generation (through matching grants). Each of these three approaches or a combination of them can help address various policy goals (table 6.2).

AFW countries need stronger public financial management processes to improve the effectiveness and efficiency of public spending on education. Many AFW countries lack sufficient capacity to plan and allocate the budget to meet strategic sector objectives and execute the budget as planned. Major weaknesses include lack of capacity to track expenditures and control payroll and non-salary spending. Efforts to decentralize spending to local authorities or to individual TVET and higher-education institutions to improve the quality and relevance of teaching and training have succeeded in some settings but not in others. What matters is the adequacy and timeliness of funds and the capacity of the relevant authorities and managers to do their work. Thus, countries should build capabilities in financial management suited to their specific context to ensure efficient and adequate flows of funds in the system. To achieve effective and efficient allocation and use of public funding and better monitoring of results, AFW countries need greater management capacity and competitive recruitment; frequent training of senior ministry staff and heads of institutions; and stronger technical staff, including ICT, data management specialists, institutional researchers, and financial and procurement specialists.

6.6.3. Consolidating Service Delivery and Program Offerings to Manage Costs

Globally, the number of TVET and higher-education institutions has mushroomed, often without adequate control of the quality and relevance of the programs offered; while the increase of course offerings may ease access, especially for rural youth, it does not necessarily increase the range of specializations to choose from. Usually, the majority of institutions offer standard skills

Figure 6.5. Interventions to Build Job-Relevant Skills for All

(What?	Why?	How?
	Strengthen governance of skills provision	The skilling ecosystem is highly fragmented, is mostly informal, and has limited quality controls In place and thus is difficult to manage	 Reform traditional apprenticeships Formalize employers' roles in skills provision Enhance QF to diversify learning pathways and facilitate mobility
Ð	Dismantle barriers to skills acquisition including low foundational skills	Lack of equitable access to affordable, flexible, and quality basic education and skills programs is hampering expansion of a skilled workforce	 Support equitable access to remedial programs and bootcamps, e.g mass literacy and digital skills training Diversify student financing options Expand access to flexible, lower cost and high quality skilling options
	Manage service delivery for quality and relevance	Programs must adequately prepare youth for jobs in dynamic job markets and increase research outputs aligned with national and regional opportunities	 Develop job-oriented & entrepreneurship skills with industry participation Harness digital technologies and promote innovative pedagogies Invest in targeted R&D, leveraging regional approaches
¢	Foster sustainability of service delivery	Service delivery options should be designed to ensure they are efficient, viable, and long-lasting	 Diversify resource mobilization for sustainability (including for research and innovation) Promote performance oriented and equitable resource allocation

programs requiring low initial investments. Consolidation of the TVET and higher-education systems through mergers and fusions would allow better utilization of the available resources, especially when combined with sector specialization among the institutions, and reduce the excess supply of identical skills offerings. Improved capacity utilization would mean higher management effectiveness and lower unit costs. Rwanda Polytechnics is an example of the merger of a number of postsecondary TVET institutions with overlapping programs previously. It is an umbrella structure comprising the eight public Integrated Polytechnic Regional Centers. The merger has allowed concentration at the Rwanda Polytechnics level of a large number of administrative and development functions as well as better coordination of the course offerings by the individual polytechnics.

Ability to respond to the steady changes of the skills in demand requires the different levels of the TVET and higher-education systems to have a clear mandate and the capacity to fulfil their mandate with agility. Experience shows that empowering individual institutions with the right to introduce new courses, phase out those not in demand, and adjust the teaching staff accordingly has a significant positive effect on the performance of the institution. Management can achieve the best results when guided by an advisory board with participation from the business community and other local stakeholders.

6.7. Priority in High-Impact Interventions to Build Job-Relevant Skills

AFW countries are striving to transform their economies and pull their citizens out of poverty; build substantial capacity to develop local solutions to the many development challenges; and become globally competitive in a world that is increasingly interlinked, digital, and green. To achieve these goals, AFW's workforce development (existing and future) must be front and center in policy making and investments, with efforts including improving learning outcomes and widening access to education for girls and other vulnerable young people at the basic and secondary-education levels. Skills development or lack thereof touches all economic sectors. Hence, the Regional Education Strategy in this chapter has suggested four sets of complementary high-impact interventions for governments, skills providers, and the private sector. These interventions address what it will take to build job-relevant skills and research capacity in an inclusive and sustainable manner, namely strengthening the governance of skills provision, dismantling barriers to skills acquisition, managing service delivery for quality and relevance, and fostering sustainability of service delivery (figure 6.5).



7. Enhancing Implementation and M&E Capacity

Achieving the expected outcomes of this Regional Education Strategy calls for a deepening of capabilities to enable effective implementation and M&E. This chapter highlights capacity strengthening in three priority areas: (a) tax administration and PFM; (b) managerial and technical capabilities for policy and program design and implementation; and (c) data systems to drive evidence-based decision-making and course correction. In all three areas, growing capacity through learning-by-doing-with nationals working with technical experts rather than via ad hoc technical assistance-would embed new capabilities throughout the education system, enable dynamic decision-making, and enhance ownership of the reform agenda across all AFW countries. The scope and complexity of the actions needed call for urgency in developing and enhancing system-wide capabilities, including in decentralized offices and at lower tiers of government.

7.1. Strengthening Public Financial Management

Better public financial management, which is critical to this strategy's success, includes both more efficient tax administration—to enable more funding for education—and greater discipline in budget planning and execution—to ensure sound stewardship of the resources. As elaborated in chapter 3, the majority of AFW countries spend too little on education. For most of these countries, increasing public spending on education is more likely to be feasible through increases in the overall size of the public budget than through further increases in the (already high) share of the education sector in the national budget. Bigger public budgets must be coupled with tighter PFM to ensure that public budgets for education are deployed equitably and efficiently to achieve the expected results in learning outcomes, coverage, and labor market outcomes.

7.1.1. Improving Tax Administration to Enable More Public Spending on Education

Common tools to improve tax administration and tax payment can enlarge government coffers and enable more public funding for education in AFW countries. It is beyond the scope of this report to elaborate on the full range of options, but common tools worth consideration include systematization of taxpayer identification and registration, tax payment, and tax audits. The informal sector in many AFW countries is large, making an estimated contribution of at least 33 percent of the GDP (figure 7.1a). Accordingly, stepping up efforts to identify taxpayers, collect accurate information on them, and update tax registries would help enlarge the personal and corporate tax bases. A second tool is facilitation of tax filing and payment through e-services. Across world regions, the annual median time to pay taxes in 2020 is the longest in AFW, averaging 37 business days compared with 29 in Sub-Saharan Africa and just 19 in Middle East North Africa (figure 7.1b). The lengthier process in AFW suggests that its tax systems could be simplified, both to incorporate more taxpayers from the informal sector and to reduce the prevalence of tax avoidance, tax evasion, and other tax-related corruption. AFW countries might also take steps to improve risk management and tax compliance, including expanded use of third-party data to



Figure 7.1. Indicators of Constraints on Tax Collection in Western and Central Africa

Sources: Doing Business database, International Labor Organization Statistics Database, and estimates from Medina and Schneider (2018). Note: GDP = gross domestic product; RHS = right-hand-side axis.

assess the accuracy of tax returns and selection of taxpayers for follow-up attention.

Enhancing trust between taxpayers and the government is essential for success in collecting more tax revenues. This trust, according to Kouamé (2021), enhances taxpayers' compliance with the tax code and willingness to pay their dues (that is, it increases "tax morale"); this trust, in turn, is nurtured by actions the government takes to improve fiscal transparency and grant better access to fiscal data, including data at the local level for informed citizen engagement in government budget processes (Ali, Fjeldstad, and Sjursen 2014; Chen and Neshkova 2019; Montes, Bastos, and Oliveira 2019). With the open budget index averaging 29.9 in AFW in 2019, citizens and taxpayers would be better informed. Concerning corruption, although some AFW countries recorded some progress in this area, it remains a major issue: 46.6 percent of firms reported corruption being a major obstacle, and 17.2 percent of firms felt pressured to give gifts in meetings with tax officials in AFW during the period 2015–19. Corruption contributes to lowering both tax revenues and public spending efficiency.

7.1.2. Strengthening PFM to Get More Value for Money

Strong PFM systems deliver more value for money by ensuring strategic allocation of public spending, fiscal discipline in budget execution, and effectiveness in service delivery to achieve results. Misdirected public spending in education takes many forms, with examples including the following:

- Building schools without due attention to the location and number of intended beneficiaries
- Staffing schools without considering the number of students enrolled
- Bypassing competitive bidding in procuring textbooks and other pedagogical materials and equipment
- Continuing to pay teachers who are chronically absent from work and retaining on the payroll "ghost teachers" who may have died or who have been assigned to non-education duties (such as political work)
- Allowing materials procured for use in schools (such as textbooks) to be stolen and sold on the open market
- Allocating funds for wasteful perks (such as foreign travel or foreign service expenses).

The Public Expenditure and Financial Accountability framework offers an overall assessment of the room for enhancing PFM in AFW countries.65 The assessment is not specific to budget processes in the education sector. Nonetheless, the results in a few areas (such as medium-term perspective in expenditure budgeting, performance information for service delivery, payroll control, and internal controls on non-salary expenditures) highlight PFM weaknesses with likely adverse impact on education in AFW (see annex 2 for details on the assessment). On a letter scale ranging from A to D, 13 of the 15 AFW countries for which data were available scored D+/D on performance information for service delivery. On multiyear expenditure planning, which is critical for long-term efficiency gains, only Ghana and Burkina Faso received a B rating. Payroll control is weak throughout the region, with 13 of 15 countries rated at D+/D. This poor showing is concerning given the large share of public budgets absorbed by the wage bill for government employees, including teachers. Internal controls for non-salary expenditures fared somewhat better, with about half of the countries rated at B or higher.

*Tightening PFM of public budgets for basic education is critical because the bulk of such budgets flow to service providers as in-kind allocations rather than as budgets for each provider.*⁶⁶ As in most other countries, publicly financed primary and secondary schools in AFW receive resources for service delivery in the form of in-kind allocations of staff, textbooks, learning materials, and equipment. In some countries, schools may also receive small grants for locally relevant priorities managed at the school level (box 7.1, for example, outlines a program in Cameroon).⁶⁷ More discipline in PFM can help ensure that budgets, especially for basic education, are used strategically and effectively to achieve desired outcomes, including those outcomes given priority in this strategy. To this end, AFW countries could consider taking the following actions in a few key areas of PFM. First, strengthen the PFM of the payroll for teachers to address problems detrimental to teacher motivation and morale (such as salary arrears and delayed payment of salaries). Second, prioritize incremental resources for inputs that improve learning (for example, quality-enhancing, non-teacher-related inputs or additional staff in areas such as early grade instruction where staffing shortages are prevalent and particularly detrimental to student learning). Third, define and implement minimum service standards of service delivery (such as norm-based criteria to allocate teachers, learning materials, equipment, and infrastructure); this action should include formulas for budget transfers that consider not only population size but also indicators of poverty and other vulnerabilities.

Results-based financing—in which service providers receive budgets for meeting specific targets-can relieve service delivery bottlenecks and improve providers' performance under certain conditions. Its feasibility depends, for example, on the capacity of budget recipients to respond positively to incentives (Lee and Pedreira 2019). In Zambia, a results-based financing arrangement successfully increased the share of textbooks that actually arrived to schools in a timely manner (World Bank 2020a). To tighten the link between budgets and performance, Morocco is introducing performance-based contracts as part of the funding arrangements for the country's regional training academies (World Bank 2019b). In AFW, most institutions at the tertiary level (namely universities, polytechnics, and specialized training institutions) receive their funding as dedicated budgets.

⁶⁵ The Public Expenditure and Financial Accountability framework is a tool developed by seven partners (the European Commission, International Monetary Fund, World Bank, and the governments of France, Norway, Switzerland, and the United Kingdom) in collaboration with the framework's users and other international organizations (see www.pefa.org/). It provides a thorough, consistent, and evidence-based analysis of PFM performance at a given time and can be repeated to track changes over time. It was first published in 2005, then last comprehensively upgraded in 2016. The 2016 framework considers seven pillars of performance, which are assessed using 31 indicators that are further disaggregated into 94 dimensions. The seven pillars are budget reliability, transparency of public finances, management of assets and liabilities, policy-based fiscal strategy and budgeting, predictability and control in budget execution, accounting and reporting, and external scrutiny and audit. As of this writing, a tool for Subnational Government Public Expenditure and Financial Accountability assessment is being piloted.

