African Center for Economic Transformation
analysis. advice. advocacy.

Skills Development for Economic Transformation in Ghana

www.acetforafrica.org

Skills Development for Economic Transformation in Ghana

Submitted to the

African Center for Economic Transformation

By

Dr. William Baah-Boateng
Senior Lecturer, Dept. of Economics, University of Ghana
Fellow, international Institute for Advanced Studies (IIAS)

&

Dr. Daniel Baffour-Awuah
Executive Director
Workforce Development Institute

February 2015

Acronyms and Abbreviations

ACET	African Center for Economic Transformation
CBT	Competency Based Training
CEO	Chief Executive Officer
COTVET	Council for Technical and Vocational Education and Training
DANIDA	Danish International Development Agency
EMIS	Educational Management Information System
ESAR	Education Sector Annual Review
GDP	Gross Domestic Product
GEA	Ghana Employers' Association
GES	Ghana Education Service
GLSS	Ghana Living Standards Survey
GSS	Ghana Statistical Service
HND	Higher National Diploma
JHS	Junior High School
MDG	Millennium Development Goal
NCTE	National Council for Tertiary Education
NERP	New Educational Reform Program
NGO	Non-Governmental Organization
NVTI	National Vocational Training Institute
TVET	Technical Vocational Education and Training
SHS	Senior High School
TVSD	Technical and Vocational Skill Development

Contents

List of Tables

List of Figures

1. Introduction

Fifty years ago, Ghana and South Korea had virtually the same per capita income, but currently, the national output of South Korea is about six times higher than that of Ghana (Baah-Boateng, 2013). Some reckon that at least half of the difference is due to South Korea's success in acquiring and using knowledge (World Bank, 2009). Indeed, the state of underdevelopment of many African countries is due not only to lack of capital but, more importantly, to lack of adequate knowledge and skills to enhance productivity and increase national output. Human capital development in Ghana is estimated to be quite low, to the extent that only about one of every four persons in the working-age population has a secondary education or better (Baah-Boateng and Ewusi, 2013). Even in the case of those with a secondary education or better, the quality of skills acquired in school relative to what the economy requires is also a challenge. The purpose of this paper is to provide some analytical overview of skills development in Ghana, showing challenges of education and skills training and suggesting some measures to stimulate debate at the Ghana Transformation Forum under the auspices of the African Center for Economic Transformation (ACET). The paper is structured in eight sections. An overview of employment and labor force in Ghana is dealt with in Section Two after the introductory section. Section Three focuses on education and skills issues, followed by an overview of demand and supply of skills and the critical gaps in Section Four. In Section Five, the paper looks at skills potential, including challenges and opportunities, while Section Six touches on recent initiatives and programs in education and skills training in Ghana. Section Seven outlines major challenges in the education sector, followed by recommendations in Section Eight.

2. Employment and Labor Force

The Ghanaian economy remains highly informal, with at least 88% of total employment found in the informal sector. Strong growth recorded over the last decade has not translated into generation of productive jobs. Annual average GDP growth of about 8.2% between 2006 and 2013 translated into about 4.0% employment growth, indicating employment elasticity of output of about 0.49. Employment largely occurred in the informal sector, with an annual average increase of 4.1%, compared to 3.2% in the formal sector. Gainful employment, comprising wage employment and employers, however, improved from 22.0% of total employment to 26.3%, with a decline in vulnerable employment from 75.4% to 68.6% over the period (Table 1).

