Investment in secondary education (SE) yields considerable social and private returns. And in Sub-Saharan Africa there are four critical reasons for investing in secondary education:

First, secondary education is crucial for economic growth. Globalization, the increasing importance of ICT in the twenty-first century, and rapid technological change have made knowledge essential for competing in the world economy. Secondary education provides countries with the skills and knowledge needed for economic growth, including further learning and training of professionals such as technicians, scientists, and entrepreneurs (Box 1).

Next, secondary education helps to socialize young people and target at-risk youth. Because this age group has the greatest potential for changing its behavior, secondary education can be decisive in fostering positive social and civic values.

Third, secondary education yields considerable private returns, offering young people the chance to acquire attitudes and skills that are unlikely to be developed in the primary grades. This in turn enables youth to develop job-oriented skills, participate fully in society, take control of their own lives, and continue learning.

Finally, the demand for secondary education, especially at the lower secondary level, is increasing rapidly. The dependency ratio — the number in the economically “nonactive” to “active” population — in Sub-Saharan Africa is the highest in the world (Graph 1). Since the World Declaration on Education for All (EFA) (Jomtien 1990), many Sub-Saharan Africa countries have increased enrollment rates significantly at the primary level — and a growing number of primary students, notably girls, wish to...
continue to secondary, especially lower secondary, schools.5

Expanding lower secondary education will mean a greater demand to finance secondary education services. In FY2000 over 13 percent of World Bank lending for education and training in Sub-Saharan Africa was for secondary education, more than twice as much as in FY99. Currently, access to secondary education is limited to a privileged few in SSA; less than one-third of this age group is enrolled in secondary schools. And, while expanding secondary education will require a substantial increase in public resources, many SSA countries face severe financial constraints. The costs of lower as well as upper secondary education are high — and unsustainable if participation is to be increased. Access cannot be expanded without major changes in the way secondary education services are delivered. The changes include modification of structure and organization, improved teacher management, alternative modes of delivery, and alternative methods of financing.

Box 1  Human development and technological advances

...can be mutually reinforcing, creating a virtuous circle. Technological innovations in agriculture, medicine, energy, manufacturing, and communications were important — although not the only — factors behind the gains in human development and poverty eradication. The evidence that technology helps development is strong. The decline in mortality rates that took more than 150 years in the now-developed world took only 40 years in the developing world, in large part thanks to antibiotics and vaccines. The development of oral hydration packets — a simple solution of sugar and salt that increases the absorption of liquids — has cut the cost of treating diarrhea and has saved millions of lives. The problem remains that the great majority of technological advances are produced by, and for, rich countries. In 1998, nine-tenths of new patents went to OECD countries, home to only one-fifth of the world’s population. Of the US$70 billion spent on health research in 1998, a mere US$100 million went to malaria research. In the unequal distribution of technology, there is a market failure, both national and global. At the national level, the Human Development Report 2001 stresses proper incentives to invest in research and development, with a greater emphasis on education because good research demands a critical mass of well-educated workers.


This concept paper for the regional study “Secondary Education In Africa” (CP/SEIA) is the result of an extensive consultation and review process with educators and policy-makers in Sub-Saharan Africa, as well as with donor agencies and World Bank human development staff. The review and feedback process will continue throughout the SEIA study implementation. The CP/SEIA was discussed during an internal Bank-wide review meeting on June 12, 2001, chaired by Birger Fredriksen (Director Human Development Africa Region, AFTHD), and attended by World Bank task team leaders, sector managers, educators, and peer reviewers. The CP/SEIA was also presented and discussed during an international education workshop at the Institute of Development Studies in Sussex (June 2001), which was attended by education task teams and specialists from the African Development Bank (ADB) and the World Bank’s Africa Region. Subsequently, the CP/SEIA was presented and discussed at the ADEA Conference in Arusha, Tanzania in October 2001. It was also discussed at the joint UNESCO-World Bank workshop on secondary education, hosted by the Government of Mauritius in December 2001, which representatives from some twenty-eight African countries attended. This revised CP version incorporates comments and suggestions made by attendees of these events.

Graph 1  Age dependency ratio (dependents to working population), 1999

The CP/SEIA will be widely distributed to African educators, institutions, and donor agencies in order to seek cooperation, guidance, ownership, and broad collaboration for the forthcoming implementation of the seven thematic studies, the scheduled workshops, and the final summary reports. The purpose is to focus on practical solutions and review best practices within the African context. The SEIA study will be executed in two phases (Phase I: December 2001 – June 2003; Phase II: July 2003 – June 2004). Several bilateral donor agencies and the World Bank pledged financing for the study; however, funding is still being sought for some activities. The World Bank’s SEIA coordinating task team will seek African participation and inputs. Overall SEIA peer reviewers are Messrs. Mourad Ezzine (senior education specialist, AFTH2), Jamil Salmi (sector manager, HDNED), Vincent Greaney (lead education specialist, SASED), Guillermo Hakim (senior labor market economist, MNSHD). External peer reviewer is Professor. Keith Lewin, University of Sussex. Other external peer reviewers for the specific SEIA products and outcomes are still being sought.