⁶⁶ The discussion here draws on Bashir et al. (2018).

⁶⁷ Evidence on the school-based management of small grants continues to accumulate. In a meta-analysis of rigorous assessments of such interventions reported by Snilstveit (2016), small grants managed at the school level had little to no impact on learning in the three AFW countries—The Gambia, Niger, and Senegal—where this approach was attempted and rigorously evaluated. Bashir et al. (2018) noted that school-based management approaches are more likely to succeed when the population around the school—from which parents and teachers are drawn—is relatively well educated.

Box 7.1. Piloting Results-Based Financing through School Grants in Cameroon

In Cameroon, a pilot program on performance-based school grants showed improvements in student enrollment, teacher engagement, and transparency in management and budget issues. Each school in the pilot received an initial grant if it met certain initial preconditions including opening a bank account and signing a performance contract. The initial grant aimed to address underlying inequities by allocating additional funding to underresourced schools. The intervention then provided grants and teacher bonuses to schools for achieving simple targets related to student retention, teacher attendance, financial transparency, community satisfaction, and textbook use. The total grant ranged from US\$500 to US\$1,000, compared with a regular grant of US\$200. Of the total grant, 70 percent was used to finance the implementation of the school's action plan, and the remaining 30 percent was allocated to teacher and head teacher bonuses. The efficiency of these grants could be improved through direct payments to schools.

Cameroon's pilot project provides some vital lessons for the effective implementation of school-based grants. First, the success of school grants largely depends on how they are designed and implemented. In Cameroon, results-based financing shifted the focus to outcomes and aligned incentives to the achievement of those outcomes. Second, the size of the grant matters. Governments must find a balance between allocations that are adequate to implement school-level interventions and allocations that are affordable and sustainable. Next, school grants can enhance equity, establish minimum preconditions, and ensure availability of basic inputs in schools. School grant interventions must engage community members and put school-level accountability measures in place. Finally, direct transfers to schools can reduce leakages, improve time-liness of disbursements, and strengthen efficiency. The aim is to roll out the pilot to 3,000 public schools by 2023, and an accompanying impact evaluation will measure the effect of the grant on learning outcomes.

Source: World Bank 2019a.

7.2. Deepening Technical and Managerial Capabilities for Implementation

Enhanced capabilities in PFM and in working with decentralized entities and other collaborators matter if promising solutions are to succeed. Greater PFM capacity is needed to improve the efficacy and efficiency of public spending on education in AFW countries.⁶⁸ Many ministries of education lack adequate capacity to execute a budget as planned or even to plan in the first place budget allocations that will meet strategic objectives. Specific weaknesses include budget classifications that hinder meaningful tracking of expenditures, including intergovernmental fiscal flows; low predictability of funding for education, which impedes timely implementation of planned activities; and minimal controls on payroll and non-salary spending, which can lead to chronic lateness in paying teacher salaries. Efforts to decentralize spending to subnational units or to rely on school-based management of funds to improve education outcomes have succeeded in some settings but not in others. Building up AFW countries' PFM capabilities would address these challenges and help ensure efficient and fair flows of funds.

The capacity of the technical staff in education who have system-wide responsibility for core services to support the work of teachers and school managers must also be strengthened. In basic and secondary education, these services include curriculum development, examinations and student assessments, teacher training, and school inspection and supervision. Strengthening capacity in these domains in

⁶⁸ See Bashir et al. (2018) for a detailed discussion of the results summarized here.

a systematic and coherent manner is essential to creating high-performance systems. AFW countries would benefit from customizing promising innovations to local conditions and from developing a continuous process of iteration to absorb implementation feedback for improvement (Crouch 2020). In postbasic education, wherein service providers have more autonomy, system-level technical expertise relates to oversight of areas such as quality assurance, regulation of service providers, institutional performance, qualifications frameworks, and student finance. Throughout the system, building capacity does not always mean creating new institutions; it can also mean reorganizing existing entities for greater coherence and effectiveness. In Nigeria, many institutions support teacher training and instructional processes in schools, but with insufficient resources and sometimes-overlapping functions, these institutions are not yet sufficiently aligned to provide effective services for improving the overall learning system (Bashir et al. 2018).

Enlarging the managerial capacity of school managers and leaders of other education establishments would equip them to oversee day-to-day operations, assess needs, plan new programs, manage budgets, and so on. The best managers ensure effective use of resources (such as school-based grants and other locally mobilized funding); supervise, guide, coach, and motivate staff to do good work; foster a conducive workplace culture free of abuse; and engage with external stakeholders (Adelman and Lemos 2020). Research on eight countries associated a 1.00 standard deviation increase in management capacity in school managers-based on 20 management practices-with a gain in learning outcomes of 0.23 to 0.43 standard deviation (World Bank 2018). An increase of this size in Sub-Saharan African is comparable to the influence of structured pedagogy, the most impactful intervention among those thus far subjected to rigorous evaluation in the region (Bashir et al. 2018). Given managers' vital role, competitive and merit-based recruitment and career ladders to incentivize professional growth are critical factors. Experience with this type of reform in Peru in 2013 suggests that systematic training and coaching of managers, especially those in rural schools, also matters (Lemos and Piza 2020).

In all three areas noted above, capacity building will be critical to support AFW countries in their quest to improve education outcomes in the coming years. Given the limited success of past endeavors (see, for example, World Bank [2005] and [2009]), consideration of new approaches is warranted (see box 7.2). In particular, these approaches must recognize that many of AFW's ministries of education lack the capacity to integrate, align and tailor options for capacity development to fit their evolving needs in the course of policy planning and program implementation.⁶⁹

7.3. Strengthening Education Data Systems for Informed Decision-Making

Reliable education management information systems are essential to drive results and must be strengthened among both data producers and users. Strengthening the education management information system creates a culture of data-driven decision-making and can help ensure a closer match between resources and priority goals in education. Negotiations with the Ministry of Finance on budget allocations and execution, for example, require timely and accurate data on basic parameters such as enrollments, teachers, and implementation of the national curriculum. Data systems that provide disaggregated data-by schools, teachers, and students-can guide targeted actions and broader reforms to improve efficiency and fairness in service delivery. Sierra Leone's Education Data Hub exemplifies an education management information system that offers timely and easily accessible system-wide indicators (such as enrollments, staffing, school facilities, and examination results) as well as details on each school.⁷⁰ The website for the hub also includes features for interactive data exploration by users.

⁶⁹ Examples of current options for capacity development include courses and workshops offered by UNESCO's IIEP and Capacity Development for Education; the USAID's Early Grade Reading Assessments; and the World Bank's Open Learning Campus (<u>https://olc.worldbank.org/</u>), including its Independent Evaluation Group's initiative on Evaluation Capacity Development.

⁷⁰ See https://educationdatahub.dsti.gov.sl/.

Box 7.2. Toward More Effective Capacity Building for Education Outcomes in AFW

Two examples of successful multi-donor capacity-development partnerships—one for the financial sector and the other for disaster risk management—provide useful inspiration for new approaches to capacity building toward better education outcomes in AFW (Fredriksen 2016).

Example #1: Capacity development for the financial sector, via two complementary tracks

Regional technical assistance centers. These centers are part of a special initiative to improve the performance of economic and financial institutions (International Monetary Fund [IMF] 2020). As of 2022, a total of 17 centers are in operation around the world, nine of them established between 2002 and 2013, including five in Africa.⁷¹ Managed by the IMF, these centers are funded by donors, the IMF, and the host and beneficiary countries. The Regional Technical Assistance Center for East Africa (East AFRITAC), the first one in Africa—set up in 2002 and hosted by Tanzania—serves seven East African countries. Its Phase V (2020 to 2025) budget envelope of US\$59 million consists of US\$50 million from donors, US\$6 million from member countries, and U\$3 million from the IMF (IMF n.d.). A 2013 evaluation highlights East AF-RITAC's contribution to developing the capacity of member countries' finance ministries, central banks, revenue authorities, and statistical agencies (Fredriksen 2016). Tax administration is an added focus area in Phase V to help member countries achieve strong, sustainable, and inclusive growth and make progress on their Sustainable Development Goals and Financing for Development agendas.

Financial Sector Reform and Strengthening Initiative. This initiative, also known as FIRST, was launched in 2002 in the wake of the East Asian financial crisis with the aim of promoting financial sector reforms. An external evaluation found that by 2014, the initiative had benefited 115 countries since inception, including those in Sub-Saharan Africa, by enlarging the capacity of implementing entities in the financial sector "to produce development strategies, draft new laws and regulations, [obtain] institutional assistance, and run crisis simulation exercises" (Development Portfolio Management Group 2014).

Example #2: Capacity development for disaster risk management, via the Global Facility for Disaster Reduction and Recovery (GFDRR)

The GFDRR is a global partnership involving 34 donor countries and nine international agencies with a focus on building the capacity of low- and middle-income countries to reduce and manage risks stemming from natural hazards and climate change. Working with more than 400 local, national, regional, and international partners, GFDRR provides grant funding for technical assistance, training, and knowledge sharing in disaster- and climate-risk—management policies and strategies. In 2015, it offered \$70 million for such activities benefitting 89 countries. GFDRR's success in galvanizing multi-donor support with a focused agenda contains lessons for education sector capacity-building efforts in AFW.

Source: adapted and updated from Bashir et al. 2018.

Note: East AFRITAC = Regional Technical Assistance Center for East Africa; GFDRR = Global Facility for Disaster Reduction and Recovery; IMF = International Monetary Fund.

The latest technology also simplifies the collection of geospatial data that can further support informed decision-making in various areas. Examples include school mapping to assess the reach of remote learning systems and estimating the geographical distribution of out-of-school children. Several education projects in AFW countries struggling with FCV, for example, Nigeria and Cameroon, have started using the Geo-Enabling Initiative for Monitoring and Supervision tool for monitoring in hard-to-reach areas. In AFW's embryonic systems of postbasic education systems, education management information systems can adopt an initial focus on key indicators of provision (such as intake and graduates by field of study). These systems can then gradually broaden to include indicators of labor market outcomes as well (such as employment and earnings by field of study).

Given the severity of AFW's learning and skills crisis, improving national capacity to collect and use learning assessment data and track graduates' labor market outcomes is especially important. As the amount of high-quality data grows, capacity-building efforts must also equip data users—that is, policy makers, analysts, and other stakeholders—with basic data

literacy for monitoring both system performance and service providers' accountability. In basic education, the challenge is to use the data to guide the design and redesign of resources (such as scripted lessons and other tools for teaching at the right level) and related training programs geared toward helping teachers teach more effectively. In Edo State, for example, the World Bank is supporting the development of an education management information system that will include data on students' learning outcomes and customize support for teachers. At the postbasic levels, data on graduate employment and earnings provide a critical test of institutional effectiveness in equipping the graduates of TVET and higher-education programs with job-relevant skills. Systematic use of such data, complemented by information from labor market observatories and labor market forecasts, can help align program design to labor market opportunities and trends. In most AFW countries, however, capabilities in these data-related areas are nascent.

In all areas of capacity building, new approaches will be needed to institutionalize capabilities for improving the performance of AFW's education systems. Many ministries of education realize that low capacity is often the binding constraint on implementation and have invested accordingly.⁷² Experience highlights some critical blind alleys to avoid, such as overreliance on project-related technical assistance (which typically ends when the project closes), use of individual consulting services, and ad hoc training of individual government officials. A better approach is to invest in enlarging the pool of competent specialists trained through targeted programs adapted to the context of countries in the region. These programs should be hosted by AFW universities and other institutions, possibly via regional and international twinning programs in key thematic areas. Past efforts have also defined capacity constraints too narrowly as simply a lack of technical skills and competencies, paying insufficient attention to "soft" skills. Soft skills (such as coordination, change management, and consensus building) are key to navigating the organizational and political economy impediments to reform. This weakness can be addressed by creating venues for continuous peer learning, experience sharing, and cooperation among AFW countries.

7.4. Priorities for Enhancing Implementation and M&E

Achieving this Regional Education Strategy will require significant capacity for policy and program implementation and for M&E. Based on the foregoing discussion, figure 7.2 highlights key areas for attention in building this capacity. One priority is to boost the technical capacity of ministries of education in PFM and in education core services to guide and support teaching and learning. Increased capacity in these areas will ensure better management of financial resources for education as well as better use of the resources to provide more effective education services. A second priority is to equip the heads of schools and other educational institutions-those who operate at the frontline of service provision-with the capacity to lead and manage their staff and institutions effectively. In all areas, relying on local universities and diverse modalities can help embed the new capacities within the system, thus allowing AFW countries to institutionalize this critical component to improve the performance of the whole system. In view of the vital role of data in M&E and informed decision-making,

⁷¹ For details on these centers, see https://www.imf.org/en/Capacity-Development/how-we-work.

