Assessment: Education in Sub-Saharan Africa

Sub-Saharan Africa, referred to as "Africa" in this article, comprises the forty-two countries on the African continent south of the Sahara and the six island nations close to it. Africa's rich cultural and ethnic traditions reflect different heritages in all countries - an early Christian heritage in the Nile Basin, a strong Islamic influence in the north, and Christian influences dating from colonialism in many central and southern African countries.

Geographically and economically, Africa is diverse and fragmented. In 1999 the region's population was about 640 million. Six countries had fewer than 1 million people. Nigeria had 124 million people and Ethiopia 64 million. Within the continent, communications and travel are difficult. Gross national product (GNP) per capita averaged $500 in 1999, ranging from less than $200 in the Burundi, Ethiopia, Malawi, Niger, and Sierra Leone to more than $3,200 in Botswana, Gabon, Mauritius, and South Africa. On the whole, the region's GNP growth and human development indicators lag behind those of other regions.

Poverty is pervasive across the region. More than 290 million people live on less than $1 per day. With the region's rapidly growing population, 5 percent annual growth is needed to keep the number of poor from increasing. According to the World Bank, halving the incidence of poverty by 2015 would require annual per capita gross domestic product (GDP) growth rates of at least 7 percent. Unsustainable external indebtedness has diverted scarce resources away from priority social needs. Waste in the public sector and weak governance structures continue to act as major constraints to development in many countries.

Overview

Education systems in the region reflect differences in geography, cultural heritage, colonial history, and economic development progress. The impact of French, English, and other countries' colonial policies toward education has had a lasting impact on the objectives, structure, management, and financing of education systems in the region. When African countries gained independence from colonial rule around 1960, the region lagged far behind other regions on nearly every education indicator. Dramatic progress - with large national variations - occurred in the 1960s and 1970s. Primary enrollments jumped from 11 million in 1960 to almost 53 million in 1980. Growth at the secondary and tertiary levels was even more dramatic, with secondary enrollments increasing by fifteen times and tertiary enrollments by twenty times.

The economic crisis of the 1980s severely affected education in Africa. Declining public resources and private economic hardship resulted in an erosion of quality and primary level participation rates. As of the early twenty-first century, these setbacks have not yet been reversed. At every level, education facilities are too few, while those that exist are often in poor repair and inadequately equipped. Teachers are often underpaid and underqualified and rarely receive the support and supervision they need to do an effective job. The number of hours spent in the classroom by most African students is far lower than the international standard. Instructional materials are often in desperately short supply. Not surprisingly, learning achievement is almost always far below the instructional objectives specified in the curricula. While country experiences vary a great deal, the reality for too many Africans is one of education systems characterized by low quality and limited access.

Africa has the lowest enrollment rate at every level and is the only region where the number of out-of-school children continues to rise. The average African adult has fewer than three years of schooling, lower than the attainment level for any other region. Almost one in three males and one in two females is illiterate. Gender inequalities persist at all levels of schooling. Female enrollments are about 80 percent of male enrollments at the primary and secondary levels and less than 55 percent at the tertiary level.

As disturbing as the low levels of literacy and education attainment is the marked decline in the capacity of many African countries to generate knowledge as a resource for tertiary level instruction and for research and technology development. A 1992 study estimated that Africa had only 20,000 scientists and engineers, or 0.36 percent of the world's total. In 1996 Senegal had only 3 researchers engaged in research and development per million people, Burkina Faso had only 16 and Uganda had 20, compared with 149 in India and 350 in China. Few African researchers are integrated in the worldwide scientific knowledge networks. A continuing brain drain exacerbates these problems. Reasons vary from country to country but usually relate to a lack of employment

opportunities in the modern sector, limited research budgets in universities, the lack of freedom of speech, and the fear of political repression in countries with authoritarian regimes. An estimated 30,000 Africans holding doctoral degrees live outside the continent, and 130,000 Africans study in tertiary institutions outside Africa.

Social and economic progress in Africa will depend to a large extent on the scope and effectiveness of investments in education. If living standards are to be raised, sustained efforts will be needed to narrow the gaps in educational attainment and scientific knowledge between Africa and other regions and to bridge the digital divide. Decades of research and experience in Africa and elsewhere have shown the pivotal role of a well-educated population in initiating, sustaining, and accelerating social development and economic competitiveness. Numerous studies show that education, particularly primary education, has a significant positive impact on economic growth, earnings, and productivity.

