The Skills Balancing Act in Sub-Saharan Africa

Investing in Skills for Productivity, Inclusivity, and Adaptability

Omar Arias, David K. Evans, and Indhira Santos
Overview

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Contents

Acknowledgments vii
Abbreviations xi

Overview 1
Policy Framework for Skills Investments in Sub-Saharan Africa 1
Facing the Skills Balancing Act 4
  Focus on Foundational Skills 4
  Invest in the Technical Skills of Youth and Adults 8
  Enact Systemwide Change and Make Skills Building Everyone’s Business 14
Conclusions 15
References 16
The Skills Balancing Act in Sub-Saharan Africa: Investing in Skills for Productivity, Inclusivity, and Adaptability examines overarching trends that will shape Africa’s economies and drive the demand for skills; it also examines skills building over the three principal stages of the life cycle. The report is the product of a team effort, co-led by Omar Arias, David K. Evans, and Indhira Santos, with a core team comprising Moussa Pouguinimpo Blimpo, Můthoni Ngatia, Jamele Rigolini, Daniel Alonso Soto, Shobhana Sosale, and Shelby Frances Carvalho. It is structured as follows:

Chapter 1. Skills and Economic Transformation in Sub-Saharan Africa
Chapter 2. Developing Universal Foundational Skills in Sub-Saharan Africa
Chapter 3. Building Skills for the School-to-Work Transition in Sub-Saharan Africa
Chapter 4. Building Skills for Productivity through Higher Education in Sub-Saharan Africa
Chapter 5. Addressing Skills Gaps: Continuing and Remedial Education and Training for Adults and Out-of-School Youths in Sub-Saharan Africa

While the main chapters are organized around the life cycle of skills building, the overview of the report takes a cross-cutting look at five main policy questions:

- Is investment in skills in Sub-Saharan African countries meeting the needs of the economies of today and tomorrow?
- Is skills development built on solid foundations in Sub-Saharan Africa?
- Is there a good case for investing in the skills of out-of-school youths and adults in Sub-Saharan African countries?
• Are countries in the region investing adequate resources in skills?
• How can countries in the region face up to the challenges and improve the skills of their labor forces for the economies of today and tomorrow?

The authorship of the chapters is as follows: overview, Omar Arias, David K. Evans, and Indhira Santos; chapter 1, Omar Arias, with substantive contributions from Magdalena Bendini; chapter 2, Moussa Pouguinimpo Blimpo, David K. Evans, and Muthoni Ngatia, with substantive contributions from Fei Yuan; chapter 3, Indhira Santos, Daniel Alonso Soto, and Shobhana Sosale; chapter 4, Indhira Santos and Omar Arias, with substantive contributions from Shelby Frances Carvalho, Daniel Alonso Soto, and Peter Darvas; and chapter 5, Muthoni Ngatia and Jamele Rigolini, with substantive contributions from Valeria Perotti.

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## Abbreviations

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<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACE</td>
<td>Africa Center of Excellence</td>
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<tr>
<td>ASET</td>
<td>applied science, engineering, and technology</td>
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<td>ECD</td>
<td>early child development</td>
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<td>EPAG</td>
<td>Economic Empowerment of Adolescent Girls and Young Women</td>
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<td>GDP</td>
<td>gross domestic product</td>
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<td>GISDC</td>
<td>Ghana Industrial Skills Development Center</td>
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<td>ICT</td>
<td>information and communication technology</td>
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<td>ILO</td>
<td>International Labour Organization</td>
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<td>ISCED</td>
<td>International Standard Classification of Education</td>
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<td>ISTARN</td>
<td>Informal Sector Training and Resources Network</td>
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<td>MECESUP</td>
<td>Higher Education Quality Improvement Program</td>
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<td>MITD</td>
<td>Mauritius Institute of Training and Development</td>
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<td>NGO</td>
<td>nongovernmental organization</td>
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<td>NQF</td>
<td>national qualification framework</td>
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<td>NVTI</td>
<td>National Vocational Training Institute</td>
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<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<tr>
<td>OJT</td>
<td>on-the-job training</td>
</tr>
<tr>
<td>PASEC</td>
<td>Programme d'Analyse des Systèmes Educatifs de la CONFEMEN</td>
</tr>
<tr>
<td>PASET</td>
<td>Partnership for Applied Sciences, Engineering, and Technology</td>
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<td>PISA</td>
<td>Program for International Student Assessment</td>
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<tr>
<td>PPP</td>
<td>public-private partnership</td>
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<td>R&amp;D</td>
<td>research and development</td>
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<td>Abbreviation</td>
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<tr>
<td>RTQF</td>
<td>Rwanda TVET qualifications framework</td>
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<td>SABER</td>
<td>Systems Approach for Better Education Results</td>
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<tr>
<td>SABER-WfD</td>
<td>Systems Approach for Better Education Results Workforce Development</td>
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<tr>
<td>STEM</td>
<td>science, technology, engineering, and mathematics</td>
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<tr>
<td>STEP</td>
<td>Skills Towards Employability and Productivity</td>
</tr>
<tr>
<td>STEP-B</td>
<td>Science and Technology Education Post-Basic Program</td>
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<tr>
<td>tfgP</td>
<td>Feel Good Project</td>
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<tr>
<td>TVET</td>
<td>technical and vocational education and training</td>
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<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific, and Cultural Organization</td>
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<tr>
<td>VETA</td>
<td>Vocational Education and Training Authority</td>
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<tr>
<td>VWFA</td>
<td>visual word form area</td>
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<td>WfD</td>
<td>Workforce Development</td>
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Overview

