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Secondary Education

A Guide to Education Project Design Based on a Comprehensive Literature and Project Review

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INTRODUCTION TO SECONDARY EDUCATION

Since the mid-1990s, the Millennium Development Goals (MDGs) and the Education For All (EFA) initiative have driven an education reform agenda predominantly focused on improving access to primary education in developing countries. In more recent years, proponents of post-basic education have gained a voice and wider access to good secondary education is being increasingly recognized as a critical element in achieving the goals of human development, political stability, and economic competitiveness (Acedo, 2002; Alvarez, Gillies & Bradsher, 2003; Holsinger & Cowell, 2000; King, McGrath, Rose, 2007; Lewin & Caillods, 2001; Lewin 2005, 2007, 2008; UNESCO, 2001, 2008; World Bank, 2005a, 2007). As an intermediary step between primary and tertiary education, secondary education serves as a preparatory phase for youth before they enter the workplace, helping to equip a largely adolescent population with the skills, aptitudes, and social values for a productive and healthy adult life.

Currently, global access to secondary education is growing at an increasing pace (UNESCO, 2008, 2010). Data projections indicate that, as this rapid secondary education expansion occurs, particularly in sub-Saharan Africa and South Asia, the number of secondary school pupils worldwide will rise from 519 million in 2008 (EdStats, 2009) to 583 million in 2015 (EPDC, 2009). Despite these increases, access to secondary education will remain well below universal, particularly in many countries in sub-Saharan Africa, South Asia, and North Africa and the Middle East. At present, approximately 40 percent of the eligible school-aged population is excluded from any form of post-primary education (EdStats, 2009). Moreover, of those excluded at a country level, a disproportionate number come from marginalized groups (e.g. girls or ethnic, religious, and geographic groups) (Acedo, 2002; Di Gropello, 2006; Figuredo & Anzalone, 2003; UNESCO, 2010). Of those who do enroll in secondary schools, transition rates are low and many drop-out or repeat years, which points to issues of poor quality and relevance in the secondary education cycle.

In addition to the many donors, international agencies, and developing countries increasingly looking to improve and expand secondary education and training, USAID's Education Strategy 2011-2015 also articulates support to secondary education in two distinct areas (USAID, 2011). Under Goal 2, USAID-funded programs that focus on improving vocational or workforce development programs include those occurring at the secondary level. In Goal 3, USAID-funded programs to increase equitable access to education in conflict or crisis environments include the restoration of access to secondary education.

This brief provides an overview of secondary education in the developing world, the issues currently driving reform, and some examples of recent reform efforts, the rationale behind them, and lessons learned. While the content of each section covers a range of issues currently shaping secondary education in different contexts, focus is given to areas of intervention in secondary education relevant to the new USAID Education Strategy (2011-2015), i.e. workforce development and restoring access in conflict-affected regions.

SECONDARY EDUCATION – WHAT AND FOR WHOM?

Secondary education is widely believed to provide the optimum setting to prepare young people, predominantly adolescents, for healthy and productive adult lives, including participation in social, political, and economic spheres. In addition, for countries to compete in the global economy, a significant number of their citizens needs a secondary education in order to acquire the specific skills and aptitudes necessary for an increasingly technology driven market place. For countries emerging from conflict or crisis, secondary education provides young people with much needed education and training, and helps develop a foundation for rebuilding national unity and stability. To achieve these aims, the challenge for developing countries, as well as countries emerging from conflict or crisis, is to ensure that the secondary education sub-sector can accommodate enough students to meet these needs, ensure stability through equity of access, and provide a curriculum of sufficient length, quality, and relevance to ensure all school leavers have the skills and aptitudes necessary for a productive and healthy life. There is no simple formula for achieving this objective.