But clearly, primary education cannot expand and African economies cannot grow without an education system that trains a large number of students beyond the basic cycle, including graduate students at universities. To be sustainable, educational development must be balanced. It must ensure that systems produce students at different levels with qualifications that respond to the demand of the labor market, providing a continuous supply of skilled workers, technicians, professionals, managers, and leaders.

Yet, lasting education development will take place only when the extensive armed conflicts come to an end and the HIV/AIDS pandemic stalls. Restoring peace and stability in the region is an urgent priority. At least one in five Africans lives in a country severely disrupted by war. Between 1990 and 1994 more than 1 million people died because of conflict. And in 2000, approximately 13.7 million people in Africa were refugees or internally displaced. Few opportunities for schooling exist in the African conflict zones.

Africa has been the region hardest hit by the HIV/AIDS pandemic, accounting for 23 million of the 33 million people affected worldwide. By killing people in their most productive years, the pandemic is destroying the social and economic fabric of the worst affected countries and reversing hard-won human development gains. Replacing education sector staff lost to AIDS-related illnesses while national resources are being diverted from education to the health sector and providing an education to children affected by AIDS are urgent ongoing challenges.

Stalled Progress in Primary Education

Primary enrollment growth slowed in the 1980s. The gross enrollment rate (total number of children enrolled as a proportion of the number of children of the relevant age group) fell from 80 percent in 1980 to 75 percent in 1990, largely as a result of declining male participation rates, and by 1997 had recovered to only 77 percent. Yet other coverage indicators showed considerable improvement (see Table 1). Net enrollment rates (number of children of the relevant age group enrolled as a proportion of the number of children of relevant age) increased from 54 percent in 1990 to 60 percent in 1998; apparent intake rates (total number of children admitted in grade 1 as a proportion of the total number of children of the school entry age) from 70 percent to 81 percent; and net intake rates (number of children of entry age admitted in grade 1 as a proportion of the total number of children of the school entry age) from 33 percent to 43 percent. Although not available for all countries, these data suggest that more school-age children are in school, the decline in boys' participation has reversed, and more children are enrolling in first grade. But many children still enroll late (only two-thirds of the new entrants in 1998 were the official age for school enrollment), the gap in girls' initial enrollment rate has increased, and more than 40 percent of school-age children are not in school.

Country experiences vary a great deal, however. Botswana, Cape Verde, Mauritius, Namibia, the Seychelles, Swaziland, and Zimbabwe sustained education progress. Uganda and Mauritania implemented policies that resulted in a sudden increase in primary enrollments and then began struggling to deal with the consequent challenges. Burkina Faso, Guinea, Mozambique, and Senegal opted for a gradual approach. Most other countries are formulating comprehensive long-term strategies for educational development, including universal primary education.

Nevertheless, access to primary education remains problematic. Of the forty-four countries with data for 1996, only ten (Botswana, Cape Verde, Congo, Malawi, Mauritius, Namibia, South Africa, Swaziland, Togo, and Zimbabwe) had a primary gross enrollment rate of 100 percent. Seven (Burkina Faso, Burundi, Ethiopia, Liberia, Mali, Niger, and Somalia) had a primary gross enrollment rate below 50 percent. And between 1985 and 1997 the primary gross enrollment rate actually declined in seventeen countries - Angola, Burundi, Cameroon, Central African Republic, Comoros, Côte d'Ivoire, the Democratic Republic of Congo, Kenya, Lesotho, Liberia, Madagascar, Mozambique, Nigeria, Sierra Leone, Somalia, Tanzania, and Zambia. Together, these seventeen countries include more than half of Africa's school-age population.

The challenge is clear. In almost all countries, access has expanded far too slowly to achieve international education targets for gender equity and universal primary education. About 12 percent of the world's children aged six to eleven live in Africa, yet the region accounts for more than one-third of the world's out-of-school children. Unless these trends reverse, Africa will account for three-quarters of out-of-school children by 2015.