Sub-Saharan Africa’s growing working-age population constitutes a major opportunity to reduce poverty and increase shared prosperity. But the region’s workforce is the least skilled in the world, constraining economic prospects. Countries in Sub-Saharan Africa have invested heavily in skills building, with public expenditure on education increasing sevenfold over the past 30 years. More children are in school today than ever before. Yet in half the countries in the region, fewer than two in every three children complete primary school; even fewer reach and complete higher levels of education.

For children in school, learning outcomes have been persistently poor, leading to huge gaps in basic cognitive skills—literacy and numeracy—among children, young people, and adults. The literacy rate of the adult population is below 50 percent in many countries, and functional literacy and numeracy are even lower.

Achieving significant progress in building skills is possible in Sub-Saharan Africa, but it will require enacting systemwide change. Small-scale programs and local reforms often fail to achieve the desired impacts at scale. Achieving more equitable access, quality, relevance, and efficiency in skills building cannot hinge just on scaling up “best practices.” There is a need to pay attention to the governance environment in which skills programs take place. Multiple agencies at the central and local levels are involved in skills development strategies, making skills “everyone’s problem, but no one’s responsibility.” Lack of coordination and weak capacity can result in inefficiencies, duplication of efforts, or, perhaps worse, lack of attention to important issues. Therefore, to achieve broad and sustained results, policies and reforms need to tackle the politics of policies, build capacity for evidence-based policies, and create incentives to align the behaviors of all stakeholders with the pursuit of national skills development goals.

In their policy choices, countries will face trade-offs—often stark ones—that will have distributional impacts and a bearing on their development path. This is the challenge of the skills balancing act in Sub-Saharan Africa.

Policy Framework for Skills Investments in Sub-Saharan Africa

The portfolio of potential skills investments that countries in the region can make should aim to achieve three policy goals: (a) accelerate overall productivity growth (prosperous economies), (b) promote economic inclusion
(inclusive societies), and (c) ensure the adaptability of the workforce in the 21st century (resilient economies and individuals). Countries in the region face hard choices when considering skills investments to achieve these goals.

A smart skills development strategy requires figuring out which skills are needed, for what, who needs them, and how they can be developed at the right time and in the right way. Figure O.1 illustrates a framework aimed at guiding skills priorities for education and training policies and investments in the region. The figure encapsulates three main guiding principles.

First, skills investments need to reckon with two main potential trade-offs. The first is between investing in skills with greater potential to maximize economywide productivity gains, such as technical skills for economic activities with high growth potential that can catalyze economic transformation by reallocating productive resources and tapping new technologies, and investing in skills aimed at economic inclusion, such as skills for improving livelihoods and earnings opportunities, especially for the poor. The second potential trade-off is between investing in the skills needed by the out-of-school young and adult population for today’s largely agrarian and self-employment-based economies and investing in the skills needed by future cohorts of workers for tomorrow’s transforming economies to ensure their adaptability to employment changes in their working lives and resilience in navigating the fast-changing world of work.

Second, a balanced skills portfolio requires investing cost-effectively over the life cycle in the multiplicity of skills needed in modernizing economies. These skills include, broadly, (a) **foundational cognitive skills** (for example, literacy and numeracy), (b) **foundational socioemotional skills** (for example, related to managing one’s self and relating with others, such as self-regulation, perseverance, curiosity, empathy, and tolerance), and (c) **technical or job-specific skills** (for example, vocational and professional qualifications and digital and management skills). These skills are important for new cohorts of workers—those of school age and youths still in education—and for the current stock of youths, teens, and older adults already outside the formal education system. A balanced skills portfolio encompasses a range of investments in building foundational, cognitive, and socioemotional skills for infants, toddlers, and teenagers and technical skills for youths and adults and investments in reinforcing skills through on-the-job training, labor training, and education programs.