Although many people have an idea of what secondary education is or should be, there is great diversity internationally in secondary education provision, its content, length, and the school-aged cohort engaged. (Acedo, 2002; Alvarez et.al., 2003; Di Gropello, 2006;

> **Secondary education provision can differ greatly**
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> In Uganda, secondary education takes place in distinct secondary school buildings. It comprises 2 years of lower secondary education (LSE) and 4 years of upper secondary education (USE). In Argentina, by contrast, the primary and LSE cycle are combined to form 9 years of compulsory basic education followed by a 2 to 6 year non-compulsory post-basic education and training cycle. Curricula in these two systems are quite different. Whereas Uganda has closely coupled LSE with USE, Argentina has developed a basic education curriculum where LSE is tightly linked to the primary curriculum. In addition to the differing structures and curricular content of secondary education in the two countries, this sub-sector also varies in size. Uganda has a secondary net enrollment rate (NER) of just 23.5 percent (EPDC, 2011) compared with Argentina where NER at LSE is over 100 percent and 79 percent for secondary overall. Given that the nature and purpose of secondary education in Uganda and Argentina are different, the reform agendas are characterized by different priorities, purposes, and financial constraints.

Holsinger & Cowell, 2000; Lewin & Caillods, 2001; Lewin, 2007ab, 2009; UNESCO, 2001; Vargas-Baron & Alarcon, 2005; Verspoor, 2008; World Bank 2002, 2005a, 2007). These differences present challenges to developing a single, global reform agenda to address issues of access, equity, and quality in the secondary education cycle. This complexity calls for an understanding of the structural differences from country to country, a clear picture of the purpose reform serves and its beneficiaries, and an informed development paradigm as a basis for any reform effort.

The literature on secondary education reform indicates that gross enrollment rates in upper and lower secondary schools vary widely from country to country. It does not, however, suggest specific targets for secondary enrollment rates globally. Many might argue that, in an ideal world, all children would have access to a full, quality secondary education. But in developing countries and countries in crisis or conflict, universal access is not normally an affordable option. Instead, policy makers must decide on the relative priority of allocating limited public funding to education against other sectors. They must also weigh the pros and cons of addressing issues of access and quality in secondary education and training compared with meeting pre-primary, primary, and tertiary needs. Even within the sub-sector of secondary education, countries must make decisions about the relative priority of lower secondary versus upper secondary programs as well as the optimum enrollment desired and affordable in each.

Currently, countries, and donors, are increasingly looking to extend universal access, achieved in the primary system, into the lower secondary cycle. The donor community, through MDGs and EFA, is pushing for universal basic education (UBE) where children have access to a closely coupled primary and lower secondary curriculum. This push towards UBE is driven by two factors: 1) the increasing demand for lower secondary education brought about by a bulging cohort of primary school leavers; and 2) a growing realization that more years of schooling leads, on the whole, to greater economic growth nationally and increased income levels for individuals, particularly when education extends into adolescence and includes a greater emphasis on math and science (Verspoor, 2008; Lewin, 2007). At upper secondary levels, the targets for gross enrollment rates are less clear. However, there is an increased recognition that for countries to match short and long term labor market needs (locally, informal as well as formal, and globally), enrollment in upper secondary schooling and training must increase. This is particularly true in countries where an expanding basic education sector requires an ever larger pool of new teachers (Schuh Moore, DeStefano, Terway, Balwanz, 2008; Lewin, 2007; Verspoor, 2008). In addition, it is argued that in order to reach gender equity at secondary levels, gross enrollment rates must reach a minimum of 50 percent (Lewin, 2007).

Nonetheless, increased provision is not enough to deal with the various equity issues in secondary education. Generally, in secondary education, as enrolment increases, there is a need to improve the quality of the lower and upper secondary curriculum, broadening it from its traditional preparatory mission for a small, select group, to one that caters to a wide diversity of school leavers. In addition to consolidating the development of basic skills and competencies started in primary schools, the LSE curriculum must also focus on providing the basic knowledge, skills, and competencies required for USE and to access the job market. At the USE level, changing global economies and diverse national labor markets are driving the push for more relevant and effective curriculum content and learning methodologies as well as the integration of technology both as a subject and as a learning tool. In both settings, the trend from elitist, overly academic curriculums towards a more generalized secondary curriculum addresses the need for broader, less specialized, content that opens up work and tertiary opportunities to a larger proportion of society. Clearly, addressing issues of curriculum quality and relevance requires matching the content of both parts of the secondary curriculum to the cohort entering secondary schools as well as the skills and aptitudes they take into the world of work and adulthood.