⁷² See Bashir et al. (2018) and Fredriksen (2016) for further details.

Figure 7.2. Enhancing Implementation Capacity

	What?	Why?	How?
	Deepen technical and managerial capacity in key areas among educators and policymakers	Weak capacity compromises understanding and ownership of education reforms and innovations and reduces service providers' agility in service delivery	 Equip heads of schools/institutions with management and leadership skills Deepen technical and operational capacity in core areas Use local universities and diverse modalities to embed capabilities within the system
ţ ţ ţ	Strengthen data systems to provide results-relevant information for monitoring and course correction	Lack of reliable and timely data makes it difficult to hold policymakers and service providers accountable for education outcomes	 Build a simple, reliable, fit-for-purpose EMIS Ensure routine collection and use of learning assessment data Use graduate employment as key performance indicator for TVET and HE.

Note: EMIS = education management information system; TVET = technical and vocational education and training; HE = higher education.

greater capacity is also needed to build and maintain a fit-for-purpose education management information system, one that not only provides reliable data to track key education outcomes, but also facilitates use of the data to improve system performance.

7.5. Navigating Cross-Cutting Challenges to Strengthen Education for Resilience

Education systems in AFW must effectively address multiple cross-cutting challenges that could impede progress toward the prioritized goals of this Regional Education Strategy. Key challenges include the COVID-19 pandemic and its aftermath; chronic FCV; and climate change.⁷³ AFW countries can leverage new technologies, especially digital ones, to increase the education sector's resilience against these challenges. Action in five areas warrant attention to help the education system regain its momentum in building human capital for growth and development (figure 7.3).

First, AFW countries must mitigate the impact of the COVID-19 pandemic on learning. The pandemic has laid bare the weaknesses of the region's education systems: millions of learners are unable to attend classes in person, and many remain stranded with few other options to continue learning. Protecting education spending will be critical. Equally important

is to ensure effective deployment of funds to reverse learning losses and dropout rates. Cash transfers and other financial incentives to support girls and other vulnerable population groups will be key to keeping them enrolled. Investing in low-cost remote learning and training teachers in technology can help minimize learning losses, improve teachers' pedagogical skills, and increase the education system's resilience to future shocks. TVET and tertiary education must be repositioned to scale up online learning rapidly, with an increased focus on equipping young people with skills for jobs. Local innovations in the region's universities have a role to play in the fight against COVID-19. The Genomics of Infectious Diseases center in Nigeria within the ACE project and the West Africa Center for Cell Biology and Infectious Pathogens in Ghana both serve as regional leaders in genomic sequencing of the COVID-19 virus and in national efforts to conduct mass testing and maintain pandemic control. Other ACE in Senegal and Nigeria have used 3D printing to produce facial masks and parts for locally made ventilators.

Second, countries in the region must recognize and reduce the high levels of endemic FCV. In some settings, the violence in and around schools has reached such high levels that regular schooling is no longer viable. As indicated earlier in chapter 5, AFW governments must demonstrate their commitment by signing the Safe Schools Declaration and promoting the Guidelines for Protecting Schools and Universities from Military Use during Armed Conflict. They must also

⁷³ See annex 1 for more details.

Figure 7.3. Navigating Cross-Cutting Areas to Rebuild Education for Resilience

(What?	Why?	How?
	Combat challenges of the COVID-19 Pandemic	Millions of learners are unable to attend classes in person and many still have few options to continue learning	 Protect education spending and use resources effectively Use financial incentives to support girls & vulnerable groups Enable low-cost remote learning avenues Train teachers on use of tech and new tools for remote learning Equip youth with skills for jobs in the depressed labor market Leverage universities to fight the pandemic through local innovation
	Address fragility, conflict, and violence issues	There is a high presence and magnitude of conflict and violence in the region	 Sign the Safe Schools Declaration and protect schools from attacks Enable schools operate safely through early warning signs and security protection Reduce drivers of conflict & violence through peace-building curricula
	Tackle climate change	Educational attainment is the single strongest predictor of climate change awareness and green jobs exhibit stronger intensity of high-level cognitive skills	 Develop education content, curriculums, and teacher training materials on local impact of climate change Provide skills training with a focus on green economy jobs Construct schools to be resilient against climate-induced shocks and use ecofriendly building materials Support universities to contribute to better education and research on climate change
	Adopt education technologies	Education technologies can boost education outcomes and improve systems	 Promote structured pedagogy through digital devices Develop virtual classrooms for purely remote or hybrid learning Provide digital skills for students for digital economy jobs Use EdTech to improve education data and management to facilitate better decision-making
	Harness cutting-edge innovation	Innovation has great potential to catalyze change in education systems	 Test and evaluate innovative solutions (blockchain to track expenditures for accountability, machine learning to prevent dropout artificial intelligence and behavioral sciences to shift social norms, adaptive learning, and virtual reality)

Source: The World Bank

Note: ACE = African Higher Education Centers of Excellence; AFW = Western and Central Africa; FCV = fragility, conflict, and violence.

go beyond advocacy alone to ensure that schools can operate safely (thanks to early warning arrangements and robust security protection, for example) or offer other options for learning in case of disruptions (such as pop-up schools, learning circles, remote learning, use of religious spaces and other venues less vulnerable to attacks). Widening access to secondary, tertiary, and vocational education and expanding job opportunities are also critical to help prevent youth from joining extremist organizations and engaging in violence. In higher education, conflict studies can deepen understanding of the dynamics of violence, and leadership training to build negotiation skills can help promote substantive and effective engagement in peacebuilding. The school curricula can also incorporate material to encourage peaceful behavior among children and youth.

Third, AFW countries must act to reduce the adverse impact of climate change on education through strategies for adaption and mitigation. Educational attainment is the single strongest predictor of climate change awareness and perceptions of its risks (Lee et al. 2015); exposure to climate-specific courses can lead young people to adopt climate-friendly behavior.⁷⁴ Climate change is also altering the landscape of jobs and skills. New jobs in the green economy will require more cognitive skills (Consoli et al. 2016) as well as technical expertise in many areas of rising demand (such as disaster management, water conservation, and green

⁷⁴ Cordero et al. (2020) found that students who attended a year-long university course on climate change each reduced their annual carbon emissions by 2.86 tons of carbon dioxide.

technology). Some AFW universities are responding with new programs and research. The ACE project in Ghana, for example, is researching and developing integrated solutions to coastal degradation. Institutions in Côte d'Ivoire and Senegal are making similar efforts to strengthen education and applied research in basic STEM fields that can offer insights for tackling climate-related issues (including water and electrical engineering, transport and logistics, environmental sciences, and climate-adapted agriculture). Broader initiatives also need to create curricula for teaching the public and students in schools about climate change and life skills for adaptation and mitigation (for example, recycling, water harvesting, tree planting, adjusting consumption habits, and changing transportation choices). In today's era of climate change, training teachers and others to carry out evacuation protocols in the event of emergencies is critical; at the same time, decisions about school construction must aim to increase resilience to climate-induced shocks by taking explicit measures to minimize exposure to heat, wind, flash floods, soil erosion, and other problems.

Fourth, AFW countries must consider leveraging the potential of educational technologies to improve education outcomes. This potential exists in at least four areas:

 Using digital devices to support structured pedagogy. In South Africa, for example, virtual coaching using digital lesson plans proved to be as effective as on-site coaching in boosting teachers' instructional practice and students' literacy outcomes (Kotze, Fliesch, and Taylor 2019).⁷⁵

- Conducting a portion of instruction at post-primary levels via virtual classrooms through remote or online arrangements (Twinomugisha 2019).
- Requiring all tertiary-level students to acquire digital skills to equip them for job opportunities in the digital economy. AFW countries can leverage economies of scale through regional initiatives in digital skills training programs (such as through the World Bank's ACE projects in The Gambia).⁷⁶
- Mobilizing the power of educational technology to improve education data and management systems. Improved systems will support data-driven policy development and implementation (as in Liberia's latest school census exercise).

For the benefits in all four areas to materialize, governments in AFW will need to invest in reliable and affordable electricity and digital infrastructure (including internet connectivity and devices).

Fifth, AFW countries must explore and adapt cutting-edge innovations for application in education. While advanced technologies will not be relevant or even feasible everywhere in AFW, their potential to enhance the performance education systems in the region is clear. Examples include blockchains to track education expenditures; machine learning to identify and protect students, especially girls, from dropping out of school (Adelman et al. 2018); adaptive learning to increase student learning (Muralidharan, Singh, and Ganimian 2019); and virtual reality to develop job skills.

⁷⁵ World Bank operations in Nigeria's Edo State, Rwanda, and Liberia are supporting the approach.

⁷⁶ The College of Engineering at Kwame Nkrumah University of Science and Technology (Ghana) is providing technical assistance to The Gambia through the ACE project with setting up a university that will offer applied science, engineering, and technology programs.



8. The World Bank's Education Portfolio in AFW

This chapter reviews trends in the World Bank's education portfolio in the region, the portfolio's performance, and the lessons learned. Based on lessons learned, the chapter presents guiding principles to enhance the effectiveness of the World Bank's portfolio toward achieving the objectives of the Regional Education Strategy. These principles include the use of country classifications to better tailor the strategy's high-impact interventions to the context of each AFW country.

8.1. Portfolio Analysis and Lessons Learned

The World Bank, the largest development partner, is working on education programs in more than 80 countries. The World Bank approved more than US\$66 billion in financing for education over the last two decades. Its current portfolio includes 180 projects worth US\$23.3 billion, constituting 8 percent of total World Bank lending. In fiscal year 2020/21, the World Bank approved new commitments of US\$6.3 billion for education, the largest amount ever recorded (World Bank 2021b). New commitments have since increased even further with the response to the COVID-19 pandemic. In addition, the World Bank is the implementation agency for more than half (54 percent) of the Global Partnership for Education's grant portfolio (US\$1.95 billion of US\$3.62 billion in active grants).

The World Bank's growing education portfolio supports AFW countries in responding to their education needs. The current portfolio, as of January 2022, comprises US\$3.76 billion of operations already underway and another US\$1 billion being prepared (by the International Development Association and the International Bank for Reconstruction and Development, among other institutions). Annual commitments have tripled since 2018. In AFW, new commitments to education reached US\$814 million in 2020 and US\$1.1 billion in 2021. The average was only US\$428 million from 2015 to 2019. Part of the recent increase in new commitments has stemmed from the World Bank's stronger emphasis on investing in people under its Human Capital Project, which launched in 2018, and its Africa Human Capital complement, which launched in 2019. The World Bank made most of the commitments under the International Development Association, not only because most countries in the region are eligible with the association, but also because some operations benefiting middle-income countries may also be eligible, for example, if they target poor areas (this was, for instance, the case for one large operation in Nigeria in 2017 with a commitment of US\$611 million). The AFW portfolio has also grown in relative terms. Although the AFW-approved operations represented only 9 percent of the total commitments in 2018, the value grew to 18 percent in 2021. International Development Association projects tend to be much larger (US\$111 million each on average) than International Bank for Reconstruction and Development projects (US\$63 million each).

More than a third of the investments underway support basic education (figure 8.1); the rest are for skills development, secondary education, higher education, sectoral reforms, and programs targeting early childhood education. The pipeline has a stronger focus on secondary education and skills, but basic education is still important. Some of the most recent projects aim to help countries cope with the adverse impact of the COVID-19 crisis on education.

Fiscal Year	IBRD	IDA	Other Grants, incl. World Bank as a GPE Grant Agent	Total
2015	-	\$188.0	\$237.3	\$425.3
2016	\$100.0	\$145.0	\$40.8	\$185.8
2017	-	\$718.5		\$718.5
2018	-	\$295.0	\$34.4	\$329.4
2019	-	\$478.7		\$478.7
2020	-	\$768.0	\$46.3	\$814.3
2021	-	\$980.0	\$118.0	\$1,098.1

Table 8.1. World Bank Commitments to Education in Western and Central Africa,⁷⁷ 2015–21 (US\$ Million)

Source: World Bank operational data.