In making these investments, policy makers should consider that skills formation is a lifelong process in which skills beget skills. Figure O.1 shows the optimal stages for acquiring different skills over the life span, highlighting how and when the skills that are most appropriate to each stage are acquired.
Human capital formation is a time-dependent process. Investments in the early years are crucial, because this is when neural connections flourish and are pruned and solidified.

Cognitive and socioemotional development is highly influenced by maternal and child health and nutrition, especially during the first 1,000 days of life, and
by the quality of nurturing environments during infancy and childhood. Although basic cognitive skills are well set by the teen years, schooling can provide subject knowledge and tools that enhance these abilities, as well as socioemotional skills that remain malleable through adolescence and the early adult years. Foundational skills determine a person’s “readiness to learn” in basic education, postsecondary schooling, training, and on the job. Although it is more cost-effective to invest earlier, brain plasticity and malleability through adulthood mean that later investments can remedy foundational skills gaps among the current stock of workers. Such investments are especially important for the most vulnerable individuals, who fall out of the education system early on and fail to acquire critical foundational skills. These investments can bring positive intergenerational effects; that is, literate mothers are more likely to raise healthier children with stronger foundational skills.

The third guiding principle is that, to provide the right skills, at the right time, and in the right way, education and training systems need to ensure equity, quality, and efficiency. Investments and policy reforms need to provide wide access to opportunities for skills acquisition (equitable access), learning that builds skills to meet labor market demand (quality and relevance), and value-for-money in the financing and provision of education and training to minimize waste of resources (efficiency).

Facing the Skills Balancing Act: Focus on Foundational Skills

Foundational skills—investments in the early years as well as basic literacy and numeracy—circumvent one of the big trade-offs: universal foundational skills increase economic growth and promote inclusion. Countries should prioritize building universal foundational skills for today’s and tomorrow’s workers. This effort begins with investments to promote equality of opportunities and school readiness, including through investments in maternal health, child nutrition, and early stimulation during the first 1,000 days of life and the early years. It requires countries to continue to improve access to basic education and decisive actions to close large and persisting learning gaps, through improvements in schooling quality. It also demands interventions, such as second-chance and adult literacy programs, to support those who missed out on critical foundational skills building.

Countries should, first and foremost, step up smart investments in the early years of individuals’ lives to eradicate chronic child malnutrition and promote healthy childhood development. Stunting rates in Sub-Saharan Africa are among the highest in the world, and countries inside and outside the region are showing the way to fight child stunting (Galasso et al. 2016).
At the next level of basic skills, the expansion of access to primary and secondary education needs to go hand in hand with ensuring effective teaching in schools. This is a simple yet powerful lesson for countries in Sub-Saharan Africa. Many countries in other regions of the world, including richer economies, which expanded access without assuring effective teaching and thus school quality, have failed to produce learning and skills. A focus on quality will no doubt be challenging, given existing gaps in physical infrastructure and pressure from increasing demand for secondary education. Countries will have to find simultaneous ways to build more high schools and improve the quality of education provided by becoming more efficient in the use of resources.

In continuing to expand access, Sub-Saharan African countries can find lessons from successes in enrolling and keeping children in school within and outside the region. Countries in the region with the biggest gains in enrollment boast free education. The elimination of tuition fees marked major increases in enrollment in Kenya, Malawi, and Uganda, with smaller jumps in Cameroon, Tanzania, and Zambia. Ethiopia, Lesotho, and Malawi have leveraged cash transfer programs targeted to poor families as part of a strategy to increase enrollment and to offset other indirect costs, including the opportunity cost of schooling; the results have been overwhelmingly positive. These positive impacts hold for unconditional and conditional programs, although evidence from Burkina Faso suggests that the children who are most vulnerable to dropout—girls overall and boys who are doing less well in school—may benefit from conditional transfers.

Targeted financial assistance and complementary low-cost interventions can help to keep boys and girls in schools. Enrollment in and completion of secondary education are also deterred by high opportunity costs to studying or, for girls, by teenage marriage or pregnancy. Targeted assistance may be effective. In Ghana, scholarships for students who were admitted to secondary school but could not immediately enroll—usually because of lack of funds—doubled the rate of high school completion, improved math and language learning scores, increased the odds of enrolling in tertiary education by 30 percent, and reduced the number of children among girls by age 25 (Duflo, Dupas, and Kremer 2017).