In all countries, secondary education is widely recognized as instrumental both as a cause of instability and division, and as an agent for nation building and social cohesion (Buckland, 2005; Sommers, 2002; World Bank, 2005b). If well planned and adequately resourced, secondary education has the potential to provide an environment where large numbers of adolescents can gain the skills and knowledge needed to better participate (economically and socially) in a peaceful, democratic society as well as develop the necessary knowledge to avoid risky behavior and lead a more healthy life (UNESCO, 2010; World Bank, 2005b). This is also true for countries in crisis or post-conflict settings, but the nature of these countries adds unique challenges to restoring or developing an education system. In these settings, where governments as well as education systems and structures are fragmented or decimated, a different approach to reconstruction and reform is needed; one that responds to the urgency of rebuilding, the needs of different social groups (orphans, refugees, ex-combatants, victims), the dire lack of resources (i.e. teachers, buildings, curriculum materials), and the social and political conflicts and complexities that persist.

The need for expanded, more equitable access to relevant, good quality curriculums is the key goal that currently drives debates about secondary education and the emerging reform agenda, in both developing countries and settings of conflict or crisis (Holsinger & Cowell, 2000; Lewin & Caillods, 2001; Lewin, 2005, 2007; UNESCO 2001, 2005). Many countries in all regions of the world have expanded and reformed their secondary education systems in some shape or form to meet their various national needs (Acedo, 2003). In the following section, examples of reforms in secondary education help to highlight issues arising

from expanded opportunities and introduce some of the many challenges and lessons learned that present themselves as plans are implemented.

SUPPORT FOR EXPANSION AND REFORM

Each of the reforms selected for presentation in this paper addresses one of the three current challenges in secondary education provision outlined in the previous section: 1) meeting the increased demand for secondary education; 2) ensuring curriculum relevance and quality; and 3) providing a platform for national unity and stability. These examples illustrate the key forces currently driving much secondary education reform. They also highlight some of the challenges both in reform planning and implementation.

Challenge 1: Meeting the increased demand for secondary education

Proponents of secondary education argue that for school leavers and, ultimately, countries to reap the most social, economic, and health benefits from a basic education, primary schooling is not enough (Holsinger & Cowell, 2000; Figuredo & Anzalore, 2003; UNESCO, 2001). It is essential that early adolescents remain in school and that LSE be a compulsory element of basic education. Moreover, in countries where UPE (and/or UBE) has been reached or almost reached, a bulging cohort of primary school leavers is placing increasing demands on the education sector to expand secondary education provision, both LSE and USE. Nonetheless, countries face an enormous challenge when planning, financing, and resourcing secondary education expansion because it is many times more costly and complex than primary education (Lewin, 2007, 2008). With the bulk of available public and donor funds allocated to the provision of primary education, secondary education budgets are extremely tight. At the same time, increasing funding to this level generally has low priority, both in terms of national development plans and donor agendas. This financial deficiency limits not only the rate and extent of possible expansion, but also the ability to ensure that quality and equity of access are realized.

The case of Uganda demonstrates how pressure from increasing numbers of primary school graduates along with a national need to develop a larger, skilled workforce made secondary school expansion a political priority. Nonetheless, even with careful planning, constrained budgets make it difficult to increase access while still ensuring that there are the necessary resources to ensure and preserve quality. With curriculum quality at risk, the ability of this expanded secondary education system to meet one of its initial goals of producing a more highly skilled and capable workforce becomes questionable. Uganda illustrates that even with thorough cost analyses embedded in an overall education sector strategy, it is vitally important to detail the physical, human, and pedagogical resources required to start and maintain an ambitious expansion of a secondary education system (Lewin & Caillods, 2001;

Lewin, 2005; Schuh-Moore, et.al, 2008). Efforts to expand access must articulate fully the role of teachers, principals, and administrators, and develop appropriate professional

Uganda - Introducing universal secondary education, a first in sub-Saharan Africa