Table 1: Employment and Unemployment Trends and Structure

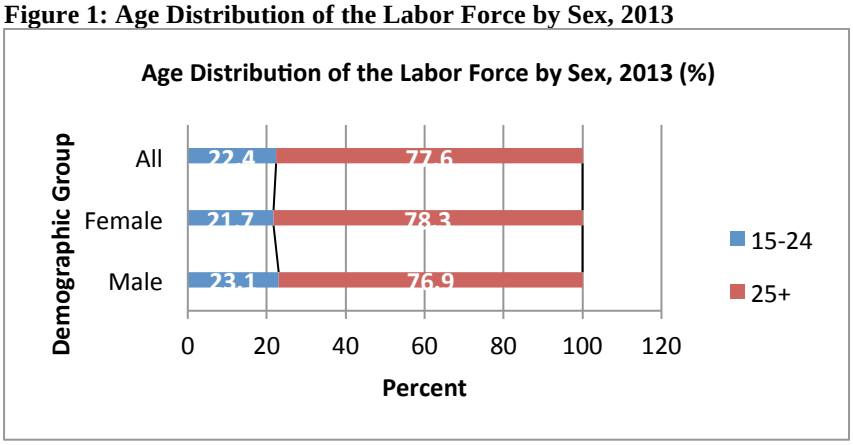
Indicator	2006	2010	2013	2040	Indicator	2006	2010	2013
Working-age population	13.30	15.21	15.92	33.61	***Institutional Sector (%)***			
Labor Force	9.43	10.88	12.30	27.91	Public	5.7	6.4	5.9
Employment (in millions)	9.14	10.24	12.04	---	Private	7.0	7.4	6.1
Economic Sector (%)					Informal	87.3	86.2	88.0
Agriculture	54.9	41.6	44.7	---	***Employment Type (%)***			
Industry	14.2	15.4	14.4	---	Gainful employment	22.0	23.1	26.3
Manufacturing	*11.4*	*10.8*	*9.1*	---	Vulnerable employment	75.4	71.5	68.6
Mining and quarrying	*0.7*	*1.1*	*1.6*	---				
Electricity, gas, stream, etc.	*0.2*	*0.2*	*0.2*	---	***Non-working***			
Water supply, sewerage, etc.	*0.1*	*0.2*	*0.2*	---	Unemployment rate (15+)	3.1	5.8	5.2
Construction	*1.8*	*3.1*	*3.3*	---	Youth unemployment rate	6.6	12.9	10.9
Service	*30.9*	*43.0*	*40.9*	---	Rate of joblessness (%)	12.9	12.6	14.8
Trade	*18.0*	*18.9*	*19.5*	---				
Other service	*12.9*	*24.1*	*21.4*	---				

***Source**: Computed and/or compiled by author from census and GLSS 5&6, GSS*

Employment in agriculture expanded annually by 1.0% on average, against 8.3% and 4.2% in the service and industrial sectors, respectively. Consequently, agriculture's dominance in employment has been cut drastically, from 55% of total employment to 45% between 2006 and 2013, compared with a substantial increase in services employment, from 31% to 41%, and a marginal gain in industry employment of 0.2 percentage points (see Table 1). The shift in employment from agriculture to services and industry is a reflection of changes in the economic structure of the country. Available data from national accounts suggests a drop in agriculture's contribution to national output, from 30.4% in 2006 to 22.6% in 2013, compared with an increase from 48.8% to 50.0% for services, and from 20.8% to 27.5% for industry on account of oil.

The country's working-age population and the labor force continue to grow, and, coupled with slow growth of employment, imply increasing incidence of unemployment and joblessness. The working-age population increased from 13.3 million in 2006 to 15.9 million in 2013, representing annual average growth of 2.6%, and is projected to reach 33.6 million in 2040. Similarly, the labor force is projected to hit 27.9 million in 2040, based on annual average growth of 3.9% over the period. Females account for 52.2% compared to 47.8% of males. About 22% of the total labor force are youths aged 15–24, with the remaining 78% aged 25 years and above (Figure 1). Male youths constitute 23.1% of the male labor force, against 76.9% male adults, while female youths account for 21.7% of the total female labor force compared to 78.3% adults. The effect of the failure of employment to grow a bit faster than the labor force and working-age population is the rising rate of unemployment, from 3.1% to 5.2% between 2006 and 2013, and rate of joblessness[1] from 12.9% to 14.8% over the period (Table 1).

Figure 1: Age Distribution of the Labor Force by Sex, 2013



Source: *Computed by authors from GLSS 6, 2013*

3. Education and Skills

3.1. Overview

The level of education and skills of the Ghanaian working-age population remains quite low, with eight of every 10 having less than a secondary education. This does not seem to be enough to propel the country to economic transformation, and largely explains the high level of informal employment and vulnerable employment. Formal education and skills training constitute the main method of developing human capital for the labor market. Indeed, job openings in the formal sector generally require at least secondary or senior high school certificate qualifications. However, available data indicate that the majority of the working-age population and those in employment have only had at most a basic

[1] The joblessness rate is the proportion of the working-age population (less those in school or training) who are not working.

education. In 2013, about three out of every 10 Ghanaians in the working-age population had no formal education, or at best a preschool education, while about five of every 10 of working age had some primary or junior high school education (Table 2). By implication, more than three-quarters of people of working age with at most a basic education would find it difficult to obtain employment in the formal sector. In effect, they are left with no option other than to settle for jobs in the informal sector where formal education is not an entry requirement.