Participation problems are exacerbated by the absence of an environment for effective learning. Children are taught in overcrowded classrooms by underqualified and frequently unmotivated teachers who are often poorly and irregularly paid and receive little managerial support. Teacher absenteeism is widespread, disrupting learning and eroding public confidence in the value of public education. Shortages of learning materials further constrain learning. In ten of eleven countries surveyed by UNESCO (1998b), more than one-third of the students had no chalkboards in their classrooms. In eight countries, more than half of the students in the highest grade had no math books. Most African children spend roughly half the time in the classroom that children in other countries do.

Poverty-related deprivation further contributes to low educational attainment in Africa. Poor children spend more time than other children contributing to household work. As a result they are less likely to spend out-of-school hours on schoolwork, more likely to be absent from school during periods of peak labor demand, and more likely to be tired and ill-prepared for learning when they are in the classroom. More than 40 percent of children in Africa are stunted, while almost one-third are underweight. Primary school-age children are especially susceptible to illnesses that affect poor people, in particular gastrointestinal and respiratory problems. Malnourished and sick children are less likely than healthy children to learn in school and are more likely to be absent from lessons. And if private costs for education are substantial, parents in poor households are more likely to withdraw their children from school early in the school cycle. All these effects are exacerbated by the rapid spread of HIV/AIDS, which affects the attendance of teachers and students and strains household resources.

Unsurprisingly, students who complete primary school often have an unacceptably low level of learning. In 1990 - 1991 Botswana, Nigeria, and Zimbabwe participated in a thirty-one-country survey of ninth grade reading skills (described by Warwick B. Elley in 1992). Students in these three countries registered the lowest scores, performing considerably worse than students in the other four developing countries participating in the survey (the Philippines, Thailand, Trinidad and Tobago, and Venezuela). More recently, the Southern Africa Consortium for Monitoring Educational Quality assessed the reading skills of sixth grade students in Mauritius, Namibia, Zambia, and Zanzibar. The average percentage of correct answers ranged from 38 percent to 58 percent.

Poor learning often results in high repetition rates and low completion rates. In fifteen countries more than 20 percent of students are repeaters - in Côte d'Ivoire more than half of all primary students are repeating a grade at any time. More than one-third of school entrants fail to reach the final grade. In the Central African Republic, Chad, Congo, Madagascar, and Mozambique, fewer than half the children who enroll in primary school complete five years. Many of the students drop out early in the primary cycle, before they acquire even rudimentary literacy and numeracy skills. In Chad, Ethiopia, and Madagascar more than one-third of the children who enter school never complete second grade.

Increased learning and participation will require a combination of policies, including:

- Increased funding for primary education
- Increased resource availability at the school level
- Allocation of resources to inputs that directly enhance learning
- Meaningful community participation in school development and management
- Increased responsibility of local education authorities for resource allocation, professional support, and personnel management decisions
- Explicit national responsibility for setting standards, monitoring of performance, and mobilizing adequate resources for the system

Beyond Primary Education

Few African countries provide adequate opportunities for education and training needed by twelve-to seventeen-year-olds or for adults. The gross secondary enrollment rate in 1997 was 26 percent for Africa, compared with 52 percent for all developing countries. Many Africans are looking for opportunities to either continue formal schooling or acquire skills that will equip them to enter the world of work.

Education and training for youths is not only an economic imperative. In many countries young people's dissatisfaction and disillusionment with their prospects for education and work threaten social cohesion and stability. Reaching this age group through formal and nonformal education is also vital to the success of targeted

interventions in such areas as HIV/AIDS and reproductive health education and of programs to raise awareness of civic rights and responsibilities. Yet only one-fourth of youths in this age group have access to secondary education, and only 6 percent are reached by vocational and nonformal education programs. Access to new communication, information, and computer technology is limited in secondary and public-sector training institutions in Africa. The lack of instructional equipment and materials further inhibits learning. Many publicly funded skills development programs - especially those teaching vocational subjects in secondary schools - are of poor quality, depend heavily on external financing, and carry high costs per student. Such programs often are also poorly attuned to labor market demand and fail to lead to income-earning opportunities. Skillstraining programs typically are geared to formal sector employment at a time when the formal sector in most African countries absorbs only a small minority of labor market recruits. The balance of the evidence suggest that strategies need to:

- Ensure good quality primary and secondary programs as a basis for further education and skill development
- Ensure that investment in skill development programs is firmly grounded in economic and labor market analysis
- Encourage private-sector delivery by creating a favorable policy environment, strengthening employer training, and reducing regulation
- Improve publicly provided training by strengthening linkages with enterprises, improving responsiveness to market forces, increasing efficiency of resource utilization, and diversifying sources of funding beyond government subsidies

Education opportunities for adults remain equally limited. The mass literacy campaigns of the 1970s fell far short of their objectives. Only a few countries - Uganda and Ghana are examples - continue to support large-scale literacy programs. But in the late 1990s countries such as Senegal began to experiment with small-scale highly targeted programs, often implemented with the support of nongovernmental organizations. Skill development programs are delivered for the most part by private-sector institutions and sponsored by employers.