We gratefully acknowledge thematic studies, workshop, and consultant funding by the Norwegian Education Trust Fund, the Dutch Trust Fund, the French Government, and the Irish Education Trust Fund. The next step will be to carry out the proposed seven thematic studies, the literature and donor program review, and the scheduled workshops for Phase I. These will be contracted out to international consultants and research institutes on a competitive basis. Criteria for selection will include close collaboration with consultants, educators, and research institutes in Sub-Saharan Africa. Three internal and external reviewers will review each thematic study and synthesis paper. Efforts to fill the current funding gap will continue.

The SEIA study

Objectives

The SEIA study’s intended audience is (a) policy makers in Sub-Saharan Africa, (b) African educators, (c) World Bank task team leaders, and (d) donor organizations and NGOs. The study will summarize major lessons for reforms in secondary education in Sub-Saharan African countries and draw from successful reforms in other regions. SEIA will offer a forum for discussion and policy dialogue among educators, government policy-makers, and donors in Sub-Saharan Africa. This process-oriented approach will result in (a) ownership and commitment among Sub-Saharan African policy-makers and educators for SEIA, and (b) a demand-driven output. The outcome will be the presentation of evidence and best practices that show how expanding and improving secondary education can help reduce poverty and contribute to overall economic and social development in Africa, and what the Bank’s role might be in this context.

The SEIA study’s goals are:

• Collect and summarize best practices and identify sustainable development plans for expanding and improving the quality, equity, and efficiency of secondary education in SSA
• Identify policy options for the development of a strategic agenda for implementation of secondary education reforms in Sub-Saharan African countries
• Make recommendations about how donor agencies can better coordinate and support secondary education reform agendas in Sub-Saharan Africa.

SEIA outputs

• Seven thematic studies
• Comprehensive database on best practices in secondary education, accessible via the Internet
• Summary analyses (about 3 – 5) of ongoing and completed country-specific studies in secondary education, depending on existing study pro-
grams, in cooperation with education task team leaders and local educators, and funded by non-SEIA resources

- Literature and donor program review of best practices and trends in secondary education

Scope and methodology

The SEIA study will contribute to existing research by Sub-Saharan countries, other international research on secondary education, and ever-growing evidence that secondary education is crucial for social and economic development. SEIA will be implemented in two phases:

Phase I: December 2001–June 2003. During Phase I, a literature and donor programs review of best practices and research for the seven thematic studies will be carried out, and seven draft reports will be produced. In addition, two regional workshops will be held to discuss the findings, and materials will be made available through a database and the “Secondary Education In Africa” website.

Phase II: July 2003–June 2004. Outcomes of the seven thematic studies, the results of 3–5 specific country studies in secondary education, and the findings of the literature and donor program review will be discussed in two regional workshops; final reports will be produced.

SEIA aims to expand upon existing analytic work on secondary education. This includes specific country case studies that have been completed or are now underway. The SEIA study will focus on seven thematic studies of the main challenges in many SSA countries. A comprehensive synthesis of the findings will be prepared at the end of each phase. The seven thematic studies are:

- “Access, financing, and equity: what are the policy options for a sustainable and equitable expansion and financing of secondary education in Sub-Saharan Africa?”
- “How can education transition processes and related mechanisms from primary to secondary, and from secondary to tertiary, be made more equitable and efficient in the Sub-Saharan African context?”
- “Governance, management, and accountability at the secondary level: how can Sub-Saharan African countries connect to current secondary education reform trends?”
- “Secondary school teachers and school principals: recruiting, retaining, and retraining”
- “How can the relevance and quality of curricula, teaching, learning, and assessment be improved at the secondary level?”
- “The link between health and social issues and secondary education: life skills, health, and civic education”
- “Secondary science, mathematics, and ICT — relevance and quality: what are the costs and benefits?”

An encouraging amount of research, analytical work, and other studies are underway or were produced over the past five years. Some examples of relevant secondary education work the SEIA study will build on are:

- ADEA. ADEA working groups conducted several country case studies on policies, practices, and mechanisms relating to the financing of education in Sub-Saharan countries (http://www.adeanet.org).
- IIEP Secondary education project. The goals of this study are to (a) compare country strategies for expanding secondary education systems and (b) facilitate an exchange of information on policy issues. The SEIA task team is cooperating with the IIEP (http://www.unesco.org/iiep/english/research/secondary.htm).
- Demographic and health surveys. These surveys are nationally representative household surveys with large sample sizes of about 5,000 households. DHS surveys provide data for a wide range of indicators,
including school enrollment, school attendance, and reasons for leaving school (http://www.measuredhs.com).

- Strategic directions for IFC investment in education. This paper provides a situational analysis of the most significant trends affecting the education sector in developing countries, and intends to document the private sector’s growing role as a partner in education development.