In 1996, Uganda introduced universal primary education. By 2004, the bulge of primary school leavers started to put pressure on the secondary education sub-sector. In 2004, net secondary enrollment was only 15 percent; 20 percent was provided by government schools, 69 percent by private schools, and 11 percent by community-owned schools. Because the majority of the children enrolled had to pay some form of school fees, secondary education catered primarily to the wealthier sectors of society. In 2006, the government recognized that increased access to secondary education (academic and vocational) was needed to produce a more highly skilled and capable workforce, and to meet the demands of a growing number of primary school leavers. As a result, the government committed to expanding the secondary education system so that all primary school graduates would be guaranteed a place in post-primary education by 2015, especially those from low socio-economic groups. In 2007, after a one year feasibility study and financial assessment, Uganda became the first sub-Saharan African country to set a goal for universal secondary education by 2015, and began the process of reform in a select number of government and private secondary schools. The Ministry of Education & Sport (MOES) adopted a number of strategies in order to create more places for students and increase efficiency. These strategies focused on reducing the unit costs of secondary education and increasing efficiency through:

- Curriculum reduction and consolidation of subjects. By 2015, the two track vocational/academic curriculum will change to a four-year general secondary curriculum emphasizing competencies for the work force and further education;
- Increased teacher-pupil ratios and minimum class sizes;
- Rationalization of teacher workloads and the number of subjects each teacher teaches,
- Introduction of double shifts and multi-grade classrooms;
- Decentralization of school management and curriculum planning to schools; and
- Redeployment of teachers to better meet demands.

Although characterized by a well conceptualized planning phase (Penny 2008), it is still too early to fully evaluate the implementation of these strategies and their sustainability... Three areas of concern, however, have already been highlighted:

1.   Teachers and head teachers have not been involved enough in the planning of the reform, yet are on the front line for implementation (both in terms of delivering curriculum changes, and in terms of working conditions).

2.   There is a distinct lack of professional development for teachers, head teachers, and local level administrators in schools where student numbers are increasing dramatically.

3.   Resources to support the reform are insufficient at the school level.

These concerns have led critics to question whether Uganda's intention to provide universal secondary education will be realized and to what extent the quality of provision will be at stake.

Sources: Dejaeghere, 2008; Chapman, 2010; Penny, 2008; MOES Uganda, 2008

development plans so that rapidly expanding numbers of school entrants do not lead to inequity of provision, poor quality, and a subsequent impact on the quality of labor force entrants.

Challenge 2: Ensuring curriculum relevance and quality

With expanding enrollments comes the risk of increasingly irrelevant and ineffectual curriculum content (UNESCO, 2005). Therefore, as enrollment increases, reform of the secondary curriculum is required to ensure that lower and upper secondary content serves the varied needs of all children while still remaining responsive to the national and global labor market, social realities, and political needs. Donors and countries must determine the extent and scale of curriculum reform plans, and carefully analyze the cost implications.

Full scale secondary education reform

Full scale reform, restructuring, and realigning of the secondary education curriculum is a policy option that is considered in some contexts. In countries where there is immense pressure to extend universal basic education to include lower secondary education, there is also pressure to expand enrollment in upper secondary schools. With expanding enrollment, comes the necessity to re-position and reform the whole secondary curriculum to ensure relevance and quality at all levels and for all students.

The case of Argentina, illustrates some of the challenges of full scale curriculum reform at secondary levels. At the planning stage, informed decision making to ensure that curriculum change meets national and individual needs for economic, social, and political participation is essential. An analysis of labor market needs (global and local, formal and informal), the opportunities for further education (tertiary, vocational training), and the social and political values desired to build a stable and peaceful democratic nation serves to focus and direct the reform process. Needed, also, is a review of different curriculum options, the core subjects, and the varied pathways, both academic and vocational, that meet national needs. Finally, a rigorous financial analysis is needed to fully understand the cost implications of expanding access and coverage to the secondary cycle, including new content and methodologies in the curriculum, new resources (i.e. new buildings, books and learning materials, equipment, teachers, in-/pre-service professional development programs, assessments), and the development—if necessary—of new assessment systems.