Involving the Private Sector

Many countries struggle to find the fiscal space to cope with the wave of students transitioning to secondary school. Access remains inequitable. Public-private partnerships (PPPs) can help to crowd in resources to address the infrastructure and service needs in secondary education. PPPs in education could potentially leverage public financing aimed at improving equity of access through the delivery of all or part of secondary education.
infrastructure or services to low-income households. A study of a PPP in Uganda, where the government offered a per student subsidy to participating low-cost private secondary schools, found that the subsidy helped schools to absorb large numbers of eligible students, equally among girls and boys, and that student performance in participating schools improved (Barrera-Osorio et al. 2016).

Private schools have been part of the landscape of African education for many years. Ultimately, what matters is that the state guarantees access to quality education for all children and youths. In environments where public provision is scarce, private schools can fill a substantial gap, but governments have to play a strong regulatory role and empower families to make informed decisions regarding their children’s education. Governments and parents should hold all schools (public and private) accountable for results.

**Getting Families Involved**

Parental participation and empowerment can be useful in ensuring quality standards in schools. Yet, too often, parental decisions are based on incomplete information. For example, parents may demand early education in English or French rather than their mother tongue, even though literacy occurs more rapidly if it is begun in the mother tongue, as was recently seen in Kenya (Piper, Schroeder, and Trudell 2016). Evidence from Madagascar shows that parents often underestimate the returns to schooling (Nguyen 2008). Yet, when given relevant information, most parents make the best decisions for their children. Information campaigns can help to increase parental engagement and empowerment.

**Keeping Children Engaged by Providing Better Schooling**

Most critically, effective teaching in classrooms is central to keeping children in school longer and assuring that they learn and acquire skills. In recent years, a large body of evidence from school interventions in low- and middle-income countries clearly points to more effective teaching through improved pedagogy as the most impactful way to improve learning (Evans and Popova 2016). A pedagogical approach with proven results is helping teachers to teach to the level of the child. In many countries, an ambitious and inflexible curriculum leaves many students behind. Interventions that help teachers to target their teaching to the diverse learning needs of students in the classroom have been highly effective. In Ghana, supplementing teachers with community assistants to help the weakest students has led to sizable gains in literacy and numeracy, especially when it is done after school (Duflo and Kiessel 2012). Further, in Ghana, training teachers to teach students in small groups, targeted to their learning level, boosted their literacy skills (Duflo and Kiessel 2012). In rural
Kenya, separating primary students into groups based on their initial ability led to sizable gains in math and language for both high and low achievers, allowing teachers to teach at a level more appropriate to children’s needs (Duflo, Dupas, and Kremer 2011).

Using Technology to Improve Learning
Technology-aided instruction has the potential to improve learning when it is used to aid teachers and give students an individualized learning experience. There has been much hype on the potential for new technologies to facilitate leapfrogging in education in low- and middle-income countries and to achieve advances such as those that medical technology has delivered for health. But the evidence so far is sobering and demonstrates that technology works best when it is used to complement teachers rather than replace them. Hardware-focused interventions that provide computers at home or at school have had little impact on learning outcomes. Interventions that rely on technology-enabled instruction to improve pedagogy and allow students to learn at their own pace have worked better. Recently, interventions that use technology to give students a dynamic learning experience seem to deliver much bigger impacts on learning.

Taken together, this evidence suggests that, when embracing the promise of technology-aided instruction, countries in the region should move with caution. Realizing the potential of technology-based education will depend on the details of the specific intervention and the extent to which it alleviates binding constraints on learning. Careful planning and assessment are needed. Technology can fulfill its promise if it is assessed with an eye toward cost-effectiveness and a careful assessment of what country systems can implement.

Improving Teachers’ Ability to Teach
Given the prominent role of teachers in learning, much effort is needed to have better teachers in schools. Many teachers in the region do not command the minimum subject knowledge they are expected to teach and do not sufficiently use the pedagogical practices associated with more learning. Since it is much more difficult and costly to skill up or retrain a workforce of unprepared teachers, high-performing education systems, such as those in Finland and Singapore, have highly selective teacher education programs in which few applicants are accepted. Analysis of the requirements for entry into teacher training programs in many Sub-Saharan African countries suggests that standards are very low. Countries around the world have experimented with different ways to attract better candidates to the teaching profession, including creating special incentives for top students to go into teaching in Chile or raising the standards of entry into teacher training colleges in Peru. Improving the standards of entry into the profession itself can potentially improve outcomes.
Strengthening Socioemotional Skills

Another opportunity to leapfrog can come from incorporating socioemotional skills into the goals and teaching practices of schools, institutions, and programs. A related area of policy priority is ensuring that preschool and basic education (general and vocational) curricula and pedagogic practice pay adequate attention to the critical development of socioemotional skills. These skills can be taught as part of the regular school curricula through specific activities, goals, and pedagogic support that have been proven effective. The experience with related reforms and interventions in the world can offer useful lessons, such as recent innovations in several countries, including Colombia, North Macedonia, Peru, the United States, and Vietnam.