Note: GPE = Global Partnership for Education; IBRD = International Bank for Reconstruction and Development; IDA = International Development Association.



Figure 8.1. Size of Portfolio by Type, US\$

Source: World Bank operational data.

The analysis also showed a large increase in World Bank commitments for education in AFW, which has led to a larger active portfolio today (table 8.1). The World Bank remains the largest financier of education in the developing world. However, the World Bank investments are small compared with the total amounts the governments spend on education—even though Figure 8.2. Independent Evaluation Group's Overall Performance Ratings for Education Projects in Western and Central Africa, Fiscal Years 2009–20 (%)



Source: Independent Evaluation Group data.

a large portion of the governments' expenditures are on salaries. Thus, the implementation of the strategy requires governments to play an active role.

⁷⁷ The countries included in AFW are Benin, Burkina Faso, Cabo Verde, Cameroon, Central African Republic, Chad, Côte d'Ivoire, the Republic of Congo, Equatorial Guinea, Gabon, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Togo, Senegal, and Sierra Leone.

Fiscal Years	Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
			Quality	at Entry		
FY09-FY11	0	18	27	18	36	0
FY12-FY14	0	5	47	26	21	0
FY15-17	0	33	33	22	11	0
FY18-20	7	64	14	14	0	0
			Quality of World	Bank Supervision		
FY09-FY11	9	18	27	18	27	0
FY12-FY14	5	11	68	16	0	0
FY15-17	0	22	67	11	0	0
FY18-20	7	36	50	7	0	0

Table 8.2. Independent Evaluation Group's Additional Ratings for Education Projects in Western and Central Africa, Fiscal Years 2009–20 (%)

Source: World Bank operational data.

The performance of the AFW education portfolio has improved over time. Between 2014 and 2019, the Independent Evaluation Group rated 75 percent of the education projects in AFW as moderately satisfactory or better. There have been clear gains over time, with a decrease in the share of the projects rated moderately unsatisfactory or unsatisfactory, and an increase in those rated moderately satisfactory, satisfactory, and highly satisfactory, with these latter three ratings representing projects that meet minimum expectations (figure 8.2). Similar to overall project performance ratings, the Independent Evaluation Group ratings of quality at entry, project supervision, and M&E have improved over time as well (table 8.2 and table 8.3).

The use of results-based financing instruments in the education sector has increased but remains limited. The World Bank as a whole has increased so-called 'results-based financing' operations, including program-for-results financing and investment project financing with performance-based conditions. Results-based financing operations comprise 51 percent of the pipeline, with recent large operations such as BESDA and innovative programs such as EdoBEST using results-based financing. Nonetheless, its importance in the current portfolio is limited. Most AFW education operations still use traditional investment project Table 8.3. Independent Evaluation Group's Performance Ratings for Project M&E in Western and Central Africa, Fiscal Years 2009–20 (%)

Fiscal Years	High	Substantial	Modest	Negligible
FY09-FY11	10	20	40	30
FY12-FY14	0	16	68	16
FY15-17	0	56	44	0
FY18-20	0	86	14	0

Source: World Bank operational data.

financing. Results-based financing rewards countries for achieving agreed-upon results; once countries achieve the results, disbursements are made. In contrast, traditional investment project financing supports specific activities, with disbursement made specifically toward those agreed-upon activities.

The average size of operations using investment project financing with performance-based conditions has increased over time. From 2015 to 2018, the average size of new AFW education projects using investment project financing was systematically below US\$50 million. This average size increased to US\$60 million



Figure 8.3. Financing by Education Level, Active Portfolio (US\$ million)

Figure 8.4. Number of Projects by Education Level, Active Portfolio



Source: World Bank operational data.

in 2019 and to US\$90 million in 2020. There was a reduction in 2021 in the average size of projects in part because a number of comparatively smaller emergency projects were approved in response to the COVID-19 pandemic. But overall, the tendency in the region and in the World Bank more generally—is toward fewer but larger projects. This shift can help the World Bank more effectively manage its projects and also reduce

the transaction costs involved in preparing/providing

implementation support for more projects.

The subsector focus in the AFW education portfolio has been shifting from primary education to secondary education (figure 8.3 and figure 8.4). Though the World Bank has historically focused on primary education, its focus has shifted in AFW. Total commitments in the active portfolio are larger for secondary education than for primary education. Support for tertiary education and for workforce development and TVET, when combined, make the total amount allocated to higher education also quite a bit larger than the amount allocated to primary education. AFW is also increasing its commitments to early childhood

development and adult learning, which are relatively new subsectors for World Bank investments.

In terms of types of interventions, the commitments to teacher training, FCV focus, digitalization, and governance have been increasing, and investment in infrastructure remains important in the portfolio, highlighting the needs on the ground.78 Based on an analysis of project appraisal documents, table 8.4 and figure 8.5 highlight the main types of activities being financed.⁷⁹ Financing for tertiary education and skills is not disaggregated in table 8.4 and figure 8.5, but financing for other levels of education is disaggregated into 10 areas: teachers; safe schools; digital resources; disability and inclusion; finance (such as scholarships for girls' education); private sector support; infrastructure (such as building schools); governance (and systems strengthening, which includes financing for project implementation units hosted by ministries); community empowerment; and curriculum, textbooks, and language of instruction. Not surprisingly, financing for digital resources has increased in recent years. Among the 10 categories identified,

⁷⁸ These data are not readily available from the World Bank's operational database, so it will be necessary to read individual project appraisal documents to assess in more detail what exactly is being financed. Projects tend to be organized into a small number of components. In most cases, the amount of financing allocated in a project to a particular component is available, although the disaggregation of financing into amounts within subcomponents is often not available. Thus some simple rules should apply for tabulating the information. For example, consider a subcomponent worth US\$2 million that focuses on both teachers and infrastructure. In that case, unless more detailed information is available, it may be necessary to assume that US\$1 million is allocated to teachers and US\$1 million to infrastructure.

Fiscal Years	Teachers	Safe Schools	Digital	Disability & Inclusion	Finance	Private Sector
Amounts (US\$ million)						
FY15-16	72.2	0.0	13.7	29.7	175.7	33.5
FY17-18	224.1	0.0	17.5	125.0	40.8	113.8
FY19-20	123.5	15.8	56.6	33.8	74.8	27.9
FY21	206.2	99.5	121.6	51.7	111.6	0.0
Share, percent						
FY15-16	9.4	0.0	1.8	3.9	23.0	4.4
FY17-18	25.6	0.0	2.0	14.3	4.7	13.0
FY19-20	12.2	1.6	5.6	3.3	7.4	2.8
FY21	19.5	9.4	11.5	4.9	10.5	0.0

Table 8.4. Identifiable Financing Streams for Various Types of Activities, 2015–21

	School Infrastructure	Governance	Community Empowerment	Curriculum, Textbook, & Language	Tertiary & Skills	Total
Amounts (US\$ million)						
FY15-16	64.1	56.3	19.9	34.5	265.8	765.2
FY17-18	157.7	39.4	3.3	136.1	18.0	875.8
FY19-20	94.8	174.1	31.7	88.5	289.3	1010.9
FY21	134.1	112.0	77.6	56.8	88.9	1059.8
Share, percent						
FY15-16	8.4	7.4	2.6	4.5	34.7	100
FY17-18	18.0	4.5	0.4	15.5	2.1	100
FY19-20	9.4	17.2	3.1	8.8	28.6	100
FY21	12.7	10.6	7.3	5.4	8.4	100

Source: Based on a review of project appraisal documents.

the largest category of financing is for teachers—primarily for teacher training.

The share of financing allocated to education quality interventions vis-à-vis education access has been increasing. The data in figure 8.5 indicate that interventions form two categories: those that focus more on improving access to education (such as on disability and inclusion, finance, private sector support, and infrastructure) and those that focus more on improving the quality of the education provided and the management of the sector (such as on teachers, school safety, digital resources, governance, community empowerment, curriculum, textbooks, and language of instruction). As shown in figure 8.6, a larger share of commitments has gone to issues of quality versus issues of access over this period.



Figure 8.5. Financing by Types of Activities, 2015-21 (US\$ Million)

Source: Based on a review of project appraisal documents.

Figure 8.6. Approximate Shares of Financing for Access versus Quality (%)



Source: Based on a review of project appraisal documents.

Figure 8.7 examines the extent to which the active portfolio includes program components or activities targeting girls' education, a major priority in AFW. (For more on the importance of girls' education globally and in Africa, see Wodon et al. 2018a, 2018b). The analysis is again based on a detailed review of project appraisal documents, with activities targeting girls' education classified into three categories:

- Removing barriers to girls' schooling. Efforts include financing scholarships, stipends, and loans; providing safe transport and a safe school environment; and improving access, enrollment, and attendance.
- Promoting safe and inclusive schools. This category relates to learning in school, school health considerations, and efforts to reduce gender-based violence.
- Improving the quality of the education provided. Quality may improve through school clubs; gender-informed curricula; gender-sensitive pedagogy; menstrual hygiene management, hygiene, sanitation, and toilets for girls; programs promoting skills for life and labor market success; investments in STEM fields for girls; and other activities related to readiness for the labor force, jobs, and skills development.

All recent projects have components related to girls' education; this was not the case a few years ago. The wide range of different activities being implemented should provide useful lessons.

The objectives of the strategy will not be achieved by education practice alone; accordingly, AFW education projects are increasingly incorporating other practices. For instance, the Togo Employment and Opportunities for Vulnerable Youth project is a Social Protection and Jobs project that benefits from strong collaboration



Figure 8.7. Activities Related to Girls' Education, Active Portfolio

Source: Based on a review of project appraisal documents by the Gender Team.

with the Education Global Practice. Similarly, in Niger, the First Laying the Foundations for Inclusive Development Policy Financing project is a Development Policy Operation managed by the Macroeconomics, Trade, and Investments Global Practice, whose first pillar aims to improve the educational attainment of adolescent girls. There are also synergies with Health, Nutrition, and Population, such as through the Population and Health Support project in Niger, which aims to increase the use of reproductive health and nutrition services and to promote access to secondary school for girls. Collaboration is also strong with sectors such as the governance sector; the agriculture sector; and the water, sanitation, and hygiene sector.

8.2. Integrating Lessons Learned to Enhance the World Bank's Effectiveness

Building on its current portfolio of large and innovative operations and on good progress so far, the World Bank can and will do more in light of AFW's challenge es in education. The magnitude of these challenges demands an ambitious and transformative response, not only in how much the World Bank invests, but also in how it invests and engages and supports countries as they design and undertake critical reforms in education across the learning life cycle. Integrating the lessons of experience in designing the World Bank's operational support will be essential. The ways in which the World Bank will integrate eight lessons are highlighted below.

First, the World Bank will root the interventions it supports in previous lessons of what does and does not work. These lessons reside in World Bank operational experience (figure 8.8), the experiences of other organizations, and the most recent evidence. Central to determining what works is advisory services and analytics. Today, advisory services and analytics mainly focuses on early learning, public expenditure reviews, and human capital assessments. This focus will expand to include issues such as education and FCV, community-based approaches to education, educational technology and remote learning, teacher effectiveness, skills, adult literacy, tertiary education, and reviews of teacher unions via a political economy lens. The World Bank will help AFW programs to incorporate advisory services and analytics into their structure to ensure iterative and sustained engagement and to avoid proliferation of fragmented, supply-driven advisory services and analytics.

Figure 8.8. Word Cloud on Lessons Learned from Implementation Completion Reports



Source: Analysis of Implementation Completion Reports.

Second, the World Bank will prioritize innovative high-impact interventions in the region. AFW countries should place a premium on learning and innovation to accelerate change and, where possible, leapfrog to new solutions to longstanding problems. This approach will require a greater risk appetite, and when failures occur, the lessons should inform the design of new operations. Cutting-edge innovations to boost learning outcomes may be piloted depending on a country's appetite and capacity. Thus, the World Bank will help the region to adopt a problem-driven iterative approach to design, implement, and redesign operations. In a similar vein, the region should prioritize large-scale interventions and important reforms—including policy reforms—rather than operations that contain a multiplicity of small interventions.