While planning this scale of reform is a time consuming and complex process, implementation is equally challenging. Successful implementation and long term sustainability require that reform efforts focus on sequencing and planning to ensure that interventions are matched by the necessary resources. Stakes are high at both the individual and country level. The introduction of a new curriculum emphasizing different skills and

competencies requires careful planning to ensure not only that teachers are in a position to present the new materials in new ways, but that communities understand and support the changes. Qualified and trained teachers and principals are essential, and the challenge of increased recruitment and professional development has to be fully addressed. In addition, multiple stakeholders and gatekeepers must be brought on board. Teachers unions need to support changes in conditions of service and remuneration for teachers. Community (local and global) and private partnerships will be required to legitimize the new curriculum and possibly provide resources. Engaging this varied range of stakeholders in the process of reform takes time and a clear process of consultation must be followed.

Curriculum reform for workforce development

The reform of the secondary school curriculum, as highlighted in the case of Argentina and Uganda in the previous sections, is embedded in discussions around progression from primary to secondary, and secondary to tertiary, and how best to prepare school leavers at various stages of secondary cycle for either tertiary education or the world of work. For many countries, defining what secondary curriculum content and delivery will best prepare school leavers for paid work or self-employment will at some point lead to discussions about the relative relevance of academic curriculum and the place of technical and vocational education and training (TVET) in the formal secondary education cycle.

The place and function of TVET in the secondary school curriculum in many developing countries has been shaped by colonial legacies, donor and World Bank priorities, as well as individual countries' economic, political, and cultural contexts. In general, and in many countries the secondary curriculum

Argentina – restructuring the secondary education curriculum

In the 1990s, Argentina embarked on a rapid program of nationwide education reforms. The reforms were designed to address overall inequities by extending education to previously marginalized groups. The reforms also addressed a perceived disconnect between the curriculum and national development needs. One key element of the reform was the expansion of universal basic education to include the first three years of secondary education. A new basic education curriculum was developed covering 1 year of pre-school and Grades 1-9 (divided into three 3-year components). At the upper secondary level, a new 4-year curriculum aimed to combine both academic and technical/vocational content and prepare school leavers for a modernized, dynamic workplace. While the main content of each curriculum was centrally mandated, some content and delivery methodologies were left to the provinces and schools to develop and implement according to their local labor market needs and social contexts. The re-modeling of the school curriculum was accompanied by, in some instances, the re-locating of lower secondary to primary or middle school sites, and an overall push to increase school autonomy in an increasingly decentralized system. During this period, secondary education gross enrollment leapt from 72% in 1990 (World Bank EdStats Database), to 103% in 2007 (UNESCO, UIS). However, drop-out rates continued to be high (particularly in low socio-economic groups), an indication that quality and equity were continuing areas of concern.

Source: Acedo, 2008

consists of selective academic education that prepares school leavers for tertiary education, and TVET. Typically, TVET in formal secondary schools or technical institutes has focused on providing secondary-aged students, not selected for the academic track, with the knowledge, skills, and experience needed to join the formal labor market (e.g. farming, industry, hospitality, construction, administration, etc) or take part in more traditional, informal employment (e.g. weaving, carving, leather work, food and nutrition, etc.). In the 1980's – 1990's, the effectiveness of this school-based approach to workforce development was highly criticized. Moreover, at this time the World Bank and wider development community shifted their focus towards meeting the goals of EFA and MDGs and as a result little priority or funding was given to improving or reforming secondary level TVET.

Recently, however, there has been renewed interest in TVET and its role in education and development (McGrath, 2012; Oketch, 2007; Atchoarena & Delluc, 2002, King, 2009; King & Palmers, 2010; Lauglo, 2005; Hoppers, 2009) and countries, with donor support, are again looking for ways to reform and improve TVET opportunities for school-aged youth. Although some countries provide successful models of academic and TVET streamed secondary education (e.g. Germany, Finland, Sweden), many others, particularly in the developing world, are opting for a different approach. In this approach, a more generic curriculum is provided for all children that blurs the boundary between academic and TVET at the secondary level and focuses more on providing all young people with the general knowledge, skills and attitudes relevant to the world of work. In these curriculums, there is a stronger emphasis on building literacy, numeracy and scientific skills, combined with a teaching approach that encourages life-long-learning, entrepreneurship, and innovation. It is believed that with this approach, particularly at the LSE level, all children will be prepared, not for specific skills or labor markets, but rather with a general job readiness and the capacity for job mobility (both vertically and horizontally).