Unprecedented Expansion of Tertiary Education

In 1960 Africa (excluding South Africa) had six universities with fewer than 30,000 students. In 1995 the region supported nearly 120 universities enrolling almost 2 million. Yet, tertiary enrollment, which reached 3.9 percent for Africa in 1997, is still far below the 10 percent average for all developing countries. In many African countries universities are the only national institutions with the skills, equipment, and mandate to generate new knowledge through research and to adapt global knowledge to solve local problems. A few have long traditions and were world-class institutions through the 1970s. Yet many others are weak. Early curriculum links to religious studies and civil-service needs have often promoted the humanities and social sciences at the expense of the natural sciences, applied technology, business-related skills, and research capabilities. Inappropriate governing structures, misguided national policies, weak managerial capacity, political interference, and campus instability have further hampered effectiveness. The experience with subregional academic cooperation has been disappointing, although many institutions are too small and recruit from too small a national pool of talent to develop a high-level teaching and research capacity across a wide range of academic subjects.

Dwindling resources during a period of growing enrollments have caused a severe decline in the quality of education in many institutions. Among countries for which data are available for the years 1990 and 1996, expenditures per pupil at the tertiary level as a percentage of GNP per capita decreased in fifteen countries and increased in seven. Yet African higher education remains expensive by international standards. In 1992 public education spending per pupil as a percentage of per capita GNP was 15.1 percent at the preprimary and primary levels, 53.7 percent at the secondary level, and 507 percent at the tertiary level. This disparity makes the strategic management of higher-education resources a central concern of any educational development policy. Some universities are charging increased tuition and fees. Others have started income-generating activities. As an alternative to the traditional highereducation model of full-time study on residential campuses, several provide instruction through distance education programs and extended educational services - the University of South Africa, which enrolled 130,000 students in the mid-1990s, is actually the largest institution of this kind in the world. A number of universities are beginning to use Internet-based technologies. A consensus on reform strategies appears to be emerging, although in practice implementation has been slow and politically controversial. Key elements are:

- Encouraging differentiation of institutions and delivery modes, including the development of open and distance education universities, private institutions, and nonuniversity tertiary institutions
- Providing incentives for public institutions to diversify sources of funding, including cost sharing with students
- Targeting of social expenditures on the most needy students

- Improving the efficiency of resource utilization, with an increased share allocated to teaching and research
- Access to new technologies needed to connect universities to international scientific networks
- Increased institutional autonomy and strategic planning
- Introducing policies explicitly designed to give priority to quality and equity objectives

Private Education

The private sector is an increasingly important provider of education in Africa. Most registered private schools in Africa are nonprofit community and religious schools. Several countries are also increasing the role of private providers in delivering support services such as textbook publishing, classroom construction, and university catering. The private sector plays a small - although an increasingly important - role at the primary level, but its share in meeting secondary, vocational, and tertiary education needs has increased significantly since the mid-1980s. In Côte d'Ivoire 36 percent of general secondary students and 65 percent of technical students are enrolled in private schools. In Zambia almost 90 percent of the students taking technical and vocational examinations were trained outside public institutions.

At the tertiary level the number of private institutions has increased rapidly. In the 1990s private institutions were established in countries such as Kenya, Mozambique, Senegal, Sudan, Uganda, and Zimbabwe. In South Africa alone there are probably more that 500 private tertiary institutions.

These institutions reduce the financial burden on governments, give parents more choice and control, and improve accountability. They help to meet some of the excess demand for education, provide special programs that the government is unable or unwilling to provide and reduce geographical imbalances in provision. Nevertheless, while many private training institutions have been successful, many others are of poor quality raising important issues of accreditation or other means of quality control. Registration requirements usually call for the provision of basic infrastructure and staff. Kenya has established a Commission for Higher Education for the accreditation of tertiary institutions. In most other countries the ministry of education typically has this responsibility.