An area warranting policy reform is postponing early tracking into technical and vocational education and training (TVET) in secondary education to allow youths to acquire stronger foundational skills. Some educational systems still track students into vocational and technical streams too early (in lower-secondary school) at the expense of foundational skills. Early tracking into vocational and technical schools inhibits the acquisition of strong foundational skills, limiting the adaptability and lifetime earnings of TVET graduates. In the short to medium term, delayed tracking needs to be accompanied by strengthening the foundational skills in TVET schools and institutions and broadening the narrow focus on technical and vocational skills.

Building Foundational Skills among the Current Stock of Workers

Finally, strengthening foundational skills among out-of-school youths and adults has been a blind spot in the region, especially in agriculture and the informal economy. Given the deficiencies in basic literacy, numeracy, and socioemotional skills of current workers, remedial programs aimed at addressing these gaps can play an important role in improving people’s livelihoods and productivity. Although adult literacy programs have had a mixed record of impacts, recent innovative programs hold promise. The Project Alphabetisation de Base par Cellulaire is a mobile phone–based literacy and numeracy program in rural Niger that—by tapping into people’s intrinsic motivations—has managed to boost literacy and numeracy among adults (Aker, Ksoll, and Lybbert 2012). There is also great potential in incorporating adult literacy and socioemotional interventions into agricultural extension and cash transfer programs, as is being done in Brazil’s Bolsa Familia and Mexico’s Prospera cash transfer programs.

Facing the Skills Balancing Act: Invest in the Technical Skills of Youth and Adults

Investing in the technical skills of youths and adults requires improving the equity, efficiency, and relevance of TVET and higher education. In most
countries in the region, these two subsectors remain small, creating opportunities to leapfrog by establishing early the institutional and policy frameworks that can ensure more equity, efficiency, and relevance and drawing lessons from countries that have already expanded these systems.

**Responding to Social and Equity Concerns in the Provision of Technical Skills**

For TVET and higher education, the most important goal for achieving equity is to ensure school readiness. Readiness means imparting strong foundational skills for all in early childhood and basic education, especially among children and youths from disadvantaged backgrounds. For disadvantaged youths close to entering tertiary education, bridge and remedial programs in secondary school or at the beginning of tertiary can help to level the playing field and improve readiness. In Namibia, for example, the Pathways Program at the University of Namibia targets students from the marginalized Owambo ethnic group, with a focus on preparing them to study science and engineering at the tertiary level. In addition, bridge programs can tackle gaps in socioemotional skills that are considered key for success in TVET or tertiary studies.

**Addressing Financial Constraints**

Improving equity requires paying attention to other financial and nonfinancial constraints that keep many from acquiring quality technical skills. For upper-secondary and tertiary TVET and higher education, public financing should be targeted through needs-based scholarships and subsidized student loans. In lower-secondary TVET, if it exists, the same kind of public financing that is used for general secondary education will create opportunities for youths to gain skills that will deliver the highest returns for them. In other words, if a country has a policy of free lower-secondary education, then financing TVET at that level will allow more differentiated skills. On average, there is less cost sharing in Africa at the tertiary level than in other regions, but some countries have tried to move progressively away from free higher education and toward cost-sharing arrangements. Malawi, Uganda, and Zambia have shifted some costs, including living expenses, to students. Botswana, Ethiopia, and Lesotho have implemented deferred cost-sharing programs in which students repay tuition incrementally after graduation. Kenya, Mauritania, Mauritius, Namibia, Rwanda, South Africa, and Tanzania have implemented means-tested support.

Beyond the formal education system, improving equity in out-of-school and on-the-job training requires a strong focus on the informal sector through informal apprenticeships, labor programs aimed at disadvantaged youths, and on-the-job training in micro and small firms, especially in rural areas.
Improving Governance and Financing in TVET and Higher Education

Regulation and quality assurance can contribute to improving efficiency (and quality) in tertiary education and training. Over the past decade, many Sub-Saharan African countries have set up agencies to conduct assessments and accreditation of tertiary institutions, but capacity is limited. Quality assurance mechanisms range from simple licensing of institutions by the ministry responsible for tertiary education to comprehensive systemwide program accreditation and national qualification frameworks. By 2012, 21 African countries had already established quality assurance agencies, and a dozen other countries were at relatively advanced stages of doing so. These agencies are performing some basic quality control, having closed or prevented the opening of some low-quality programs.