Third, the World Bank will support regional approaches, especially in the poorest AFW countries, to facilitate peer learning and sharing of human capital, knowledge, and other resources. Regional approaches will allow for exploiting of economies of scale to lower costs and increase bargaining power and for creating cross-border mobility. Two World Bank– funded regional interventions are the higher-education ACE project and the TVET East Africa Skills for Transformation and Regional Integration Project. Similarly, the Sahel Women's Empowerment and Demographics Project, an initiative to increase women and adolescent girls' empowerment in the Sahel region, shows the importance of working across sectors at the regional level. Fourth, the World Bank will encourage a mix of financial instruments and increase the relative importance of results-based financing in the region. Program-for-results financing will ensure focus on results, particularly for delivering services and overcoming implementation constraints. When the changes concern developing an enabling environment for better education, Development Policy Operations will be prioritized. Overall, in the region, the World Bank will keep shifting the focus toward outcomes instead of inputs. New operations will emphasize achieving specific results rather than delivering specific inputs, as the latter do not always produce the desired outcomes.

Fifth, the World Bank will emphasize multisectoral interventions in the region. Tackling education challenges requires a problem-driven rather than a merely sectoral approach. Thus, the present strategy is not a strategy for the education sector alone, but rather a strategy to improve education outcomes, which requires collaboration across sectors. The Education Global Practice will actively collaborate with the Health, Nutrition, and Population Global Practice to ensure that children are well nourished, healthy, and ready to learn. Collaboration with Social Protection and Jobs will be sought to help tackle financial constraints to accessing education and to ensure smooth transitions between the educational system and the labor market. Working with governance will be essential in the design operations to address the institutional constraints that undermine effective service delivery. Partnership with other Global Practices such as Macroeconomics, Trade, and Investments will help ensure that there is enough fiscal space to invest in education. Overall, the strategy envisions the World Bank's Education Global Practice working closely with other Global Practices to foster a whole-of-government approach to enhance education outcomes throughout AFW. Beyond collaboration, this effort is about understanding that other sectors are equally important in implementing reforms to improve education outcomes. For instance, investing in water, sanitation, and hygiene facilities in schools is not just an addition to an education project but a crucial intervention to increase access to education for girls.

Sixth, in the region, the World Bank will have a strong focus on capacity building, which requires collaborative work that transcends the borders of the education **sector.** For instance, investing in public financial management, better M&E, more accountability, and more transparent procurement beyond the ministries of education is critical to achieve results at scale and to reach the intended beneficiaries in a cost-efficient manner.

Seventh, the World Bank will use clear and effective communications and engage with partners to maximize synergies. The World Bank will partner with other organizations to align efforts for maximum joint impact on outcomes, to the benefit of AFW countries; ensure sharing of knowledge and experience; coordinate financing; and avoid duplication. For the Sahel region and countries struggling with FCV, the World Bank will place special emphasis on coordination as well as robust integration of security and development activities. The strategy calls for added support to capacity-building priorities in key areas.

Eighth, the World Bank will increase its footprint on the ground to improve its own responsiveness, strengthen context specificity, and get closer to clients to better support them during projects. AFW, in turn, will increase and diversify its skill mix to strengthen expertise on critical areas such as educational technologies, digital skills, climate change and education, and education in fragile settings.

8.3. Using Country Classifications to Enhance the Responsiveness of World Bank Support

The Regional Education Strategy recognizes that although AFW countries share many common challenges in education, their high degree of heterogeneity requires World Bank support that is tailored accordingly. For this purpose, the strategy offers a country classification for use as a first step in exploring solutions adapted to the variety of country contexts in the region. In basic education, the criteria relate simply to enrollment coverage and learning outcomes. In postbasic education through TVET and higher education, coverage and learning outcomes continue to matter, but so do the prospects for the employment and earnings of graduates. The relevance of the priorities highlighted in this strategy—relating to strategic leadership, high-impact interventions, and capacity for implementation and M&E—differ for AFW countries grouped in this manner, as the summary in annex 4 shows.

8.3.1. Country Classification for Primary and Secondary Education

This strategy uses indicators for primary education as the entry point to create country groupings for use as a first step in enhancing the responsiveness of World Bank support to country conditions.⁸⁰ Regarding coverage capacity, two distinct groups emerge based on the primary gross enrollment ratio and the corresponding out-of-school rate, two indicators that together reflect a system's capacity to ensure educational access for this cycle of schooling. In the first group are countries with "Mature" education systems that are able to accommodate most of the primary-school-age population. The second group comprises countries with "Developing" education systems that need greater capacity; these countries cannot yet enroll everyone in the target age group, as suggested by gross enrollment ratios (though these have risen toward full coverage more recently) and out-of-school rates (which remain high). Within each group, the countries separate further into two subgroups based on the World Bank's Harmonized Learning Outcomes (HLO) data. In the first subgroup, recent trends in student learning indicate improvement. In the other, progress has lagged.

Applying explicit criteria to currently available data yields a snapshot of the distribution of the 22 AFW countries across the four groups.⁸¹ The snapshot, shown in figure 8.9, offers a useful first impression to inform the strategy's approach for country-level engagement. Namely, it contextualizes more detailed

⁸⁰ Two reasons motivate the focus on indicators for primary education: data availability and relevance. Data on coverage and learning outcomes—the two indicators used for the classification—are available mostly for primary education for most of the 22 AFW countries. Furthermore, the development of secondary education is closely tied to the progress in establishing a strong foundation in primary education.

⁸¹ As a snapshot—one based on currently available data—a country's group membership may change because of genuine shifts in the phenomena, improvements in the underlying data, use of new grouping criteria, or changes in all three areas. While the coverage-related indicators have benefited from international experience with collection and standardization over many years, those for learning that are standardized for cross-country comparison are of more recent vintage.



Figure 8.9. Country Grouping for Primary and Secondary Education, Western and Central Africa, 2019

Source: Analysis of data for the gross enrollment rate in 2005 and circa 2019, the out-of-school rate circa 2019; and trends in HLO data 2009–2019, as detailed in annex 3.

Note: The number in each dark blue block is a count of the countries in the indicated group; membership is defined by the criteria specified in table A3.1. CAR = Central African Republic; HLO = harmonized learning outcomes.

country-level or subnational assessments of priorities and program design along the following broad lines:

- Group 1 ("Emerged"). Countries perform relatively well on both coverage and progress in learning; they can build on this progress and aim to move learning outcomes closer to international benchmarks.
- Group 2 ("Emerging on Path A"). Countries have achieved full coverage but struggle to boost learning outcomes; those with fewer economic and political challenges than other AFW countries (for example, Ghana) can be expected with support, as needed—to make more effort to improve student learning.
- Group 3 ("Emerging on Path B"). Countries are still expanding each of their system's capacity to universalize access but are already making progress to boost student learning; the challenge is to ensure continued expansion of access without compromising learning outcomes in the process.
- Group 4 ("Delayed"). Countries lag on both coverage capacity and learning outcomes. Finding the right way to improve on both fronts will likely

require sustained experimentation and systematic learning from experience to identify the most effective pathways forward.

8.3.2. Country Classification for TVET and Tertiary Education

AFW countries are investing in skills and tertiary education to equip their people with the human capital to access desirable jobs and form a well-trained workforce that can boost economic productivity. The deployment of educated and skilled workers in economic production thus offers a useful basis for grouping countries in the region to frame this strategy's discussion on skills and tertiary education. Data availability, simplicity, and resonance regarding workforce utilization all guide the choice of the specific indicators presented below.

The country classification uses two indicators—employment in "better jobs" and internet accessibility—to capture the likely jobs outlook for postbasic education and training graduates. For employment, the indicator



Figure 8.10. Country Groupings for Skills and Tertiary Education, Western and Central Africa, 2019

Source: Analysis of data on rate of employment in "better jobs" and internet access, etc.

Note: Countries are grouped based on three criteria that are detailed in annex 4. Group 1 countries satisfy all three criteria; Group 2 countries satisfy at least two of the three criteria; Group 3 satisfy none or at most just one of the three criteria.

a/While CAR (Central African Republic) and Sierra Leone satisfy one of the three criteria, the other countries in the "Uncertain" group satisfy none of the criteria.

is the share of the working-age population (15-64 years) that works as paid employees or as employers (typically a tiny share), the same as in the World Bank's Human Capital Project.⁸² These jobs are deemed "better," both for the economy and for individuals, in that they tend to exist under arrangements wherein the work is likely to entail "a minimum of [task] specialization and organization, which helps boost productivity and allows for people to use their skills" more fully (World Bank 2020a, 115). The second indicator is a parsimonious way to incorporate a forward-looking consideration into the country classification. It is defined as the number of "unique" mobile-broadband subscriptions per 100 inhabitants.83 In today's technology-rich environment, the internet is at the core of the ecosystem for boosting economic productivity; it can help accelerate innovations using emerging digital technologies, connect buyers and sellers efficiently in the marketplace, and enable other connections (such as supply chains) that support the creation of better jobs. Internet accessibility also offers quick access to information to guide the design and delivery of training programs and the means to facilitate graduates' knowledge of and access to the better jobs.⁸⁴

Based on explicit criteria applied to the selected indicators, the 22 AFW countries separate into three groups vis-à-vis the likely jobs outlook: Favorable, Less favorable, and Uncertain.⁸⁵ Figure 8.10 shows the membership of AFW countries in the three groups. Because other diverse factors (such as tax policies and ease of doing business) that may affect the jobs outlook are not explicitly taken into account, some countries near the cutoff criteria for each group may in fact slide toward membership in an adjacent group.⁸⁶ Furthermore, because the AFW

⁸² The indicator is the same as the "better jobs" rate used to compute the World Bank's Utilization-Adjusted Human Capital Index. Excluded from "better jobs" are those held by people working "in subsistence own-account/family agriculture, [as] small scale traders, and [as] landless agricultural laborers" (World Bank 2020a, 115).

⁸³ This indicator was chosen because it is calculated and tracked as part of the Digital Economy for Africa core targets and due to its clarity and extensive coverage of AFW countries.

⁸⁴ As highlighted in the World Bank's Jobs for Economic Transformation initiative, the creation of better jobs requires a complex set of policies that work together to enable "more people [to] find work, ... [to] get better at what they do, and ... [to] ... move from low-productivity work (such as self-employment and unpaid family work in farming) to better, higher productivity jobs (such as wage employment in the manufacturing or service sectors)." For simplicity, the current classification focuses only on internet accessibility as a key asset in this process of economic transformation.

 $^{85\ \}mbox{See}$ table A4.1 for the precise specifications of the classification criteria.

⁸⁶ For example, The Gambia appears in the "Favorable" group based on the criteria used in the classification. But because the country has a weaker economy (and thus a weaker outlook for better jobs) than the other countries in this group, it may in fact fit better in the "Less favorable" group. However, such ad hoc adjustments are minimized to keep the classification criteria clear and transparent.

countries are compared only to each other, even those in the most highly rated group may still lag behind their peers in other regions in the prevalence of better jobs and internet accessibility. Bearing in mind these limitations, the classification can nonetheless offer a useful starting point for the World Bank's country-level engagement on investment in skills and tertiary education.

The three-way country classification highlights the importance and implications of situating investments in skills and tertiary education in the broader context of the jobs outlook. The groups capture, for example, the following broad nuances of emphasis in country-level dialogue:

- Group A ("Favorable"). These countries have the most favorable conditions in AFW. Taking advantage of these conditions, they might do even better, for example, by intensifying the use of digital technologies for innovation and job creation, further tightening the alignment between training and education programs and emerging job opportunities, and encouraging and enabling more youth to take advantage of such technologies to access better jobs.
- Group B2 ("Less favorable"). Countries in this group do well on some but not all aspects of the rate of employment in better jobs and internet accessibility. For example, although the Republic of Congo, Côte d'Ivoire, Gabon, Mauritania, and Nigeria exceed the regional averages for both indicators, they fall short on the rate of better jobs for their level of income. In such countries, efforts to correct this shortfall would help reduce the risk of underutilization of the future pipeline of skilled labor. At the same time, ensuring that investments in skills development and tertiary education are closely tied to emerging job opportunities takes on added importance.
- Group C ("Uncertain"). These countries do relatively poorly on both the rate of better jobs and internet accessibility, satisfying none or at

most just one of the three criteria considered. The four Sahel countries in this group-Burkina Faso, Chad, Mali, and Niger-are among the 10 poorest and least urbanized in AFW; they are also numbered among the region's seven most conflict-affected countries. These countries, as well as the others classified as having an "Uncertain" jobs outlook, face especially daunting challenges in setting priorities and discerning appropriate sequencing of actions to improve the conditions for better jobs creation. Investing in skills and tertiary education in these countries requires even more than the usual level of scrutiny to ensure relevance to each country's development agenda, responsiveness to employers' demand for skills, and adaptation to implementation capacity.