Table 2: Education Level of Working-Age Population (%), 2013

Level of Education	Working-Age Population %	Agriculture	Manufacturing	Tourism	Trade
None	22.6	38.2	18.3	20.6	18.6
K.G.	10.6	14.3	9.8	13.1	10.9
Basic education	48.0	42.4	58.5	49.8	43.3
Secondary education	10.9	4.2	8.1	10.5	12.0
Voc./tech./commercial	2.4	0.6	3.3	4.4	5.0
Teacher/nursing/HND	1.5	0.3	0.3	0.0	2.9
Polytechnic	1.3	0.2	1.1	1.2	0.4
University	2.8	0.2	0.7	0.5	1.0
Total (in millions)		15.92	5.38	1.10	2.35

Source: *Computed from GLSS 6, 2013*

Clearly, less than a quarter of the working-age population in 2013 could boast of some secondary education or better, with only 4.1% (i.e., about 650,000) having had university or polytechnic education. Those with vocational/technical education constitute 2.4% (or 380,000), while people with professional training like teachers, nurses, or agriculturalists account for 1.5% (or about 240,000). The skill and education level of workers in key sectors of the economy is not too different from the entire working-age population. As expected, only 0.39% of the agriculture workforce, many of whom may be retirees from the formal sector, have university or tertiary education, while about 95% have no formal education or at best basic education (Table 2). This partly explains the lower productivity in agriculture in Ghana. In the manufacturing sector, about 87% of the workforce have at most a basic education, while only 11.4% have secondary or vocational/technical education. Those with university, polytechnic, or teaching/nursing training account for only 2.1%. Similarly, in the trade sector, which includes export trade, only 1.4% of the workforce has any tertiary education, with at least seven of every 10 having less than secondary education, while tourism could boast of only 1.6% of workers with tertiary education, against 73.5% with less than a basic education. Clearly, none of these sectors, or other sectors with similar education and skills constraints, could be put on the path of transformation without drastic transformation of the skills and education of the workforce.

3.2. Structure of Education and Skills Development System

Education in Ghana starts at the age of six years and is a 6-3-3-4 structure, representing two years of kindergarten, six years of primary education, three years of junior high school (JHS), three years of senior high school (SHS), and four years' university course. Naturally, students who successfully pass the SHS Certificate examination can also follow courses at a university, polytechnic, or college of education. The first nine years form basic education, which is free and compulsory and designed to expose children to a wide variety of ideas, skills, and attitudes that will help them cope creatively with their environment and stimulate them to be an asset to their country.

Apart from formal white-collar training is technical and vocational education and training (TVET) and apprenticeship training. Currently, technical and vocational skills development (formal and informal) in Ghana is delivered by very different entities – multiple ministries, private for-profit and nonprofit

institutes, NGOs, and informal apprenticeships. The government of Ghana recognizes five different forms of TVET in the system:

- The formal public system, which includes primarily time-bound, institution-based, graded, and certified training. It is offered by institutions such as the National Vocational Training Institute (NVTI), Ghana Education Service (GES), and youth training institutions.
- Formal private nonprofit Technical and Vocational Skill Development (TVSD), facilitated by various faith-based organizations and NGOs.
- Formal private and for-profit TVSD, with a variety of private vocational training schools, which has profit-making as one of its objectives.
- The informal system, comprising a wide range of flexible programs and processes by which individuals acquire skills and knowledge from designated training venues outside of the home and, in some cases, at home. Traditional apprenticeships account for the majority of the informal sector and are mostly in the following trades: cosmetology, carpentry, welding, and dressmaking.