The changing place of vocational and technical education in the Ghanaian secondary school curriculum reflects the continuing debates around this element of secondary school policy. For secondary schools, integrating academic and TVET in the secondary school setting is challenging and in many countries has failed (Verspoor, 2008; Lauglo & MaClean, 2005; Bortei-Doku Aryeetey et.al, 2011). Largely this is because TVET provision is expensive, requires large numbers of trained teachers, is too slow to respond to changing job market and youth needs, is overly supply driven, has limited success in preparing school leavers for the workplace, and is often undervalued and respected by parents, teachers, students, employers, and tertiary institutes (Verspoor, 2008; Lewin, 2008; Oketch, 2007; Akcoojee, 2005, Akyempong, 2010).

Ghana – the changing face of vocational and technical education and training in secondary schools

In 1987, Ghana formalized a post-independence policy of including vocational and technical components in both the lower and upper secondary school curriculum in order to prepare learners for paid work or self-employment. The resulting education system comprised 9 years for basic education (6 years of primary and 3 years of lower secondary education) and 3 years of upper secondary education. Within the lower secondary curriculum there was an emphasis on pre-vocational and pre-technical training. Students elected seven vocational/technical subjects from a menu of thirteen which they studied alongside a general curriculum that focused on literacy and numeracy. At the upper secondary level, although all students followed a core curriculum (math, science, language, arts), a selected few attended senior secondary schools where other more academic electives were possible. The remainder was selected for technical, farm, or vocational training institutes where, alongside the core curriculum, they followed skills based electives for perceived job markets.

In 2004, a review of secondary education found that this system was meeting neither the needs of young people or employers. It found that the population of young people leaving secondary schools was made up of "immature learners between the ages of 12 and 15 who were unable to absorb vocational skills and vast numbers of unskilled and unemployable young Ghanaians". The report concluded that the drive to create a diversified curriculum that offered specialized vocational, technical, and general education at the secondary level, was compromised by a lack of resources, skilled teachers and master-crafts persons in schools (particularly in rural areas) and a rapidly out-of-date curriculum that did not match the job market. The poor quality of skills development and the evolving mismatch between the curriculum and the labor market needs meant that young people leaving secondary schools were not able to find work in the very specialized areas for which they had been trained, and were unable to transfer their skills and knowledge to other work place environments. In addition, because technical and vocational education streams were considered second rate by both universities and employers, there was a general undervaluing of vocational and technical subjects by schools, parents, and students who saw it as a second class option that narrowed the potential opportunities of school leavers.

As a result of this review and in the context of an increasingly diverse job market, in 2007, Ghana embarked on further education reforms that would promote "job market readiness" in school leavers. For lower secondary this meant a reform of the curriculum to emphasize more clearly the basic skills needed for job readiness, in particular literacy, numeracy, creative arts, and problem solving. Specific vocational and technical curriculum options were dropped. At the upper secondary level senior secondary schools, vocational training institutes, secondary technical schools, and apprenticeship schemes now offer children an expanded core curriculum (English, mathematics, integrated science, social studies, ICT, and career guidance), with a set of electives (agriculture, business, technical education, vocational education, general education (arts or science). Although choices for electives are limited to the schools specialization, the general curriculum is designed to enable all students to move horizontally, and avoid narrowing options at an early stage. Recognizing the need for additional post-secondary TVET both for school leavers and out of school youth, Ghana has established a council to oversea, coordinate, and expand TVET through many public and private providers.

Sources: Akyeampong, 2002, 2010; Atchoarena and Delluc, 2002; Bortei-Doku Aryeetey, et.al, 2011

Based on this, policy options tend towards a secondary curriculum that develops the generic skills that emphasize problem solving and analytical skills for the workplace and changing job markets (King, 2009; Verspoor, 2008; World Bank, 2005a; Israel, undated; Adams & Johanson, 2004; Lauglo & Maclean, 2005; Akeeampong, 2010). However, in countries where secondary schools offer a more generic curriculum, experience shows that there is a need to complement this with a comprehensive system of TVET outside the formal secondary school cycle (Oketch, 2007; Verspoor, 2008; Kingombe, 2011; Israel, undated; Atchoarena & Delluc, 2002). Countries can engage with private providers, industry, and master-craftspeople to provide training and apprenticeships for out of school youth and school leavers. This system of TVET provision can better respond to changing labor market needs and workplace practices and benefit from more up-to-date equipment. With a wide array of multiple TVET providers (including secondary schools) governed by various different Ministerial sectors, countries need to establish a body to oversee, coordinate, and promote TVET, to develop national standards and assessment procedures, and to liaise actively with the employment market (Hoppers, 2009; Kingombe, 2011; Bortei-Doku Aryeetey, et.al, 2011).