- The World Bank study on vocational and technical education and training in Sub-Saharan Africa, which includes specific country studies.

The study will focus on lower and upper secondary education, including technical-vocational education. Generally, secondary education covers grades 7–12/13, including vocational education offered within this range. The terms referring to the lower secondary level vary widely: middle, intermediate, or junior high school. Depending on the country, each term may include different grades, student ages, curriculum, and may be linked to other levels within the system. Upper-secondary level is often simply labeled secondary. This paper will use the generally accepted terminology.

Thematic studies

Thematic study 1: Access, financing, and equity: what are policy options for a sustainable and equitable expansion and financing of secondary education in Sub-Saharan Africa?

This study will focus on the following questions:

- How can Sub-Saharan African countries significantly increase access to lower and upper secondary education under sustainable financing scenarios?
- How can Sub-Saharan African countries provide incentives for private sector participation in secondary education?
- What are cost-efficient examples of distance education methods being used to provide and expand access to good quality secondary education?
- How can equity in secondary education be improved and sustained?

Box 2 Distance education in secondary education

Countries in Sub-Saharan Africa have been using distance-teaching methods to provide a second-level education for many years. Distance education can be a cost-effective education alternative for students who fail to gain admission to traditional secondary schools. Distance education courses are typically delivered through printed self-instruction materials that are supported and supplemented by radio broadcasts and study centers. The Malawi College of Distance Education for many years provided a good model of this strategy. Examination pass rates were low but roughly equivalent to those of the traditional schools. Unfortunately, funding constraints forced the college to discontinue radio broadcasts and limited its ability to provide materials. Television also can expand access to secondary education and improve its quality. Telesecundaria is a television-based rural system in Mexico that offers secondary education as part of the national system. Several other countries have adopted the program, and some are making it available to secondary schools in remote areas to enrich and improve instruction, especially in math and science. Regional collaboration would result in economies of scale and drive down cost per student.


Expanding access to secondary education with limited financial resources. Sub-Saharan African countries face the challenge of expanding access to lower and upper secondary education, while improving quality and equity without diverting scarce resources from primary education. Unit costs at the secondary level are high, averaging several times those in primary schools. The costs of lower as well as upper secondary education are high and unsustainable if participation is to be increased. In order to achieve the goal of expanding access to good quality secondary education, Sub-Saharan African countries must (a) increase the amount of public resources for secondary education and (b) render their secondary education system more cost-effective. The priorities may differ, depending on the economic and social context as well as the current character of the education system. Some countries may emphasize increasing overall enrollment at either the lower or upper secondary level, or at both lev-
els at the same time. Other countries may want to increase internal efficiency and quality. There are trade-offs and balances of costs and benefits, both at the lower and upper secondary levels. This study will identify sustainable financing scenarios for expanding access to lower and upper secondary levels and explore how these can be brought to scale.

Cost-efficient strategies to expand access to secondary education. Access cannot be expanded without major changes in the delivery of secondary education services. Therefore, Sub-Saharan African countries are searching for financially sustainable strategies for expanding access to those currently out of school as well as to lower unit costs for those enrolled. Some of these strategies are:

- **REDEFINING THE ROLE OF THE PRIVATE SECTOR.** Some Sub-Saharan African countries are redefining the role of the government vis-à-vis the private sector in order to increase access, cost-effectiveness, and to achieve greater equity at secondary level. Some Sub-Saharan countries, for example, are experimenting with targeted financing mechanisms (e.g., providing public subsidies to private schools in Lesotho and matching grants in Botswana and Tanzania).

- **ALTERING THE STRUCTURE OF THE EDUCATION SYSTEM.** Another strategy is to re-examine the structure of secondary schooling and how it is segmented into more and less specialized cycles. This study will investigate if there are efficiency gains when lower secondary is integrated into primary education or lower secondary into upper secondary education.

- **ALTERNATIVE MODES OF DELIVERY.** Alternative modes of delivery (e.g., via the Internet or radio) that make use of peer learning, self-instruction, and distance methods could also reduce unit costs without diminishing quality (Box 2). Non-conventional modes of delivering secondary education may help to expand access to secondary education in low-population density rural areas. Flexible schooling alternatives may offer a second opportunity to young adults, recent dropouts, or those unable to attend ordinary schooling. This study will explore best practices where these alternative forms of delivery offer access to good quality secondary education.

- **IMPROVING INTERNAL EFFICIENCY.** Improving internal efficiency by lowering the high dropout and repetition rates can also reduce costs. The wast-
age carries significant costs, both social and economic. This study will identify ways to reduce these inefficiencies.  