The country classification offers clarity on what key concerns in skills development and tertiary education—such as young people's transition into the workforce-need targeted inquiry and action. The share of youth age 15–24 who are NEET, a common indicator published by the International Labor Organization, captures possible difficulties in the schoolto-work transition among young people.87 Among AFW countries, the NEET rate ranges from an estimated 11 percent in Togo to 38 percent in Senegal, with a regional average of 24 percent in 2018somewhat lower than the regional average in other Sub-Saharan Africa countries, but comparable to the average in low- and middle-income countries elsewhere (figure 8.11). In all four countries in the "Favorable" jobs outlook group, the NEET rates are among the highest in AFW. Especially concerning is the apparent inactivity of well-educated youth in Ghana and The Gambia, where those with postbasic education account for some 40 and 28 percent, respectively, of the NEET population, compared with just 3 percent in Senegal. Although the contrast may arise from data differences, the gaps are sufficiently large to warrant further study to distill possible lessons from Senegal's experience, and explore

⁸⁷ The International Labor Organization's definition counts persons in the "in education or in training" group if they are enrolled in formal or nonformal education or training through institutionalized arrangements, but excludes those engaged in informal learning through informal arrangements (for example, for "learning that occurs in the family, in the workplace, in the local community, and in daily life, on a self-directed, family-directed, or socially-directed basis" [UNESCO Institute for Statistics 2018]). Because of the informality of socioeconomic and institutions in most AFW economies, it is conceivable that some youth included in the NEET category may in fact be undergoing some form of training (such as informal apprenticeships) under arrangements that fail to register as institutionalized training according to the data collection protocols.



Figure 8.11. Share of NEET Youth (Age 15–24) and Share with Postbasic Education, Western and Central Africa and Other Regions, 2018 or Latest Available Year (%) a/

Source: International Labor Organization STAT database for the share of NEET youth age 15–24 based on the International Labor Organization's estimate models for 2018 and analysis of the following national household surveys for the share of NEET youth with postbasic education: 2018 EHCVM for Benin, Burkina Faso, Chad, Guinea, Guinea Bissau, Mali, Niger, Senegal, and Togo; 2018 NLSS for Nigeria; 2017 EGEP for Gabon; 2016 GLSS-VII for Ghana; 2016 HIES for Liberia; 2015 HIS for The Gambia; 2015 ENV for Côte d'Ivoire; 2014 ECAM for Cameroon; 2014 EPCV for Mauritania; 2011 SLIHS for Sierra Leone; 2011 ECOM for Congo, Rep.; and 2008 ECASEB for CAR. a/ Data for only three of the AFW countries—Sierra Leone; Congo, Rep.; and CAR—cover the five years prior to 2018.

Note: AFW = Western and Central Africa; CAR = Central African Republic; LIC = Iow-income country; LMIC = Iower-middle-income country; NEET = not in education, employment, or training; SSA = Sub-Saharan Africa; UMIC = upper-middle-income country.

options for improving utilization of available human capital.⁸⁸ Among the rest of the AFW countries, Nigeria has indicators that stand out. Its high NEET rate (35 percent), combined with its high share (55 percent) of the educated in the NEET population (55 percent with postbasic education), signals a potential problem worth further attention, particularly in the context of a somewhat weak jobs outlook and skills mismatch.

8.3.3. Mapping the Strategy's Interventions by Time Frame, Country Context, and Education Level

Because AFW countries are highly heterogenous, they will require different packages of interventions to improve education outcomes (table 8.5). In all countries, strategic leadership and implementation capacity will matter, but the actions under these rubrics are likely to differ across countries. For example, some countries may need to engage in dialogue and consultation with key stakeholders to prepare the ground for crafting 'win-win' solutions and a communications plan to

⁸⁸ The fact that the three countries share similar NEET rates implies that the share of employed youth is also comparable. If further data analysis reveals large differences in the quality of jobs held by employed youth, the contrast provides yet another line of potentially useful inquiry.

Table 8.5. Priorities by Domain and Pillar of Intervention, with Time Horizons and Emphasis on Country Type and Level of Education

Domain	Pillar	Intervention	Time H (for re:	orizon sults)	Emphasis	on
			Short & Medium Term	Long Term	What Type of Countries? ${}^{\scriptscriptstyle a\prime}$	What Level?
Strengthening Strategic Leaders	ship for Long-Term Impact	Galvanize commitment to education priorities		×	All countries	All levels
Establish governance for conere Expand, or at least protect, fund	ence and accountability ling for education		×	All countries	All levels	
			×	All countries	All levels	
	Improving teaching	Transform the teaching profession	×		Groups 2 and 4	Primary and secondary
	מווח ובמנוווווס	Enhance students' readiness to learn	×		Groups 2 and 4	Early childhood development
		Provide learning resources and educational technology	×		Groups 2 and 4	All levels
		Teach at the right level and in a language children understand	×		Groups 2 and 4	Primary
		Promote regular learning assessments	×		Groups 2 and 4	Primary and secondary
	Expanding	Reduce the cost of education	×		Groups 3 and 4	Secondary
	opportunities	Inform parents and students	×		Groups 3 and 4	Secondary
Investing in high-impact interventions for quick wins		Shift sociocultural norms	×	×	Groups 3 and 4	Secondary
		Include vulnerable groups	×	×	Groups 3 and 4 and FCV countries	All levels
		Ensure safe learning environments	×		Groups 3 and 4 and FCV countries	All levels
		Increase the availability and accessibility of schools	×		Groups 3 and 4	Secondary
	Building	Strengthen governance of skills provision	×		Groups B and C	TVET
	Job-relevant skills	Dismantle barriers to skills acquisition	×	×	Groups B and C	TVET
		Manage service delivery for quality and relevance	×		Groups B and C	TVET
		Foster sustainability of service delivery	×	×	Groups B and C	TVET and higher education
Enhancing implementation capa	acity	Deepen technical and managerial capacity		×	All countries	All levels
		Strengthen data systems	×	All countries	All levels	

Western and Central Africa Education Strategy

sustain the support and interest of stakeholders. In other countries, funding for education is particularly inadequate, so the challenge is to leverage the leadership of top policy makers to release this constraint as a priority. In still other countries, teacher salary arrears present a binding constraint that must be addressed to create a supportive context for advancing the agenda to transform the teaching profession. With regard to capacity building, taking stock of existing capacity and implementation plans in relation to the reform agenda are necessary first steps. In some countries, for example, the organizational infrastructure for large-scale student assessment and for data collection are lacking, dysfunctional, or underfunded. Addressing this gap according to the needs and resources available is essential to ensure that the capacity built under these constraints is nonetheless institutionalized and sustained over time. With regard to the high-impact interventions to achieve short- and medium-term outcomes, some will matter more than others in the various country groups. But here too, the design options under each intervention will need to be adapted to suit the availability of financial and human resources to sustain the investment.



Annex 1: Implications for Education of COVID-19, Climate Change, and Cutting-Edge Innovations

This annex provides more detail on the challenges and corresponding actions needed in three cross-cutting areas with implications for education: the COVID-19 pandemic, climate change, and innovation.⁸⁹

The Challenges Posed by COVID-19 for Education

COVID-19 will exacerbate many of the challenges the region is facing. At the peak of school closures, an estimated 101 million learners across education levels in the region could not attend their classes in person. Yet remote learning is highly limited by the lack of internet access and the paucity of learning resources delivered through broadcasts and other media. Surveys during the pandemic showed that only half the respondents in Sub-Saharan Africa used some sort of remote learning, compared with 92 percent among those in Latin America and the Caribbean.

Evidence from high- and medium-income countries shows that COVID-19—related school closures have had negative effects on learning outcomes and increased inequalities (Maldonado and De Witte 2020; Engzell, Frey, and Verhagen 2020; Gore et al. 2021). COVID-19 has also led to economic downfalls. Empirical evidence from other countries shows that economic downfalls can increase dropout rates. For example, recent evidence from Ethiopia shows that the coffee price shock after the 2008 global financial crisis increased the school dropout probability of children age 15 and older by nearly 8 percent (Asfaw 2018). Similarly, during the 2005-15 recession in Brazil, the risk of dropping out was 8 percent higher for secondary students and 20 percent higher for tertiary students from households that experienced an economic shock (Cerutti et al. 2019). The effects will also be unequal. In Sierra Leone, when the schools reopened after being closed for almost an entire academic year during the Ebola outbreak, girls age 12-17 were 16 percentage points less likely to be in school than boys (Bandiera et al. 2019). These differential impacts also include higher rates of adolescent pregnancies and early marriages: out-of-wedlock pregnancy rates for girls age 12–17 at the onset of the crisis increased by 7.2 percentage points.

This Regional Education Strategy provides multiple interventions throughout the three domains to address the challenges posed by COVID-19. First, several of the interventions mentioned in the strategy are crucial to minimize dropout rates. For instance, multisectoral interventions will be key, including targeted cash transfers or financial incentives to support the most vulnerable households with a focus on girls. Information systems must be strengthened to detect those at risk of dropping out.

⁸⁹ As indicated earlier, fragility, conflict, and violence is another important area of cross-cutting challenges in AFW. However, as the issue has received attention in the body of the text, this annex does not discuss it further.

To recover the inevitable learning loss, many interventions are important. For instance, countries must scale up their remote-learning initiatives to create resilience for future shocks and remediate the learning loss. In addition to radio, television, and online platforms, countries can used interactive voice recording to reach even more students. This strategy will also support countries in their expansion of Read@Home programs.

Tertiary education can support school systems in the rollout of online learning. Universities can also unfold focused applied research and promote local innovation in response to COVID-19, for example, by focusing on how to address shortages in critical supplies and reduce supply chain disruptions. After the crisis, the role of technical and vocational education and training as well as tertiary education will be essential to ensure that young people have the skills to participate in a very depressed and demanding labor market.

At the end of the day, one of the most critical policies will be to protect education funding, which is also supported by this strategy. Any attempt to reduce education funding as a way to cut expenditures during the crisis will be counterproductive. Education is key not only to improving the well-being of this generation of children but also to generating medium- and longterm economic growth that will benefit future generations and putting the region on the path toward sustainable development.

The Implications of Climate Change for Education

Education can play a key role in mitigating and adapting to the effects of climate change in the region, both in the medium and short term. Mitigation efforts aim to tackle the causes and minimize the impacts of climate change, while adaptation considers how to reduce its negative effects, especially on people.

- In the short term, education projects could benefit from the following measures for incorporating adaptation as a subject:
- Curricula could include content on climate change adaptation, such as the local impacts

of climate change, flood responses, and water conservation.

- Skills training can focus on jobs for the green economy.
- Distribution of financial incentives to attend schools can incorporate criteria related to climate change, such as the vulnerability of different populations to climate shocks.
- Training materials for teachers can incorporate content on climate change adaptation. Training can also prepare teachers to carry out evacuation protocols at the onset of emergencies induced by climate change.
- Countries can invest in online, television, and radio-based learning, which is in itself a climate change adaptation activity. The installed capacity to deliver content through this format can ensure continuity of education even in the case of climate-related emergencies that make school attendance physically impossible.

Schools can be constructed to generate resilience to climate-induced shocks. For instance, the buildings can be located and oriented on sites according to climatic considerations to minimize solar heat; maximize use of prevailing wind direction; and ensure protection from flash floods, soil erosion, and water flowing downstream.

- Similarly, several measures can help with mitigation efforts:
- Curricula can include content on climate change mitigation, such as causes and impacts of climate change and activities that reduce, capture, or sequester greenhouse gas emissions.
- Life skills trainings can include ways to mitigate the impact of climate change, such as recycling materials, changing purchasing habits, and adopting good practices such as water harvesting and plantation drives.
- Cash transfers to encourage school attendance can incorporate messages to promote the use of low carbon green (clean) cookstoves by beneficiaries. This messaging could reduce pressure on forested areas; improve energy use, respiratory health, and lack of access to education; and protect the environment.
- Back-to-school campaigns and other education-related campaigns can include messages about climate change mitigation.

- Decisions on new school locations can take into consideration alternative modes of transportation to reduce fuel consumption.
- Construction of new schools can incorporate ecofriendly materials and far surpass the prevailing energy efficiency standards in the project location.
- Teacher training can include climate change mitigation content such as energy conservation techniques.

The procurement and distribution of educational technology can strive to limit the potential damage to the environment, for example, by minimizing the use of batteries and prioritizing low-intensive energy devices.