Curriculum reform for global competitiveness and the labor market

Although full-scale curriculum reform may be a viable and necessary option in some countries, more often countries focus on smaller scale reform. Where the goal of the curriculum is to increase global competitiveness and provide white collar workers for local and international labor markets (Alvarez, et.al., 2003; Lewin & Caillods, 2001; Lewin 2007), identifying and prioritizing specific curriculum elements for inclusion or improvement is one way to improve quality and relevance without engaging in a comprehensive reform effort. While science and math continue to be key curriculum areas for enhancement, other, more workplace-oriented disciplines, are also gaining prominence. For example, in the age of increasingly rapid technological change and globalization, there is increasing awareness that curriculums need to be modernized to include information technologies, both as a subject with skills and competencies to develop, and as tools for teaching and learning (Alvarez, et.al., 2003).

Jordan's progress towards modernizing the secondary curriculum to prepare students for the growing global knowledge economy highlights some of the key challenges that this kind of reform faces. Significant expertise is required to develop, institute, and maintain new curriculums. Therefore it may require participation by other parts of the education system such as the universities, as well as the private sector. The cost of preparing the new curriculum, modernizing classrooms, preparing teachers for the change, and ensuring the expertise to maintain and update the technologies within the system is immense and may require the coordination of multiple donors as well as private sector partners. Curriculum

innovation, whether to include new technologies, update science and math content, or modernize teaching methodologies, therefore, requires careful planning, both in terms of sequencing implementation activities and acquiring funding.

Jordan - new technology curriculum for the knowledge economy

With high enrollment rates and gender parity in all sectors of education, Jordan identified curriculum quality and relevance as key reform objectives. In 2003, the country embarked on a major effort to modernize the curriculum for both basic and secondary education. This modernization was designed to ensure that secondary school graduates had the skills and knowledge needed to access the labor markets of a rapidly growing global knowledge economy. In the secondary education system, this initiative translated into a revision of the curriculum where Information and Communication Technologies (ICTs) were integrated across subjects. A school-to-work program was included in the Lower Secondary Cycle and a new Information Management stream was implemented at Upper Secondary levels. This curriculum change necessitated an upgrade of school classrooms, the provision of computer equipment for schools, and the training of teachers in the content and methodology of the new curriculum. To implement this reform, funding of over $400 million was needed. It came from multiple sources, including the World Bank, Arab Investment Bank, Islamic Development Bank, Agfund, European Investment Bank, CIDA, DfID, JICA, KfW, and USAID.

Early evidence shows that Jordan has moved forward significantly with its reforms. Key challenges have been the coordination of different aspects of the reform, ensuring that implementation of the new curriculum is matched by resource inputs (equipment and learning materials), as well as teacher training, to support the new content and methodologies. Ownership of the project by key stakeholders in Jordan has enabled rapid implementation. The effective coordination of the large number of donors has also been instrumental to the success of the reform to date.

Due to the success of the first stage of reforms, Jordan has now embarked on a second phase of reform support in the education sector. In this second phase of the project, teacher professional development and classroom renovation and equipment are key components.

Sources: SJE/CIDA, 2007; World Bank 2003 & 2009; EQUIP2, 2008

Challenge 3: Ensuring national unity and stability

In countries where the population has been decimated by economic deprivation, health epidemics, natural disasters, or conflict, youth of secondary school age are a particularly at-risk group. In these environments, secondary schools, which are often destroyed, neglected, and under-resourced, can provide essential educational programs and skills training for youth, thereby promoting peace and reconciliation as well as economic development and nation building. These schools can also provide life skills and post-trauma counseling to an age group that is often excluded. In the recent past, however, donor funding for post basic education and training in cash-strapped countries in crisis has been relatively

meager (Buckland, 2006; Vargas-Baron & Alarcon, 2005; World Bank, 2005a). Secondary education has often been neglected in favor of primary education and most post-conflict aid has been directed towards 'survival assistance' rather than programs aimed at longer term development, like education sector rebuilding or support.