3.3. Education Enrollment

Primary, Junior High, and Senior High Schools

School enrollment at all levels, and in transition from one level to the other, have witnessed considerable improvement over the years. Enrollment at primary schools, JHS, and SHS have continuously increased since 2008 (see Appendix Table A1). Total enrollment at the primary level increased from 3.71 million to 4.11 million between the 2008/09 and 2012/13 school years, indicating a 2.6% annual average increase. Similarly, enrollment in JHS rose from 1.29 million to 1.45 million (or a 3.1% annual average increase), while enrollment at SHS also increased, from 0.49 million to 0.84 million (or a 14.5% annual average increase) over the period. The higher rate of increase in enrollment at the higher levels is reflected in the decreasing number of early leavers, suggesting that an increasing number of pupils/students are transitioning from one level to the other. Evidently, transition rate from JHS3 to SHS1 improved from 51.4% to 61.2% over the period (see Appendix Table A2).

Technical and Vocational Education

The entry point for formal TVET institutes is after graduation from JHS. Graduates from JHS can enter either SHS or formal TVET and informal apprenticeship. Available figures from the Educational Management Information System (EMIS) indicate that an average of 10% of the early leavers[2] enter formal TVET institutes in the country. It is also estimated that about 15% of the early leavers will enter into informal apprenticeships.[3] The remaining 75% enter the labor market unemployed or in low-skilled occupations, such as traditional agriculture, petty trading and street hawking, etc., or stay out of the labor market as discouraged workers. The proportion of early JHS leavers enrolled in formal TVET institutes rose substantially, from 6.6% in 2008/09 to 11.8% in 2010/11, and subsequently dropped to 10.1% in 2012/13 (see Appendix Table A3). Thus, intake into formal TVET increased from 52,661 to 71,848 (or a 16.8% annual increase) between 2008/09 and 2010/11, before nose-diving by 7.5% annually to 61,496 in 2012/13.

Even though TVET issues could be found in the whole structure of the educational system (pre-tertiary and tertiary), it is fully considered secondary-level education after the basic education. It is run in parallel with the grammar (i.e., academic) secondary education for a period of three years and managed by the Technical and Vocational Education Division of Ghana Education Service (GES). Currently, there are 46 technical schools under the Ministry of Education, and these institutes are technical training providers. There is also the Council for TVET under the Ministry of Education, which has the responsibility of formulating national policies for skills development across the broad spectrum of pre-

[2] Those whose BECE scores are not enough to earn them a place in SHS and those who drop out at JHS1 or JHS2.

[3] According to the executives of the Federation of Trade Associations of Ghana.

tertiary and tertiary formal and informal sectors of the economy. The Council also coordinates and supervises the activities of technical and vocational education institutes in the country and sees to the harmonization of the assessment and certification of TVET delivery in the country for both the formal and informal sectors. At the secondary level (second cycle), specialization is available in a number of TVET subjects. Technical institutes, farm institutes, and vocational training institutes provide an alternative to the more academic curriculum at the senior high schools.

Indeed, the progression from basic education to senior high school still remains relatively low, less than 50% (Education Sector Annual Review [ESAR], 2010). Thus, substantial numbers of young basic school leavers are released into the labor market every year without the necessary skills for employment. Enrollment in TVET institutions, particularly in the public sector, has not been as significant as expected, and access to higher education still remains a challenge for a large number of the youth. Gender distribution has more or less reached parity at the lower levels of education and is improving at the higher levels, but is still a challenge in the TVET sector.

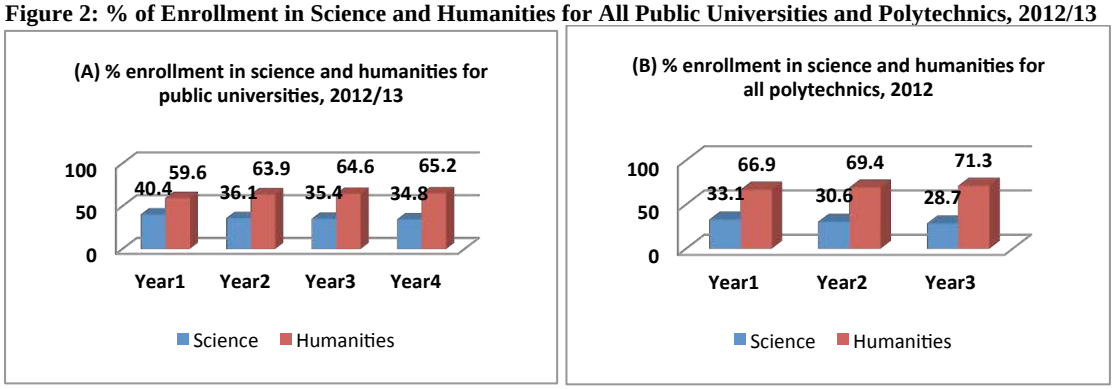
Meanwhile, various other ministries, such as the Ministries of Employment and Social Welfare, Local Government and Rural Development, Trade and Industry, Transport and Communication, and Food and Agriculture, have also established other vocational institutes and training centers, as well as other skills training programs, in some parts of the country, with their respective independent mandates. The delivery of TVET in Ghana has therefore been governed by separate ministerial mandates, while the informal sector also operates under its own conditions.