Most critically, public funding of TVET and higher education institutions in the region needs to be linked gradually to performance or performance-enhancing reforms. Most financing of public TVET and higher education in the region is done on a historical basis, based on inputs (number of staff or salaries), enrollment (cost per student, as in the case of higher education in Kenya and Rwanda), or normative unit costs (student-teacher ratios and prescribed unit costs by discipline, as in Ghana and Nigeria’s higher education). These financing mechanisms create few incentives for cost saving, innovation, improved quality, or improved labor market relevance for students. To create such incentives, the ambitious approach is to direct the bulk of public financing through a performance-based system. Experience in Africa and elsewhere with performance-based mechanisms offers possible stepping stones. These mechanisms include, for example, paying for performance in higher education in Mali and in the regional centers of excellence and focusing initially on performance-enhancing reforms, as in Chile.

Fostering Economic Relevance and Demand-Driven Provision of TVET

Given the large informal sector in the region and rapid changes in skills demand, there is a need to rethink the public sector’s role in technical and vocational education and training. Staying relevant requires an agility and flexibility that publicly provided TVET and higher education struggle to attain. Partnering with the private sector—including on training provision—will be critical, as countries inside and outside the region increasingly recognize.

TVET needs to be geared more toward preparing workers for nonwage employment outside the manufacturing sector. This effort begins with course offerings, which only recently started incorporating entrepreneurship and core business skills training that are directly relevant for self-employment,
management of small enterprises, and services. For example, these skills encompass costing, pricing, preparing financial statements, keeping business records, project management, marketing, sales, and preparing business plans, among others. Promising programs, such as Educate! in Rwanda and Uganda, are introducing entrepreneurship, work readiness skills, and experiential applied teaching methodologies in secondary schools. Tanzania is developing new TVET curricula with a focus on skills for self-employment.

There is also a need to address inflexible course times that make it difficult to combine training and work, lack of practical training, and high costs that make education inaccessible or irrelevant for workers in the informal sector. Better incorporating the views and skills needs of the informal sector in public TVET—for example, by linking to existing organizations of informal workers and enterprises—can be a way forward. TVET institutions in Kenya are often associated with business centers through which consultancies are provided to small-scale entrepreneurs. Graduates of youth polytechnics are encouraged to form business groups, and these groups then approach credit providers.

Making TVET relevant to the needs of catalytic sectors requires building gradual but sustained engagement with employers at the local level. In Tanzania, for example, the private sector is increasingly playing an advisory role in TVET through the Tanzania National Business Council; the Association of Tanzania Employers occasionally helps to define strategic priorities.

The private sector is a critical partner for improving teacher quality and offering opportunities for on-the-job training, whether in the formal or informal sector. TVET teacher education is largely university based, and in-service continuous training is generally lacking. Exceptions are the dedicated Vocational Teachers Training College in Tanzania and the Normal Schools for Teachers of Technical Education in Cameroon. Relatively few teachers in public institutions have industrial experience, in part because of the requirements for a teaching certificate. Countries could explore more aggressive options for twinning arrangements with private firms and other countries to upgrade the skills of TVET teachers, allowing the local recruitment of people with relevant skills but without teaching certificates. This additional support could be combined with stronger incentives to perform, including publishing examination results.

Fostering Demand-Driven and Active Learning Approaches in Higher Education
Improving the labor market relevance of higher education will require aligning teaching and research activities at public and private universities with market signals. Governments can offer incentives to set up and strengthen industry-university links—for example, by bringing in intermediaries or providing matching funds.
Adopting more active learning practices and a “careers” approach to skills development in higher education starts with the design of curricula. University programs need to combine academic subjects with more hands-on experiences that deliver the multiplicity of skills (technical, cognitive, and socioemotional) necessary to perform the jobs that youths are expected to take upon graduation. This task-based approach recognizes that what matters is whether workers have the skills to perform the tasks of a job and not just a diploma. Moreover, institutions need to pursue work-based learning opportunities more aggressively through apprenticeships or internships. Many countries in the region have or are in the process of generating national apprenticeship and internship frameworks, with a view to enhancing the workplace experience of youths, including university graduates. This effort is to be encouraged, and the international evidence suggests that—when well designed—these frameworks can indeed improve employability.