Efficiency

The efficiency of resource use varies considerably within and between countries. In some countries, especially in the Sahel (the southern fringe of the Sahara), high teacher salaries make it difficult to mobilize the resources required to reach universal primary education in the foreseeable future. In other countries teacher salaries are so low that teachers are forced to take additional jobs. Teacher deployment often creates further inefficiencies when teachers are not deployed according to rational criteria such as the number of students. For example, in Niger the teacher-student ratio in primary schools of 200 students ranges from 1:100 to 1:20.

In 1999 Keith Lewin and Francoise Caillods argued that developing countries with low secondary enrollments, including most African countries, cannot finance substantially higher participation rates from domestic public resources with current cost structures. Secondary schooling is the most expensive level relative to GNP per capita in countries with the lowest enrollment rates. In Africa secondary schools use resources such as teachers and buildings much less efficiently than primary schools. One reason may be that in the poorest countries, secondary schools are still organized along traditional lines to educate a small elite.

Limited public resources and competing public spending priorities have prevented many governments from addressing the challenges of education development. Since the mid-1980s the share of GDP spent on education has decreased in eleven and increased in twelve African countries for which data are available. Perhaps more significant, this share is still less than 3 percent in ten countries for which data is available for 1996 or after. At a given level of education spending as a share of GDP, participation and attainment levels in Africa compare unfavorably with those in other low-income countries (see Table2). Inefficient and inequitable use of scarce resources in a context of high population growth and demand for general public financing of education by politically powerful pressure groups adds to the fiscal challenge. Thus countries must set priorities for public spending and identify possible efficiency gains from and opportunities for mobilizing additional public and private resources.

Prospects

The imperative of accelerated education development in Africa is clear. Africa will not be able to sustain rapid growth without investing in the education of its people. Many lack the education to contribute to - and benefit from - high economic growth. Meeting this challenge will require a major effort by Africans and their development

partners during a long period - a decade or more in many cases. Many governments will need to implement changes in the way education is financed and managed - changes that are often politically controversial. Partnership of governments, civil society, and external funding agencies will need to be established or reconfigured to ensure national ownership and sustainability of programs of reform and innovation.

Yet, at the start of the twenty-first century the opportunity to effectively address the often intractable problems of education was perhaps better than at any time in the 1980s and 1990s. The economic performance improved markedly beginning in 1995, with consecutive years of per capita growth in many countries for the first time since the 1970s. In several countries additional resources have or will become available through debt relief provided under the Highly Indebted Poor Countries (HIPC) initiative, the coordinated effort of the industrialized countries to bring down debtor developing countries' debt to sustainable levels. Information and communications technology offers new opportunities to overcome constraints of distance and time. Political commitment to education development is strong almost everywhere. At the World Education Forum in Dakar, Senegal, in April 2000, the 185 participating countries adopted a Framework for Action toward the 2015 goal of Education for All, which gives special attention to the needs of Sub-Saharan Africa. Promising reforms and innovations have been implemented. Many funding agencies are committed to increasing their support for education in Africa. New aid relationships are being piloted in the context of sectorwide development programs replacing the increasingly ineffective individual project approach.

But progress will be achieved and sustained only where efforts are underpinned by genuine commitment to a clear set of guiding principles. First, without a relentless pursuit of quality, expanded education opportunities are unlikely to achieve their purpose - that is, the acquisition of useful knowledge, reasoning abilities, skills, and values. Second, an unwavering commitment to equity is vital to ensuring that disadvantaged groups - rural residents, the poor, and females - have equal access to learning opportunities at all levels. This will require explicitly targeted strategies for hard-to-reach groups and better analysis of the mechanisms by which people are excluded from education. Third, African countries will need to ensure education development strategies are financially sustainable. Setting spending priorities, spending the resources that have been allocated effectively, diversifying funding sources, and in many cases mobilizing additional funding from sources outside the public sector - especially for postprimary education beyond the basic level - are areas where tough decisions need to be made and then adhered to. Finally, an up-front emphasis on capacity building of institutions and of individuals is needed for accelerated education development to happen. Effective planning, implementation, and evaluation of reforms depend upon effective incentives, reasonable rules, efficient organizational structures, and competent staff. Without these, no strategy for education development can succeed.

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