In the medium term, the contribution of education to reducing climate change is undeniable. Many studies have shown that educational attainment is the single strongest predictor of climate change awareness, and an understanding of the anthropogenic cause of climate change is the strongest predictor of climate change risk perceptions (T. Lee et al. 2015). For instance, students who attended a one-year university course on such topics reduced their individual carbon emissions by 2.86 tons of carbon dioxide per year (Cordero, Centeno, and Todd 2020).

The role of the skills development sector is also crucial. Compared to non-green jobs, green occupations tend to require higher-level cognitive skills (Consoli et al. 2016). Education is the only way to build the skills to power the transition to green and resilient economies and jobs.

Several countries have made critical strides on this agenda. For instance, Korea has long offered an exemplary curriculum on environmental issues to secondary students, including education model schools and school-forest initiatives (S. Lee and Kim 2017). In the Philippines, the Dark Green Schools program offers a distinctive "whole institution" approach and accreditation system for environmental topics (Galang 2010). South Africa has launched skilling for green jobs initiatives with several partners (OneWorld Sustainable Investments 2017).

Finally, higher-education institutions are an important innovation hub for climate change solutions. For instance, the Africa Centers of Excellence project has supported many centers specialized in climate-related issues, such as the Regional Water and Environmental Sanitation Centre Kumasi in Ghana; the Africa Center of Excellence in Education and Research with Water, Energy, and Environment Sciences and Technologies in Burkina Faso; and the Center on Climate Change and Agricultural Biodiversity in Côte d'Ivoire.

The Potential of Cutting-Edge Innovations for Education

- Addressing the education crisis in Western and Central Africa requires pushing boundaries and testing innovative solutions that, even though they may not yet have been evaluated, have great potential to catalyze change in education systems. These interventions will be accompanied by rigorous impact evaluations that will allow practitioners to learn and scale up the successful solutions. Innovative interventions that cut across the different pillars of this strategy include the following:
- Improving governance and education finance efficiency using blockchain. Blockchain can help ensure that education financing is transparent, accountable, and reaches the intended beneficiaries. Tracking expenditures and responsible entities using blockchain can have profound effects on the efficiency of education finance.
- Increase access and reduce dropouts using machine learning. Machine learning can use administrative data to predict dropouts and consequently target interventions to those at risk. Evidence from Central America shows that these models correctly identify 80 percent of sixth graders who will drop out within the next year, a performance better than that of other commonly used targeting approaches and models used in the United States (Adelman et al. 2018).
- Shift sociocultural norms using artificial intelligence and behavioral sciences. Some companies are developing bots created using artificial intelligence and behavioral sciences to interact with students in computer labs and shift social norms toward girls' education and early pregnancies. These solutions can provide an innovative way to shift

social norms while developing digital skills (Rascon n.d.).⁹⁰

Increase quality of education using adaptive learning. Rigorous evidence from India shows that computer-based adaptive learning platforms for secondary students can increase test scores while being cost-effective compared to traditional schooling models (Muralidharan, Singh, and Ganimian 2019).

Develop skills through virtual reality. Access to simulations, virtual laboratories, and virtual reality can help improve the quality of training and research programs and create realistic scenarios to practice skills in resource-constrained settings.

When using educational technologies, it is important to follow the principles established in the Africa Human Capital Plan: (a) put people at the center; (b) adapt, recognize, and harness the actions of diverse actors; (c) tailor approaches to the specific context; (d) start in the most challenging environments; (e) mitigate risks; and (f) prioritize technologies that support teachers. (The plan is available in full here: <u>https://www.worldbank.org/en/publication/</u> worldbank-africa-human-capital-plan.)

⁹⁰ https://sites.google.com/view/movies-and-mobile-nigeria/home.
Annex 2: Public Expenditure and Financial Accountability Ratings for AFW, 2016–21

The Public Expenditure and Financial Accountability program provides a framework for assessing and reporting on the strengths and weaknesses of public financial management (PFM) using a letter-grade scoring system (A-D). The 2016 Public Expenditure and Financial Accountability framework has 31 indicators under seven broad categories: budget reliability; transparency of public finances; management of assets and liabilities; policy-based fiscal strategy and budgeting; predictability and control in budget execution; accounting and reporting; and external scrutiny and audit. While the framework's indicators are not specific to the education sector, they provide insights into the PFM processes across the country that are also applicable to the sector. Four key indicators have been selected to understand PFM bottlenecks in Western and Central Africa (figure A2.1).

Performance information for service delivery is divided into four subcategories: performance plans for service delivery, performance achieved for service delivery, resources received by service delivery units, and performance evaluation for service delivery. Medium-term perspective in expenditure budgeting covers medium-term expenditure estimates and ceilings,



Figure A2.1. Public Expenditure and Financial Accountability Ratings on Key Indicators in Western and Central African Countries, 2016–21

Source: Constructed from Public Expenditure and Financial Accountability national assessment data accessed on October 28, 2022 at https://www.pefa.org/sites/pefa/files/bulk_downloads/assessments_1635418156.csv. Note: PEFA = Public Expenditure and Financial Accountability.

(Graphic continues on next page)



Figure A2.1. Public Expenditure and Financial Accountability Ratings on Key Indicators in Western and Central African Countries, 2016–21 (continued)

Source: Constructed from Public Expenditure and Financial Accountability national assessment data accessed on October 28, 2022 at https://www.pefa.org/sites/pefa/files/bulk_downloads/assessments_1635418156.csv. Note: PEFA = Public Expenditure and Financial Accountability.

alignment of strategic plans with medium-term budgets, and consistency of budgets with the previous year's estimates. The payroll control indicator measures the degree of integration of payroll and personnel records, management of payroll changes, internal control of payroll, and the existence of payroll audits to identify control weaknesses and ghost workers. Internal controls of non-salary expenditure measure the extent of segregation of duties that would allow the perpetration and concealment of errors or fraud, the effectiveness of expenditure commitment controls, and compliance with payment rules and procedures.

Annex 3: Country Grouping Criteria and Data for Primary and Secondary Education

This annex explains the criteria and underlying data used to separate the 22 countries in Western and Central Africa (AFW) into four groups as a first step toward improving the responsiveness of the World Bank's operations in primary and secondary education in the region.⁹¹ Following Bashir et al. (2018), the grouping relies on data for primary education to take advantage of the greater availability of standardized data for the 22 countries. The same classification is used for secondary education, both to keep things simple and to sustain focus on the still wide disparities across countries in primary schooling. The two cycles are closely connected, and problems of coverage and learning outcomes in secondary education often arise from inadequate attention to issues in the previous cycle.

Country classification criteria. Drawing on Bashir et al.'s (2018) study, the following groupings combine two coverage-related indicators—the gross enrollment ratio and the out-of-school rate—to place a country in the "Mature" or "Developing" groups (table A3.1). Based on trends in learning outcomes, the countries separate into two more groups: "Improving" or "Lagging."

Data on the gross enrollment ratio and the out-ofschool rate.92 For most countries in the region, data on the gross enrollment ratio, for both the base year (circa 2005) and the latest available year (circa 2019), come from the United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics. For Gabon, whose primary cycle comprises five grades instead of the six in all the other AFW countries, gross enrollment ratio is estimated by dividing the sum of enrollments in primary school and in the first grade of lower-secondary school by the population age 6-11 years old, with six being the start of compulsory education in the country.93 For a few countries, household surveys are used to estimate the gross enrollment ratio in order to align more closely with the period considered here.⁹⁴ The out-of-school rate is estimated from analysis of the latest available household surveys, supplemented by the Institute for Statistics data for countries without such surveys in recent years.

Data on learning outcomes. With increasing participation in international and regional student assessments through multiple rounds of data collection, systematic learning data have become more plentiful in recent years, including for AFW countries.⁹⁵ To

Primary education lasts six years in all countries except Gabon, where it lasts five years. Secondary education comprises two sub-cycles (a lower-secondary cycle of two to four years and an upper-secondary cycle of two to three years), with the two cycles combined in ways that produce a total of seven years in all countries in the region.
 The gross enrollment ratio is the total enrollment in primary education divided by the population in the primary-school age range. The out-of-school rate is the share

of children in the primary-school age range who are not attending school.

 $^{93\,}$ The Government of Gabon (2020) is the data source for these underlying parameters.

⁹⁴ For Nigeria, the 2018 Nigeria Demographic and Health Survey yields a gross enrollment ratio estimate for a later year than the currently available Institute for Statistics estimate, which is for 2016; for consistency, the gross enrollment ratio for the base year is also estimated from a household survey: the 2003 Nigeria Demographic and Health Survey. For similar reasons, the gross enrollment ratio for Guinea-Bissau uses data from the 2019 Multiple Indicator Cluster Survey to replace the currently available Institute for Statistics estimate, which is for 2010, and data from the 2006 Multiple Indicator Cluster Survey. For Sierra Leone, the earliest available Institute for Statistics data, which is for 2011, is replaced by the gross enrollment ratio estimate from the 2005 Multiple Indicator Cluster Survey.

⁹⁵ International standardized tests include the Trends in International Mathematics and Science Survey, the Programme in International Student Assessment (for reading in the secondary grades), and the Programme in International Literacy Survey (for reading in the primary grades). Scores from these tests are expressed in units with a mean of 500 and a standard deviation across students of 100 points.

Indicators	Mature Group	Developing Group	
Coverage a/			
Gross enrollment ratio, 2005	High	Low	
Gross enrollment ratio, 2019	High	Low	
Out-of-school rate, circa 2019	Low	High	
Learning outcomes	Improving	Lagging	
Harmonized learning outcomes, 2009–19 b/	Desitive Tree d	New York Treed	
Other assessments c/	Positive Trend	Negative Trend	

Table A3.1. Country Grouping Based on Indicators of Coverage and Learning in Primary Education

a/ Gross enrollment ratios are "high" if 90 percent or higher and "low" if below 90 percent. Out-of-school rates are "high" if 20 percent or higher and "low" if below 20 percent.

b/ Harmonized learning outcomes (HLO) show a "positive trend" if they rose in assessments conducted during 2009–19 at a rate of at least 0.02 standard deviation units; HLO show a "negative trend" if they fell at a rate of at least 0.02 standard deviation units. Changes in HLO ranging from a rate of no more than 0.02 standard deviation units to no less than -0.02 standard deviation units during 2009–19 show a "positive trend" if, in addition, the latest HLO score exceeds the AFW mean and a "negative trend" if it is at or below the regional mean. For countries with two HLO data points during 2009–19, the time lapse between assessments averages about five years. Gabon is an outlier with a gap of 13 years. Countries with short gaps between HLO data points (just two years for Ghana and Liberia) or with only one HLO score (Central African Republic, Mauritania, and Sierra Leone, all with below-average scores in the region) are classified in the "Lagging" group.

c/ Mainly national learning assessments, which are especially relevant for the countries in the region not in the Program for the Analysis of Education Systems, such as Ghana and Nigeria (more details are in table A3.2).





Sources: Gross enrollment ratio data from analyses of UNESCO Institute for Statistics data (http://data.uis.unesco.org, accessed April 29, 2021); supplemented by more recent estimates for Guinea-Bissau and Nigeria based on household surveys. The out-of-school rate is based on original analyses of the most recent microdata from the Demographic and Health Surveys (Benin 2018, Cameroon 2018, The Gabina 2020, Guinea 2018, Liberia 2019, Mali 2018, Nigeria 2018, Senegal 2019, and Sierra Leone 2019); Living Standards Measurement Surveys (Burkina Faso 2014, Gabon 2017, and Niger 2014); Multiple Indicators Cluster Surveys (Central African Republic 2019, Chad 2019, Republic of Congo 2015, Côte d-Ivoire 2016, Ghana 2017, Guinea Bissau 2019, Mauritania 2015, and Togo 2017; and Institute for Statistics data (countries without recent household surveys: Cabo Verde and Equatorial Guinea). Note: OOS = out-of-school rate; GER = gross enrollment ratio.

facilitate comparisons, both across countries and over time-specifically, by putting test scores from different assessments onto a common unit-the World Bank created a Harmonized Learning Outcome (HLO) database using the methodology described in Patrinos and Angrist (2018) and Altinok, Angrist, and Patrinos (2018). The current 2020 HLO edition of the database contains 668 country-time observations from 162 countries (World Bank 2020a).⁹⁶ Because very few AFW countries participate in international assessments, their HLOs are estimated based on regional assessment results (that is, Program for the Analysis of Education Systems [PASEC] for Francophone countries in AFW) or from the results of Early Grade Reading Assessment (EGRA). In brief, the estimation method takes advantage of the fact that countries like Ghana and Senegal took part in both international and regional assessments as well as in EGRA; their scores on these tests could be used to create "conversion factors" to translate a regional test score or an EGRA score to the HLO scale (which has a mean of 500 and standard deviation of 100). Given that assessments take place in different years in many AFW countries, trends are based on the average annual change in HLO scores.