Given that fast transformation of the economies of countries in Sub-Saharan Africa will require a new generation of entrepreneurs, strengthening entrepreneurship education in universities both directly and indirectly needs to be a priority. Several universities in Africa have established incubation centers—for example, allowing and encouraging students to try out new ideas and take them to market.

There is an important role for regional cooperation and international partnerships with recognized universities in the region and the world. Today’s digital technologies make this easier. For example, the Massachusetts Institute of Technology and a consortium of 15 other top universities has started to offer micro-masters programs that require only one full semester on campus in the United States. Targeted scholarship programs that include requirements for returning to the home country can also be helpful, particularly for students in science, technology, engineering, and mathematics (STEM) fields.

**Improving the Efficiency and Relevance of Skills Building for Out-of-School Youths and Adults**

**On-the-Job Training**

Laying the basis for building and upgrading the skills of out-of-school youths and adults can be achieved by addressing market and coordination failures that prevent firms (especially small, informal enterprises) from offering on-the-job training and incentivizing them to do so. On-the-job training is an important channel through which workers upgrade their skills during their working life. It is also a vehicle for helping firms to adopt new technologies and new business practices. But the incidence of on-the-job training in much of the region is lower than expected for countries’ income levels. It is essential to create the right incentives for firms to train their workers.
Apprenticeships
Given how ubiquitous informal apprenticeships are in the informal sector, it is important to make them more productive. Recent reforms to improve informal apprenticeships usually include measures to improve the quality of training, such as the use of dual training principles (that is, classroom and on-the-job training), training of master craftspersons, and upgrading of technology; measures to improve working conditions and inclusion in informal sector training (promotion of gender equality and occupational health and safety); and measures to establish mechanisms for certification of informally trained artisans, improve the recognition of existing (traditional) certification systems, and institutionalize or improve quality assurance with the involvement of local business associations. Despite these attempts, few reforms have been formally evaluated. In addition, attempts at giving structure to informal apprenticeships and bringing them closer to formal ones have failed to pick up scale. The objective of policy interventions should not be to make informal apprenticeships look like formal ones. The policy objective should be to improve the learning process of apprentices.

Self-Employment and Entrepreneurship
Given that most Sub-Saharan Africans are not in wage employment and, even when they are, do not remain so for long, labor market training programs aimed at improving employability and supporting self-employment are essential. Training programs can remedy the technical or job-specific skills gap of out-of-school youths and adults and build basic cognitive and socio-emotional skills. Although such programs are growing rapidly, the global evidence from rigorous evaluations is mixed regarding the effectiveness of these short-term programs.

Training programs supporting self-employment and small-scale entrepreneurship are among the most widespread remedial training programs in Africa. The programs take various forms, from public works with a training component supporting entrepreneurship to programs promoting small-scale entrepreneurship and improvements in the productivity of small-scale entrepreneurs. Recent programs in Kenya and South Africa, which have been rigorously evaluated, show that training in specific business skills can lead to higher profits and sustainability for businesses and gains in employment and earnings for employees (Anderson, Chandy, and Zia 2016; McKenzie and Puerto 2017). In Togo, training for entrepreneurs to improve business practices as well as socioemotional skills aimed at helping entrepreneurs to become more proactive and resilient to obstacles led to higher sales and profits (Campos et al. 2017). In a successful program in Uganda, youth groups received grants that they could use to obtain vocational training or to start a business, leading to substantial increases in business assets and earnings (Blattman, Fiala, and Martinez 2014).
Facing the Skills Balancing Act: Enact Systemwide Change and Make Skills Building Everyone’s Business

Achieving substantial progress in skills building in Sub-Saharan Africa will require enacting systemwide change, not just scaling up “best practices.” There is a need to pay attention to the governance environment in which scaling up takes place. To achieve broad and sustained results, policies and reforms need to establish credible commitment, support coordination, and promote cooperation among all actors. To this end, it is important to tackle the politics of skills policies and create incentives to align the behaviors of all stakeholders to the pursuit of national skills development goals.

The international experience from both successful and failed attempts to reform governance points to three broad avenues for enacting systemwide change:

1. *Use information and other metrics* of system performance to generate *commitment* and buy-in for reforms, empower stakeholders to hold governments and providers accountable for results, and guide and adapt policy decisions, which requires collecting household-level data, conducting robust national student assessments, establishing management information systems, and participating in international student tests.

2. *Shift incentives* to align the interests and behaviors of all stakeholders to cooperate toward the achievement of skills-building outcomes.

3. *Strengthen the capacity* of government agencies, particularly ministries of health, education, labor, and social development, to pursue nationwide, coordinated, evidence-based policies.