Universities and Polytechnics

Ghana lags behind Senegal, Mauritania, Togo, and Benin in tertiary enrollment (NationMaster.com, 2014). Ghana is ranked 128th out of 151 countries in the world, with a gross enrollment ratio of 3.3% (NationMaster.com, 2014). Nonetheless, enrollment in universities and polytechnics has considerably improved, with the establishment of many public and private universities and polytechnics. Currently, there are 10 polytechnics, nine public universities, and about 51 private tertiary institutions in Ghana. Total enrollment in tertiary institutions witnessed a rapid increase in the 1990s, following the graduation of the first batch of students under the new education reform in 1999 and the recognition of polytechnics as tertiary institutions under the education reform program. A preliminary analysis of student enrollment in the 10 polytechnics in Ghana by the Ghana Employers' Association (GEA) shows a steady increase in total enrollment, from 18,459 in 2000 to 44,832 in 2010, representing a 9.2%average annual increase in polytechnic enrollment. Most of the polytechnic enrollment occurred in the arts and humanities programs as opposed to science, which includes technology, engineering, and medicine. Specifically, enrollment in arts and humanities rose by 158 percent, compared to a 57 percent increase in the sciences, between 2001 and 2010. In vocational and technical education at the tertiary level, the various institutions also operate with their mandates as determined by acts through their councils and academic boards.

Available data indicate that in 2012/13, out of the total number of 106,978 undergraduate students in the nine public universities, 39,313 (representing 36.7%) were studying science, with the rest pursuing courses in the humanities. Similarly, out of total enrollment of 55,361 in 51 private tertiary institutions in 2012/13, students in humanities accounted for 72.2%, with the remaining 27.8% pursuing science programs. Similar trends are observed in polytechnic education, with 69% of the total enrollment of 47,108 pursuing courses in humanities and the remaining 31% pursuing degrees and diplomas in science. Nonetheless, there seems to be some improvement in science enrollment based on the increased proportion of science students, from 34.8% in Year 4 to 40.4% in Year 1 in public universities, and 28.7% in Year 3 to 33.1% in Year 1 in polytechnics (see Figure 2). Thus, a greater number of science students are being admitted in recent years (Year 1) than in earlier periods (y\Years 3 and 4).

Figure 2: % of Enrollment in Science and Humanities for All Public Universities and Polytechnics, 2012/13



Source: *National Council for Tertiary Education (NCTE)*

4. Overview of Demand–Supply of Skills Gap

4.1 Overall Demand–Supply Gap

Demand for labor is technically a derived demand. Firms hire labor for the purpose of producing goods and services, which, in aggregate, translate into national output or real GDP. In effect, as the economy grows, it is expected that production of goods and services by firms would translate into employment generation. Clearly, if growth emerges from high-labor-absorption sectors such as manufacturing, tourism, and agriculture, the result would be employment generation, even though the quality of employment could be a concern. In contrast, supply of labor technically refers to the total number of hours of labor service rendered by a worker. In this study, we define labor supply in terms of the annual increase in the working-age population who are not in school. We use the working-age population rather than the labor force in order to capture discouraged workers, who are not captured by the labor force because they do not seek employment for various reasons.