Expanding access and improving equity. Greater equity in the distribution of educational opportunities will enable the poor to gain a larger share of the benefits of economic and social development, and contribute to an overall increase in the growth rate. Large-scale exclusion from educational opportunities results in slower economic growth, while those with access to skills and knowledge enjoy the benefits of growth. However, in many Sub-Saharan African countries the secondary education systems perpetuate social and gender inequalities (Box 3). The poor may not be able to spare their children — particularly girls — from household work in order to attend school. Poor households may also not be able to afford education. The study will investigate which interventions (e.g., scholarship programs, vouchers, improving school safety, or matching the school calendar to the local agricultural cycle) are most effective in expanding access to secondary education to marginalized groups, such as girls, rural youth, and the poor.

Thematic study 2: How can education transition processes and mechanisms be made more equitable and efficient at the secondary level?  
- What are successful experiences for improving the equity and efficiency of the transition process to and within the secondary education system?  
- How can Sub-Saharan Africa develop and maintain cost-efficient student and parent support services?  
- How can transitional problems in lifelong learning be addressed?  

The challenge to improve transition processes. In many Sub-Saharan African countries secondary education suffers from high repetition and dropout rates, especially among students from poor families. The costs of these inefficiencies are significant, and the problems of those who leave early without qualification remain serious. SSA governments have to prepare young people to continue to the next stage of education or training, whether in the same or a different institution. But many students at the secondary level do not receive the guidance to help them plan their futures.

Support systems and educational pathways. The school system can provide services to help students complete the lower secondary school cycle, after which students can either find employment or continue their education. During the last years of primary and the lower secondary cycle, students need support (information, coaching, support for “learning how to learn”) in order to make a successful transition. During the lower secondary cycle, many students need to make choices that will affect their professional development. In general, secondary school teachers provide the support services through various arrangements; and outside the secondary school the support services are complemented by local labor market information and employers and union services.

**Box 4 Transition from initial education to working life**

The issue of transition from initial education to working life has been a long-standing policy priority among OECD members. The transition from initial education to work is a key stage in the continuing progression of learning and working throughout adult life. Some of the features that contribute to successful transitions are:
- Clearly defined, well-organized, learning pathways and qualification frameworks designed and developed in a lifelong learning process;
- Attractive and accessible information, guidance, and follow-up services for all young people, integrating educational, labor market, and social counseling;
- Institutional frameworks for the organized and continuous involvement of and cooperation among all the players at the national, sectoral, and local levels in order to achieve policy coherence and effective program implementation.

The transition within the upper secondary cycle and from upper-secondary to tertiary is even more complex. Secondary schools must provide better job and study information in order to strengthen the connections to local labor markets and enterprises. In middle and higher income countries, this led to the development of complex systems of information and communication with the local universities and tertiary education institutes, and with the prospective job sources (enterprises, international companies). In many European countries, all secondary schools must now have an institutionalized link with local companies, and this is included in the School Development Plan.

But in Sub-Saharan African secondary schools, these links are weak — or do not exist at all — for a number of reasons: lack of expertise, other priorities, teacher working conditions, and school management responsibilities. However, providing these services is critical for (a) better functioning of the school in a more realistic framework; (b) improved streaming of students and more rational choices of subject matter for both students and parents; (c) reduction of dropout and repetition because of better coached and motivated students; (d) improved equity by targeting youth from low-income families; and (f) significant reduction of social and health problems, provided the information and support services focus on these potential problems.

In addition to support services, clearly defined, open, and coherent learning pathways and qualification frameworks can improve transition processes and are the basis for a lifelong learning process (Box 4). This study will examine how Sub-Saharan African countries can improve the equity and efficiency of transition processes in light of severe financial constraints and how student and parent support services and educational pathways can be developed and financially sustained.

**Box 5 The management of secondary schools — Mozambique**

Secondary schools in Mozambique generally face management problems, though the quality of management varies greatly. The salary of a school director (regardless of type or size of school) is not competitive enough to ensure high quality managers. There are no performance contracts, and the nature of the system does not inspire personal enthusiasm and commitment. Management is complicated by the dual (and often triple) shift system. Management training has been limited. Most principals knew of the “Better Schools” program, but its implementation varies from province to province.

Few schools have management committees or school councils, with representation from the community and civil society. This weakens the accountability of the school to civil society in general and to the local community in particular. Less than 20 percent of secondary teachers are women, and less than 10 percent of school directors are female. This does not create many role models for girl students. The sexual harassment of girl students is reported to be an increasing problem and is not being treated as a serious management issue.


This theme will focus on the following questions:

- What are the needs for governance, management, and accountability at (a) central, (b) provincial or district, and (c) school and classroom levels, and how can these be improved?
- How can decentralized policy decision-making improve the effectiveness of secondary education delivery?
- How can ICT improve decentralized secondary school-based management and accountability for learning outcomes?