Rwanda - secondary education in a post-conflict environment

The war in Rwanda of 1994 left the country with few resources or public funds for rebuilding an education system decimated by conflict. Moreover, because ethnic and regional biases in admission policies and a curriculum that espoused ethnic stereotypes had been identified as contributing to the ethnic, regional, national and religious divisions that fueled the war, wide ranging education reform was required. Before the end of the war, the Government of Rwanda (GoR) recognized that education could promote new values to aid in the rebuilding of a politically and economically stable nation and the GoR, under an overarching goal of poverty reduction and economic development, developed an education reform agenda to promote national unity and reconciliation, regional security, and economic development. One clear goal within this education reform agenda was to increase access to and quality of secondary education and training. The reform of the secondary education sector would provide skilled manpower for economic development and help in the transformation of the "agricultural economy to a service-oriented, ICT-led knowledge economy" (Hayman, 2007).

A key objective of the reform was to expand secondary enrollment to 40 percent by 2005. As of 2006, however, Rwanda's gross secondary enrolment was only 18 percent (www.epdc.org), an increase attributable mainly to an expansion in private secondary schools. A lack of additional public funding to support an expansion of post basic education and an agenda increasingly dominated by donors have been regarded as the main causes of this failure to increase enrolment.

Despite national recognition of the importance of the post basic education and training of youth in furthering peace, reconciliation, and economic development, the rebuilding of Rwanda's education system focused almost exclusively on primary and tertiary education in the post-war period. Under pressure from the World Bank and international community to work towards the goals of poverty reduction and education for all, and led by internal bias towards rebuilding a tertiary sector, secondary education was underfunded and has remained underdeveloped.

Sources: Hayman, 2005, 2007; Obura, 2003; World Bank, 2004

The case of Rwanda highlights some of the complex challenges of secondary education restoration in a country emerging from conflict. With many competing priorities, reform of secondary education in countries in crisis requires an approach that responds to the very specific social, political, and economic context in each country. It is clear that there is a need to develop a clear development rationale for secondary education restoration, reform, and/

or expansion in order to persuade both governments and donors of the need for funding and prioritizing secondary education and training above other urgent needs. Political and social contexts mean that acting at the policy level will require political savvy, as well as time to build trust with all stakeholders. Private funding and external donor support need to be coordinated, in countries where public levels of funding are very low. As with other reforms, both short term (during and immediately after the crisis/conflict) and longer term financial planning are crucial to ensure sustainable reform and restoration.

CONCLUSION

Beginning from different points within a huge variety of country contexts, programs in secondary education reform can follow many alternate paths with correspondingly different policy implications and choices. In some countries, where primary enrollments are still low and funding severely limited, secondary education may not be a priority at all. For others, where there is low secondary enrollment and/or inequities in access, expanding provision may be of foremost importance. For countries that have already expanded secondary enrollment, quality may be the primary concern, leading them to prioritize programs that foster curriculum reform and modernization, increased efficiency and lower costs, or recruitment and training of new teachers. For countries coming out of crisis, secondary education provision and reform may be prioritized in a larger process of national reconstruction, economic development, and political stability. Whatever the context or the priorities, each country must analyze its unique needs and associated financial implications to ensure that the reforms are affordable and sustainable (Lewin, 2005, 2007, Di Gropello, 2006; King, et.al., 2007).

This paper has highlighted the current state of secondary education in the developing world, and summarized the main issues that are driving reform agendas in this sub-sector. With particular focus on the role of secondary education in workforce development and in countries in crisis and conflict settings, examples of country specific reforms and a review of the literature provided a summary of some of the lessons learned in planning and implementing secondary education reform. As donors like USAID and individual ministries of education seek to improve the life opportunities of their citizens, it is hoped that this summary and the literature from which is sourced, will assist in the further development and improvement of this important sub-sector.

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