Table 3: Overall Labor Supply–Demand gap, 2007–2013

Year	2007	2008	2009	2010	2011	2012	2013
Annual jobs created (‘000)265.6	357.0	176.8	367.8	326.1	199.0	167.0	
Annual labor supply (‘000)	389.8	401.0	412.5	424.4	306.1	312.3	318.5
Gap as % of labor supply	31.9	11.0	57.1	13.3	-6.5	36.3	47.6

Source: *Computed from GLSS 5&6 and national accounts*

Using a combination of employment elasticity of output and annual growth of real GDP generation to derive a proxy for annual labor demand yields annual labor demand in Ghana between 2007 and 2013, as shown in Table 3. Based on the annual increase in the working-age population from 2006 to2010 and 2010 to 2013 as a measure of annual labor supply, we obtain annual labor supply as reported in Table 3. Matching labor supply and demand suggests a general excess of labor in Ghana. Thus, the country’s economic growth does not seem to have created sufficient jobs for the growing number of new labor market entrants since 2007.

4.2 Specific Demand–Supply Gaps of Skills

4.2.1 Quantitative Analysis

Data for analyzing specific skills gaps in Ghana is virtually nonexistent. One major source of data for skills gap analysis is administrative surveys, which do not exist in Ghana. Consequently, we use annual changes in the number of people engaged in occupations between 2006 and 2013 as a proxy for annual labor demand by skill level, and use annual changes in the working-age population by level of education as a measure of annual supply of labor by skills. The annual demand for and supply of labor by skills

are matched to obtain gaps at different skill levels. Based on the International Standard Classification of Occupation 2008, we define high-skilled occupations to comprise professionals, technicians and associate professionals, and managerial occupations, as well as armed forces, while clerical, sales/service, and plant and machine operation/assembly occupations are classified as semi-skilled occupations. Low-skilled occupations are traditional agriculture and elementary occupations, with craft occupations as specialized occupations. On the supply side, high-skilled individuals comprise those with university, polytechnic, and professional education, such as teachers and nurses, while those with secondary education represent semi-skilled and those with basic education or less are considered low-skilled. Vocational/technical skills denote specialized skills.

Table 4: Labor Supply–Demand Gap by Skills, 2006–2013

Supply	Annual Average Growth		Demand	Annual Average growth		Percentage
	Absolute	%		Absolute	%	Gap (%)
High-skills	59,315	9.50	High-skill	68,144	9.91	–0.41
Voc./tech.	5,457	1.54	Craft	34,945	2.52	–0.98
Semi-skills	124,641	10.46	Semi-skill	267,912	10.89	–0.43
Low-skills	186,980	1.54	Low-skill	44,907	0.79	0.75

Source: *Computed by authors from GLSS 5&6*

Comparing annual average labor demand and supply at different skill levels yields a shortage of high-, semi- and specialized-skill labor and an excess supply of low-skill labor (Table 4). A huge shortage is revealed in vocational and technical skills, with a –0.98 percentage-point gap in growth annually. It's possible to fill the shortage with low-skilled labor with only basic and apprenticeship education. The shortage of high- and semi-skilled labor is also expected to be filled by low-skilled labor. This is evident in the 83%, 82%, and 27% of people engaged as plant and machinery operators/assemblers in sales/service, and in clerical occupations, respectively, who have a basic education or less (see Appendix Table B).

4.2.2 Qualitative Analysis

The foregoing provides a general overview of the skills gap in Ghana and shows that in spite of the increasing number of tertiary graduates and secondary school leavers, there seems to be excess demand for high- and semi-skilled jobs relative to supply. Interactions with industry players and policy makers, as well as consultation with some empirical literature, provide more insight and reasons for this phenomenon. Apart from the observed overall shortage of high- and semi-skilled labor, firms are often confronted with shortages of specific skills, in terms of quantity and quality. For example, anecdotal evidence suggests that when Ghana started commercial production of oil in late 2010, there were some specific types of skilled workers, such as engineers, drillers, and production and operation workers, that were difficult to find domestically, and thus oil producers had to rely on skills from Côte d'Ivoire and Nigeria to fill those vacancies. Boateng and Ofori-Sarpong (2002) estimated supply deficits in medical and health, engineering and technical, and business administration graduates, and an oversupply of graduates in arts/social sciences and agriculture in 1999–2000. This was reiterated by two industry practitioners, who said that sometimes they are compelled to resort to skills from outside the country to repair a faulty machine. They attributed this to the fact that the education system is producing a large number of graduates in the humanities, in excess of what the economy requires, while scientists, engineers, and technologists needed for the manufacturing sector are produced in limited numbers. One industry practitioner bemoaned the fact that all the new universities and polytechnics established over the last two decades are churning out graduates in business at the bachelors and graduate levels, while the existing ones continue to step up their enrollment in business and humanities. Incidentally, while most of the newly established universities train students largely in the humanities, which the labor market does not need in such large quantities, existing science and technology universities are shifting from their core mandate to train more students in humanities. These developments could be linked to