**Institutional capacity.** One reason that management and planning capacities are weak in SSA is that many secondary education systems are managed centrally. Regional and local level school administration have little flexibility in regard to adjustment of the curriculum to local needs, recruitment of staff, or the involvement of communities, parents, teachers, and students in educational decisions. As a re-
result, teachers and principals may not feel accountable to local communities, while parents may not wish to participate in school affairs. The effectiveness of the secondary education system management is further constrained because many education managers, especially principals, have not received enough management training (Box 5). In addition, the generally weak information systems are obstacles to effective management of many African secondary education systems. Data on enrollment, learning performance, teachers, facilities, equipment, and finance is often unavailable or unreliable.

Strengthening governance, management, and accountability. In order to improve delivery of secondary education, Sub-Saharan African countries have to improve management, governance, and accountability. Accountability affects the country’s transparency and inclusiveness in setting goals, and the nature of the goals determines whether system managers have clear directives. Secondary education management decides the quality of information, policy analysis, and implementation capacities.

Sub-Saharan Africa must distribute authority and responsibility with the goal of improving accountability and learning outcomes. This process implies changes in delivery and management (e.g., by using ICT), including (a) different resource allocation mechanisms; (b) different performance appraisal criteria for student, teachers, schools, school districts, and other areas of education administration; (c) different tasks for education sector professionals in both teaching and administration; and (d) elimination of some tasks. All of these imply changes in behavior among stakeholders, and education professionals at all levels may face new roles and responsibilities.

In many OECD and developing countries new approaches are being tested, such as school-based management, developing school leaders, and private administration to enhance the delivery of education. Some Sub-Saharan African countries, such as Gambia, Namibia, and Côte d’Ivoire (Box 6), developed a management information system that uses ICT to improve management and accountability within the secondary education system.

Critical questions raised by this study are: Under what conditions are such role, behavior, and power-balance changes at the central, district, and school level successful? How can governance, management, and accountability be improved at all levels? What is the possible contribution of ICT in improving secondary school-based management and accountability?

The study will also explore successful ongoing reform efforts in Sub-Saharan Africa as well as their actual effect on effectiveness and efficiency of the secondary education system.

Thematic study 4: Secondary school teachers and school principals: recruiting, retaining, and retraining

• How can highly qualified individuals be attracted to and retained in the teaching profession at the secondary level?
• What are examples of effective incentive and in-service training systems for post-primary teachers and staff performance in Sub-Saharan African countries with significant budget constraints?
• How can governments in Sub-Saharan Africa improve their relationship with unions when implementing secondary education reforms?
Shortage of qualified secondary education teachers. Teacher and nonteaching staff salaries (including school principals) are the major recurrent expenditure in the education system. Because of their importance in the teaching and learning process, teachers and principals play a crucial role in determining the efficiency and effectiveness of public education expenditures.

In Sub-Saharan Africa, however, many secondary education teachers are unqualified or too narrowly qualified (normally, secondary teachers should be qualified to teach two subjects at lower secondary, and one subject at upper secondary level). In Uganda, for example, only 28 percent of the secondary teaching force are qualified enough (graduate degree), about 57 percent need to be upgraded, and 15 percent received no training at all.

The challenge to attract, retain, and retrain qualified teachers. Recruitment (selection), retaining (salary, professional development), and retraining (in-service training) of teachers and school principals are central issues in the growing demand for more secondary education access, better quality, and equity. These factors are especially important at secondary levels, where schools tend to be larger and teachers are specialized in a few or only one subject. Teaching at the secondary education level and managing a secondary school require different skills and training than similar activities in primary education. Therefore, SSA governments need to attract and retain highly skilled individuals at the secondary level.

Graph 2  
Student to teacher ratio, secondary, 1997

<table>
<thead>
<tr>
<th>Region</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECA</td>
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</tr>
<tr>
<td>OECD</td>
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<td>MENA</td>
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<tr>
<td>EAP</td>
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<tr>
<td>SSA Anglophone</td>
<td>25.4</td>
</tr>
<tr>
<td>SSA Francophone</td>
<td>29.8</td>
</tr>
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</table>


Box 7  
Guinea: Teacher-designed professional development projects

The goal of the teacher-designed professional development projects is to enable teachers to become full-partners in the reform of education in Guinea by initiating and carrying out their own professional development projects. With the help of ministry personnel designated as facilitators, team of teachers design projects and compete for small grants to carry them out. Those selected for funding are offered quasi-contracts in which the ministry promises to provide the resources teachers have requested in their proposal and budget in return for their commitments to carry out a systematic plan of activities to improve teaching and learning in their classrooms. After being piloted in two regions and part of a third in the interior of the country, the program is being expanded to all other regions.


But attracting and retaining bright, motivated, and well-trained teachers does not ensure high quality teaching in the classroom; many other factors affect teachers’ performance in the classroom, including incentives for performance, supportive working conditions, and opportunities for training and retraining. In many Sub-Saharan African countries the remuneration systems are based on seniority, not on actual performance. In addition, many of the work environments in these countries are not conducive to teaching and learning — for example, large classes and insufficient teaching materials.