Because the 2020 edition of the HLO database does not yet incorporate the 2019 PASEC test scores and its next update is scheduled only in two years' time, the 2019 PASEC scores are converted to the HLO scale using the same conversion factor as for the 2014 PASEC scores. The result allows for anchoring the change in learning outcomes between 2014 and 2019 for the PASEC countries in the two rounds of PASEC assessments.⁹⁷ For non-PASEC countries, the HLO data tend to rely on assessments of reading in the early primary grades rather than on assessments of reading and mathematics at the end of the primary cycle (table A3.2). For these countries, their placement in the country groupings also draws on trends in national learning assessments where available. For Nigeria, a new HLO score has been computed using data from the 2019 Nigeria National Learning Assessment, which tested students in fourth and eighth grade. The new estimate, based on the fourthand eighth-grade mathematics assessment, takes advantage of the fact that the assessment included released items from the Trends in International Mathematics and Science Surveys, which provides the basis for estimating a conversion factor to translate the 2019 assessment score to the HLO scale.

⁹⁶ As of this writing, an update of the database is planned every two years.

⁹⁷ Up until 2006, PASEC assessments took place on a rolling schedule, not always in the same year for all countries. For Gabon, the first PASEC assessment was conducted in 2006, and the second in 2019, a gap of 13 years. The score for 2006 is taken from the 2020 edition of the HLO database while the score for 2019 was computed using the method described above, thus providing two data points to compute the annual rate of progress in learning on the HLO scale. For Mauritania, only one PASEC assessment was conducted, in 2004; in the absence of other information, a conservative assumption was made to put the country in the "Lagging" group.

Country	Data Source a/		HLO score b/				
	Base year	Latest available year	Base year	Latest available year	Change per year (in SD units)	Intertemporal comparability of underlying assessment	
Benin	PASEC 2014	PASEC 2019	384	421	0.07	Acceptable	
Burkina Faso	PASEC 2014	PASEC 2019	404	414	0.02	Acceptable	
Cabo Verde	n.a.	n.a.				n.a.	
Cameroon	PASEC 2014	PASEC 2019	379	383	0.01	Acceptable	
Central African Republic	n.a.	EGRA-NR 2019		369		n.a.	
Chad	PASEC 2014	PASEC 2019	333	335	0.00	Acceptable	
Congo, Dem. Rep.	PASEC 2014	PASEC 2019	371	388	0.03	Acceptable	
Côte d'Ivoire	PASEC 2014	PASEC 2019	373	360	-0.03	Acceptable	
Equatorial Guinea	n.a.	n.a.				n.a	
Gabon	PASEC 2006	PASEC 2019	456	450	0.00	Acceptable	
Gambia, The	EGRA 2011	EGRA 2016	338	353	0.03	Modest	
Ghana c/	TIMSS 2011	EGRA 2013	318	307	-0.05	Modest	
Guinea	PASEC 2014	PASEC 2019	408	371	-0.07	Acceptable	
Guinea-Bissau	n.a.	n.a.				n.a	
Liberia	EGRA-NR 2011	EGRA-NR 2013	343	332	-0.06	Poor	
Mali	EGRA-NR 2009	EGRA-NR 2015	312	307	-0.01	Poor	
Mauritania	PASEC 2004	n.a.	342			n.a.	
Niger	PASEC 2014	PASEC 2019	305	351	0.09	Acceptable	
Nigeria d/	EGRA-NR 2014	NLA 2019	309	342	0.07	Poor	
Senegal	PASEC 2014	PASEC 2019	412	427	0.03	Acceptable	
Sierra Leone	n.a.	EGRA 2014		316		n.a.	
Togo	PASEC 2014	PASEC 2019	384	374	-0.02	Acceptable	

Table A3.2. Harmonized Learning Outcome Scores for Countries in Western and Central Africa, 2009–19

Source: For both the base year and the latest available year, the source is the 2020 edition of the HLO database (World Bank 2021), accessed on 3 May 2021 at https://dataatalog.worldbank.org/dataset/harmonized-learning-outcomes-hlo-database. Exceptions are the sources in the shaded cells whose data have yet to be incorporated into this database. For countries with 2019 PASEC data, the scores were converted to the HLO scale using the same conversion factor as for the 2014 PASEC scores. For Nigeria, results from the 2019 Nigeria National Learning Assessment were converted to the HLO scale.

b/ The HLO score is on a scale with a mean of 500 and a standard deviation of 100.

c/ Although Ghana's TIMSS results in 2003, 2007, and 2011 (which assessed eighth-grade students) show a consistent positive trend, the latest result for 2011 remains below the international mean. National assessments in the primary grades—in 2013, 2016, and 2018—suggest that learning has stagnated at low levels. This pattern, as well as the fact that the HLO score has declined (albeit based on different source data for base year and latest available year), suggests that the country belongs in the "Lagging" group. d/ Classification for Nigeria in the "Lagging" group is based on ISH LO score being below the regional average and the fact that Nigeria lacks strictly comparable learning assessment data in two points in time. The latest HLO score is based on NLA 2019. HLO have also been computed for Nigeria using EGRA in 2010 and 2014, but these assessments were based on samples that are not representative at the national level. The HLO score based on 2010 EGRA-NR was 325. This placement in the "Lagging" group is consistent with the pattern of relative stagnation in the five-yearly Nigeria Education Data Surveys conducted by the Nigerian Population Commission. The surveys test those age 6–15 for literacy, with respondents deemed literate if they are able to read one or more words in English or one of three national languages. Note: EGRA = Early Grade Reading Assessment; EGRA-NR = Early Grade Reading Assessment (non-nationally representative sample); n.a. = not available; NLA = National Learning Assessment; PASEC = Program for the Analysis of Education Systems; SD = standard deviation; TIMSS = Trends in International Mathematics and Science Survey.

Annex 4: Country Grouping Criteria and Data for TVET and Higher Education

This annex explains the criteria and underlying data used to separate the 22 AFW countries into three groups for the purpose of assessing programming priorities for technical and vocational education and training (TVET) and higher education in the region. As with the country classification for basic education, it relies on simple, parsimonious indicators and readily available data that capture, albeit imperfectly, the demand for better-educated and better-trained workers who are supplied mainly through formal TVET and higher education.⁹⁸ The classification is thus only a first step for crafting high-impact interventions for each AFW country. In every setting, more detailed information, whenever available, must be mobilized to adapt the interventions to local needs and conditions.

Country classification criteria. After considering various options and for reasons explained in chapter 7, two criteria were chosen that best capture the potential demand in AFW for higher-level skills.⁹⁹ The first is the Better Employment Rate, an indicator used in the World Bank's Human Capital Project and in its Jobs for Economic Transformation initiative. The second is the number of unique mobile broadband subscriptions per 100 inhabitants. Together, these indicators provide a transparent basis for separating the 22 AFW countries into country groups differentiated by the prospects for employment growth in the more modern sectors of the economy and, by implication, the demand for related skills.

Indicators, data sources, and criteria for classification.

Table A4.1 below summarizes the key indicators and data sources. AFW countries are grouped in three

Indicator	Definition	Data Source
Better Employment Rate	Number employed in better jobs divided by working age popula- tion (age 15–64).	World Bank Jobs Group's diagnostic and data site: <u>https://datatopics.worldbank.org/JobsDiag- nostics/;</u> supplemented by analysis of household
	Better jobs include non-agricultural employees (namely, wage earners) and employers, but exclude those working "[in] subsistence own-account/family agriculture, [as] small scale traders, and landless agricultural laborers" (World Bank 2020a, 115). ¹⁰⁰	surveys for Nigeria and Guinea-Bissau.
Internet access	"Unique" mobile-broadband subscriptions per 100 inhabitants	See note below.
Per capita gross national income	As per World Bank Work Development Indicator	World Development Indicators: https://data. worldbank.org/indicator/NY.GNP.PCAP.CD

Table A4.1. Indicators and Data for Country Classification for TVET and Higher Education in Western and Central Africa

Source: AFW Education Strategy team.

Note: World Bank estimates based on two data sources: number of unique mobile broadband subscriptions from GSMA (Global System for Mobile Communication Association), accessed with subscription at https://www.gsmaintelligence.com/data/; and population data from United Nations Population (2019), accessed at https:// population.un.org/wpp/Download/Standard/Population/.

⁹⁸ As elsewhere, AFW's TVET and higher-education institutions, especially in the public sector, are nascent and do not always provide excellent programs that equip their graduates with market- and job-relevant skills. AFW countries are thus working to improve them as part of the effort to develop the system to help young people acquire such skills.

⁹⁹ Options considered and discarded, mainly because of the lack of minimally reliable data for most of the 22 AFW countries, include enrollment-related indicators for TVET and higher education as well as population-related indicators for those in the not in employment, education or training category.

steps. In the first step, the countries are separated into two groups simply on the Better Employment Rate in relation to income: in one group, the Better Employment Rate exceeds the rate predicted for a country at its level of income, while in the other, the Better Employment Rate is no higher than the predicted level. In the second step, these countries are further grouped according to their Better Employment Rate in relation to the regional average (figure A4.1). The third step is to separate the countries into two groups based on the mobile subscription rate: the first group of countries has a rate above the regional average, and the other group of countries has a rate no higher than the average.

Country classification. With the foregoing distinctions, AFW countries fall into three groups as follows with respect to likely jobs outlook for TVET and higher-education graduates: favorable, less favorable, and uncertain (figure 8.10). In the favorable group are countries where all three conditions are satisfied: the Better Employment Rate exceeds the rate predicted based on per capita income, the Better Employment Rate exceeds the regional average, and mobile broadband subscriptions per 100 inhabitants also exceeds the regional average. In the group assessed as having a less favorable outlook, only two of these three criteria prevail. And in the

Figure A4.1. Relationship between Better Employment Rate and Gross National Income per Capita across AFW Countries, 2020



Source: Analysis of World Development Indicator for GNI per capita and Better Employment Rate data are from the International Labor Organization and JOIN database (accessed at <u>https://datatopics.worldbank.org/JobsDiagnostics/</u>) supplemented by analysis of household surveys for Nigeria (NLSS 2018) and Guinea-Bissau (EHCVM 2018). Note: BER = Better Employment Rate; GNI = gross national income; WCA = Western and Central Africa.

group with an uncertain outlook, at most only one of these criteria prevails; as figure 8.10 indicates, most countries in this final group satisfy none of the three criteria.



Figure A4.2. "Unique" Mobile-Broadband Subscriptions per 100 Inhabitants, 2020

Source: Digital Economy for Africa - GSMA SIMs Per Unique Subscriber (Feb 2021) / United Nations Population (2020).

Country	Better Emplo	Better Employment Rate		Country classification	
	Exceeds predicted value for income level	Exceeds the AFW average			
Cabo Verde	\checkmark	\checkmark	\checkmark	Favorable	
Gambia, The	\checkmark	\checkmark	\checkmark		
Ghana	\checkmark	\checkmark	\checkmark		
Senegal	\checkmark	\checkmark	\checkmark		
Gambia, The a/	\checkmark	\checkmark	\checkmark	Less favorable	
Cameroon	\checkmark	\checkmark			
Liberia	\checkmark		\checkmark		
Тодо	\checkmark		\checkmark		
Congo, Rep.		\checkmark	\checkmark		
Côte d'Ivoire		\checkmark	\checkmark		
Gabon		\checkmark	\checkmark		
Mauritania		\checkmark			
Nigeria		\checkmark	\checkmark		
CAR	\checkmark			Uncertain	
Sierra Leone			\checkmark		
Benin					
Burkina Faso					
Chad					
Guinea					
Guinea-Bissau					
Mali					
Niger					
Equatorial Guinea	No data	No data		Unclassified	

Table A4.2. Country Classification for TVET and Higher Education, Western and Central Africa, 2020

Source: Analysis of data on rate of employment in "better jobs" and internet access.

Note: The check marks indicate that the condition in the column heading has been met.

a/ Although The Gambia meets all three classification conditions, it nonetheless appears in the "Less favorable" group. Its placement in this group takes into consideration the authors' in-depth knowledge of the education sector in this country.

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