Metrics on system performance can be used to guide policy development and to identify, refine, and adapt successful local solutions. Data from national surveys and student assessments can be used to track progress in tracer indicators and final outcomes that are relevant both to skills formation—from child health to learning to skills formation—and to returns to these skills. Such data are ultimately the basis for building and using evidence to guide the cycle of policy design, implementation, feedback for improvement, and innovation and to indicate whether policies are enacting systemwide change in skills formation.

Several countries have disseminated information on poor performance to mobilize public opinion and get politicians and others to commit to improving results. Information on standards for outcomes and service delivery can empower parents and users to hold providers accountable for results. Simple standards and goals for child development, student learning, and other skills outcomes can allow parents to know how well their children are...
doing compared with the expected standards and make them more likely to hold providers and local or even central authorities accountable for the quality of services. In Uganda, a newspaper campaign designed to inform local primary schools about their entitlement to grants led to an increase in the flow of funds to schools and accelerated the expansion of school enrollment.

There are limits, however. Important aspects of service delivery, such as teacher contracts and pay, are generally managed centrally and depend on system-level incentives. For instance, short-term contracts for teachers are often used to increase the local accountability of teachers. However, a nationwide reform of this type in Kenya was undermined partly by a power struggle between government and teachers unions.

Countries in Sub-Saharan Africa should also strive to build coalitions for achieving skills results at scale. In addition to tilting public opinion through information regarding system performance, countries can create coalitions to foster cooperation and shift the balance of power in favor of good policies and reforms. Cooperation also requires recognizing the multiple, often competing, and evolving interests of stakeholders. For instance, although many health personnel, teachers, and other social service providers are truly devoted to serving their clientele—mothers, children, and youths—insufficient resources and lack of support can undermine morale and distract their attention from achieving results. Policies that combine resources and pedagogical support for teachers with reforms and mechanisms to improve their accountability for delivering learning, such as teacher evaluations or performance pay, may have a better chance of buy-in.

**Conclusions**

Although countries in Sub-Saharan Africa can learn much from regional and global experiences to leapfrog their skills development, there are few institutional shortcuts. The institutional underpinning of skills strategies in the region may find practices to emulate and pitfalls to avoid in other world experiences; however, the strategies must be homegrown to be attuned to the political realities of each country. Just like investment priorities, they should reflect each country’s context. In most policy choices, countries will face trade-offs—often stark ones—that will have distributional impacts and a bearing on their development path. Committed leaders, reform coalitions, and well-coordinated policies are essential for taking on the skills balancing act in Sub-Saharan Africa.
References


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Despite strong recent economic growth, Sub-Saharan Africa has levels of economic transformation, poverty reduction, and skill development far below those of other regions. Smart investments in developing skills—aligned with the policy goals of productivity growth, inclusion, and adaptability—can help to accelerate the region’s economic transformation in the 21st century.

Sub-Saharan Africa’s growing working-age population presents a major opportunity to increase shared prosperity. Countries in the region have invested heavily in building skills; public expenditure on education increased sevenfold over the past 30 years, and more children are in school today than ever before. Yet, systems for building skills in this population have fallen short, and these shortcomings significantly impede economic prospects. In half of the countries, fewer than two in every three children complete primary school; even fewer reach and complete higher levels of education. Learning outcomes have been persistently poor, leading to substantial gaps in basic cognitive skills—literacy and numeracy—among children, young people, and adults. The literacy rate of the adult population is below 50 percent in many countries; functional literacy and numeracy rates are even lower.

Systemwide change is required to achieve significant progress. Multiple agencies at the central and local levels are involved in skills development strategies, making skills “everyone’s problem but no one’s responsibility.” Policies and reforms need to build capacity for evidence-based policies and create incentives to align the behaviors of all stakeholders with the pursuit of national skills development goals.

The Skills Balancing Act in Sub-Saharan Africa: Investing in Skills for Productivity, Inclusivity, and Adaptability lays out evidence to inform the policy choices that countries will make in skill investments. Each chapter addresses a set of specific questions, drawing on original analysis and synthesis of existing studies to explore key areas:

- How the skills appropriate to each stage of the life cycle are acquired and what market and institutional failures affect skills formation
- What systems are needed for individuals to access these skills, including family investments, private sector institutions, schools, and other public programs
- How those systems can be strengthened
- How the most vulnerable individuals—those who fall outside the standard systems and have missed critical building blocks in skills acquisition—can be supported.

Countries will face trade-offs—often stark ones—that will have distributional impacts and a bearing on their development path. Committed leaders, reform coalitions, and well-coordinated policies are essential for taking on the skills balancing act in Sub-Saharan Africa.