Ongoing professional and instructional support will enhance teaching and learning. The question then arises what role supervisors, unions, and associations play in supporting professional development of secondary education teachers. The knowledge base on how secondary education teachers are recruited, accredited, evaluated, and promoted — and how teacher-training programs can be more cost-effective — must be improved. More information is also needed on recruitment and incentive policies as well as training programs. Finally, this study will examine how governments can improve their relationships with unions when secondary
SECONDARY EDUCATION IN AFRICA: STRATEGIES FOR RENEWAL

Box 8 A land of orphans

“The boys look at the future with despair. It is very bleak,” says Tsepho, at 17 a head of a household of three young boys. He had to quit school, has no job, will probably never get one. “I’ve given up my dreams. I have no hope.” Many orphans must fend for themselves, struggling to survive. The trauma of losing parents is compounded by the burden of becoming a breadwinner. Most orphans sink into penury, drop out of school, and suffer malnutrition, ostracism, and psychic distress. “They hardly ever succeed in having a life,” says Siphelle Kaseke, 22, a counselor at an AIDS orphans’ camp near Bulawayo.


reforms call for fundamental changes in incentive structures, training, evaluation, and responsibilities for both teaching and nonteaching staff.

Thematic study 5: How can the relevance and quality of curricula, teaching, learning, and assessment be improved at the secondary level?

• How will secondary education curricula and teaching need to change to better reflect (a) modern curricula and curricula organization and (b) the economic and social trends in Sub-Saharan Africa?
• How can emerging issues like civic education, health, and life skills be integrated into mainstream secondary education curricula?
• How can effective and relevant secondary school curricula be delivered in a cost-effective way, and how can ICT be used to improve learning and teaching in secondary schools in Sub-Saharan Africa?
• How can assessment and examination systems be used to monitor and improve the quality and relevance of secondary education?

Relevance and quality of curricula. Better links between secondary schools and the local job market must be created. Given the high cost of diversifying curricular tracks, governments are searching for ways to augment the vocational relevance of secondary schooling, for example, by introducing “prevocational curricula” or “vocationalization” of general secondary education. Sub-Saharan African countries are examining how curricula can be linked to practical concerns while the costs associated with diversification can be minimized. These questions are particularly acute in light of the high underemployment among secondary school graduates.

At the same time, the absorption capacity of the domestic market in many Sub-Saharan African countries is a major constraint, and human capital, in both quantity and quality, must remain in line with the demand of the labor market. The relevance of the curriculum also pertains to such emerging issues as sexual harassment in schools, violence, and HIV/AIDS (Box 8), which rarely receive proper attention in the programs. The study will address how to integrate issues of civic education, health, and life skills into mainstream secondary education curricula. It will examine how secondary education curricula can better reflect modern curriculum organization and economic trends in SSA.

Delivering relevant curricula. In many Sub-Saharan African countries, there is too much reliance on rote learning and a significant lack of relevant and effective learning materials. The response of many countries in the region has been to promote computers in schools, but this carries a steep price, and will not fundamentally change the flaws in the current system. In other words, there is a great need to introduce relevant curricula changes and explore possibilities for providing more and better learning materials (school books, extra-curricula materials, ICT materials, journals, newspapers, and language materials).

Although Sub-Saharan African countries can profit from the ongoing reforms in many industrial and middle-income countries, many formidable obstacles remain. The challenge is to retrain teachers in different subjects, to develop new curricula, and to provide new textbooks and learning materials for effective learning to take place. This study will explore how relevant secondary school curricula can be delivered in a cost-effective way in the
Monitoring and assessment. Weak monitoring and assessment systems remain major obstacles for improved learning outcomes at the secondary level. Systematic and internationally comparable assessment of learning in secondary education at classroom, school, and system levels is not widespread, and considerable reliance has been placed on public examinations to ensure that the common curricula are covered. The examinations then affect the content and skills covered in school, and teachers gear their teaching to the examinations, which tend to encourage rote memorization. Consequently, students are given little opportunity to develop skills in observation, problem-solving, reasoning, and creativity. And unqualified teachers — who are often unfamiliar with assessment terminology and processes — will require in-service training to learn how to conduct exams and school-based assessments. This study will explore the impact of assessment and examination systems on secondary education and discuss ways to transform examinations systems into a tool for improving the quality and relevance of secondary education.

**Thematic study 6: The link between health and social issues and secondary education: life skills, health, and civic education**

- Which schooling programs are effective at lower and upper secondary levels to supply young people with good information on health issues and civic and life skills?
- Which learning programs are increasing participation and reducing dropout rates among at-risk youth at the secondary level?
- How can teachers and staff in secondary education become agents in tackling problems like HIV/AIDS, malaria, sexual harassment, and in promoting positive civic values?

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**Box 9  Education can equip girls to protect themselves**

- In one district in Uganda, 32 percent of school girls and 15 percent of boys reported being sexually abused, mainly by teachers.
- In South Africa, 40–47 percent of sexual assaults are perpetrated against girls of 15 or younger.
- 55 percent of adolescent girls in rural Malawi reported being forced to have sex. Violence and sexual abuse against women and girls is depressingly widespread. Girls learn that sexual violence and abuse are an inescapable part of going to school every day — so they don’t go. Education is among the most powerful tools for slowing down and reversing the spread of HIV and reducing the vulnerability of women by contributing to poverty reduction, gender equality, and awareness of human rights.


The HIV/AIDS epidemic is presenting special challenges to the education sector: (a) reduction in the supply of teachers; (b) meeting the needs of increasing numbers of orphans; (c) adapting to new interactions within schools and between schools and communities; (d) curriculum modification; (e) altered roles of teachers and the education system; and (f) the planning and management of the system.

In addition, violence and sexual harassment are widespread in Sub-Saharan African schools, and many parents are reluctant to allow their children — especially their daughters — to face these risks by attending schools. A major concern is youth in the 12 – 19 age group, which covers lower and upper secondary education. In many countries, secondary education is characterized by low enrollment, high dropout and low completion rates, especially among the poor. Consequently, a large proportion of young people from poor families will not participate in or complete even lower secondary education. They remain excluded and at risk.

The secondary education system can respond to the social and health crisis in Sub-Saharan Africa by providing information on health issues, fostering
positive civic values, teaching life skills, and by targeting at-risk youth. For example:

- **Health education.** The secondary education system is a critical entry-point for providing information to young people on protecting themselves from diseases. And people in this age group demonstrate the greatest capacity to change behavior. Evidence from Sub-Saharan African countries (e.g., Senegal, Uganda, and Zambia) and Latin America suggests that comprehensive HIV/AIDS education, provided through formal and non-formal education systems, can help reduce HIV infection levels.

- **Civic education.** Rapid changes in the social, political, and economic order have prompted many countries to review their approaches to civic education, raising questions about the direction that citizenship education should take and, in particular, the contribution of schools to citizenship. Secondary education can give students the skills and understanding to play an effective role in society, helping them to become informed and responsible citizens. However, there is little up-to-date information about civic education for young people in Sub-Saharan Africa, and how civic education is integrated into the curricula at the secondary level. This study will review trends of what role secondary schools play in initiating African young people into their communities.

- **Life skills and youth-at-risk.** Secondary education can contribute significantly to addressing the problems of youth violence and sexual harassment (Boxes 9 and 10). Argentina and El Salvador, for example, implement programs that try to help at-risk youth from the poorest families to complete the secondary cycle. These interventions help young students break the cycle of missed chances and exclusion, and give them an opportunity to develop skills for a better life. In addition, addressing sexual violence in secondary schools is crucial for increasing enrollment rates among girls and in the fight against HIV infection. The South African Council for Educators, has distributed a framework of professional ethics for teachers, calling upon educators to refrain from any form of sexual relationship with students or sexual harassment, physical or otherwise. The council recently announced that it intends to launch a national investigation into the extent of sexual harassment and abuse of pupils by teachers. The question then becomes what role teachers and their professional associations can play in tackling problems like HIV/AIDS, malaria, sexual harassment, and in promoting positive social values.

Although secondary education can certainly play a key role in addressing the social and health crisis in Sub-Saharan Africa, examples of good practices are hard to find. More information is needed about effective programs that address the social and health crisis in Sub-Saharan Africa. The study will explore what lessons can be learned from these experiences.

**Thematic study 7: Secondary science, mathematics, and ICT (SMICT): relevance and quality: what are the costs and benefits?**

- How can Sub-Saharan African countries make their science, mathematics and ICT education at secondary level (a) high-quality, (b) cost-efficient, and (c) relevant?
Box 11 Science teaching practices in southern Africa

What do we know about the actual patterns of teaching and learning — the curriculum-in-action — in science classrooms in the southern African region? Although most of the information is anecdotal, the overall impression is unfavorable. Especially because of the poor socioeconomic situation and its negative consequences for teaching conditions, science education has only deteriorated over the last decade in most African countries. Many obstacles, e.g., shortage of qualified teachers, inadequate textbooks and facilities, weak communications networks, and conflicting policies still stand in the way of effective science education programs. In particular, the quality of the science education teaching force leaves much to be desired. There are a few striking examples from different countries:

• In Botswana 56 percent of science and mathematics teachers are expatriates;
• Only about 15 percent of Namibian junior secondary teachers and 50 percent of senior secondary teachers can be considered qualified;
• Nearly 60 percent of science teachers across seven provinces in South Africa have no accredited training in science.

A variety of teacher education strategies have been tried but have shown limited results. In line with a systemic view of educational change, the entire teacher education system needs to be addressed by providing professional development opportunities for teachers.


• In the African context, which curricula organization should be applied (integrated, general science, single subjects) and at what point should specialization occur (core curriculum vs. electives) in view of the limited resources and the severe shortage of teachers?
• How can ICT be taught in secondary schools in Sub-Saharan Africa?

Mathematics and science education are a basis for science-based knowledge and skills. And attaining high levels of scientific literacy is crucial in the new knowledge economy. Even those jobs not directly linked to science and technology often require abilities (creative thinking, rational logic, and problem-solving skills) that correlate with a good science and mathematics education. In many Sub-Saharan African countries, however, the quality and relevance of the subjects at secondary level must be significantly improved. This study will survey ways in which Sub-Saharan African countries can improve the quality, cost-efficiency, and relevance of their science, mathematics, and ICT education at the secondary level.

Teaching SMICT and teachers. Secondary education systems in Sub-Saharan Africa face important choices in science and mathematics education. In lower secondary education, the choice is whether the sciences will be taught as separate subjects or as an integrated science subject. The latter would include relevant links with environmental science. At the upper-secondary level, the choices are when and how science subjects will be taught and by which teachers.

The choices will have repercussions for the training, certification, and management of science teachers. Many secondary schools in Sub-Saharan Africa cannot offer biology, chemistry, and physics as separate subjects at the same secondary school because of a severe shortage of science-oriented teachers. In addition, the choices about the science curriculum will have important consequences for the secondary school infrastructure, i.e., science laboratories. Science laboratories and their equipment are one of the more expensive budget items.

In order to make balanced decisions, more information is needed on best practices, and experiences like the “Secondary School Science Project” (Zim-SciT in Zimbabwe or the “South African Schools Online Project” as well as from other countries. This study will look at how and when these subjects are being taught in secondary schools. It will map out the costs and benefits of science education and ICT at the secondary level. The study will also look at costs and sustainability of science laboratories and equipment, and will survey trends and cost-effective experiences in science teacher training and certification.
Equipping students with ICT skills. Throughout the world, ICT is seen as a tool for educational transformation. It can be brought into the schools in three ways: (a) as a tool for delivery of information and/or services, including school administration; (b) as a tool to teach other subjects, or (c) as an academic curriculum subject to equip the students with skills for the knowledge economy. This study will examine the latter aspect of ICT at the secondary level.

Methodology and expected output

SEIA will be implemented in two phases. Sub-Saharan African educators and policy-makers will be consulted extensively throughout both phases. The SEIA study aims to produce a “road map” for secondary education reform, taking into account the intended audience, and helping its users to find relevant information, the main trends, and best practices. The SEIA study will continue to evolve over time — the key is to provide relevant information at the right time, structured in a way to make it accessible for the intended audience. It is also important to recognize that (a) there are many effective solutions already applied in Sub-Saharan African secondary education systems as well as in OECD countries; (b) secondary education systems are dynamic and constantly changing; and (c) many useful studies dealing with various secondary education issues have been produced in the past decade, and many more are under development. Therefore, the results of this SEIA study will build on the work of others.

The World Bank seeks cooperation with African educators and institutions to carry out SEIA. The thematic studies will be contracted out to international consultants and research institutes on a competitive basis. One criterion for selecting consultants will be their close collaboration with consultants and research institutes in Sub-Saharan Africa. This approach is intended to build on and strengthen the research capacity within the region. The World Bank will also seek technical and financial assistance from bilateral as well as multilateral donor organizations. Educators from Sub-Saharan Africa and World Bank staff will serve as peer reviewers of the thematic studies as well as the two synthesis papers.

All Sub-Saharan African countries are invited to participate in the SEIA study. The SEIA core team would agree upon the SEIA-related results from specific countries, and outcomes would be discussed during regional Sub-Saharan workshops and conferences, and be included in the final SEIA reports. Country SEIA action should include (a) a clearly identified local team with formal responsibility, (b) a local “team coordinator,” and (c) adequate local resources. The following is a “choice menu” for countries to consider:

- Implement a comprehensive study of the secondary education sub-sector, similar to the SEIA seven thematic studies. A local team would execute the study. On request, the SEIA core team will provide advice.
- Select one or more specific thematic studies that have particular relevance for the country and carry out a countrywide study for inclusion in the final reports.
- Work with one or more of the universities or institutions contracted by the SEIA team to execute one of the specific thematic studies, and indicate how this will be coordinated and supported by the local team. Local educators and institutions should be appointed to prepare and participate in surveys, local research, and data collection. The country would finance these activities.
- If a country has already completed a study of the secondary education sub-sector, a local team could submit existing country-specific secondary education studies to the SEIA core team. The goal would be to place the study in the regional SSA and international contexts, and compare the lessons with those from other countries and regions.
- Organize and execute regional Sub-Saharan Africa (SSA) workshops and international conferences to discuss the results of the studies and prepare a SSA regional Secondary Education Action Plan.
Costs and financing

The overall cost is estimated at about US$1.4 million. The World Bank, the Norwegian Education Trust Fund, the French Ministry of Foreign Affairs, the Dutch Trust Fund, and the Irish Trust Fund will provide financing. Negotiations with other donor agencies are underway to fill the financing gap.