the high cost of training graduates in science and technology areas relative to the costs of training graduates in the humanities. Even though enrollment in science in public universities and polytechnics has been inching up in recent times, the improvement is very slow. This can also be linked to the low enrollment in science at the secondary level, which is the source of input for science training at the tertiary level.

In addition to the shortage of skills in terms of quantity is the quality of skills churned out by training and academic institutions. Quality gaps occur when skills required are not matched by the skills of new labor market entrants. The emphasis of certificate qualification over the individual's ability to perform on the job tends to shape training and teaching, such that learning how to pass the examination takes the better part of the time of students and trainees. Education and skills development that focus on training the mind to solve problems in practical scenarios, as well as the development of soft skills (such as computer, communication, and interpersonal skills), are hardly adhered to. One employer observed that recruiting engineers locally is a challenge because many of these engineering graduates are mostly familiar with the literature, but have little or no practical knowledge on how to fix a problem. One industry practitioner said bluntly that most graduates who are called for interviews demonstrate just raw talent and skills that cannot be used for anything on the job. Several graduates apply for jobs they are not qualified or trained for, which makes the screening process too long and cumbersome, and many applicants who queue up for interviews fail to impress. A senior officer of an employers' organization argued that recent tertiary graduates lack basic skills to complete simple routine assignments, indicating that getting a certificate is a mere formality rather than an indication of achievement. One interviewee at a multinational company found the performance of tertiary graduates on the job to be generally satisfactory compared to their counterparts in other parts of Africa, but said they lack initiative. Most young graduates at the workplace often wait to be prompted before they move. Many newly employed graduates take too long to learn their jobs and responsibilities, and appear to be too mechanical in thinking. Employers usually spend time and money trying to identify the required graduate personnel, and sometimes fail to find them after months of searching, in spite of the growing number of university graduates churned out every year.

A number of reasons for the skill mismatch and poor quality of educational output came out during the field interaction. At the basic and secondary level, poor quality of school infrastructure and learning tools and poorly motivated teachers were indicated. Lack of modern equipment and tools, as well as good quality classrooms, libraries, and sanitation facilities in many schools and training institutions, tend to hamper effective teaching and learning. In addition, the desire to meet the second Millennium Development Goal (MDG 2: achieve universal primary education) has partly contributed to high enrollment in schools at all levels without a corresponding increase in improved facilities and trained teachers. Teachers are also observed to be poorly motivated in terms of salaries and working conditions. Teacher absenteeism, due largely to poor school supervision, also came out strongly. The high degree of supervision in the training and education system that existed in the past, and that put teachers on their toes and prevented them from indulging in shirking behavior, appears to have been abandoned. Supervision in the basic and second-cycle public schools has been singled out as the major cause of teacher absenteeism (which, in the Education Sector Performance Report 2013, is reported to be a substantial barrier to quality education in Ghana), and poor teaching delivery culminates in poor student performance in recent times. At the tertiary level, the proliferation of private universities, many of which lack quality teaching staff and infrastructure, brings to the fore the quality of the accreditation process and the supervisory duty of the National Council for Tertiary Education (NCTE).

Skill mismatches, based on the content of skill training that is at variance with what industry requires, were linked to a number of factors. These include absence or limited application of practical and case studies during teaching and training, non-involvement of industry in the design of training curricula,

limited adoption of the problem-solving approach in teaching and training, and lack of opportunities to enable teachers to benefit from retooling by spending some working time with industry. Some interviewees strongly recommended a bold shift from the emphasis of the existing grammar type of education to TVET at the second-cycle and tertiary levels. However, there are negative perceptions about TVET in Ghana, to the extent that many people see it as a dumping ground for those unable to advance through the grammar education system, from JHS to SHS through to the university. A study by City and Guild in collaboration with COTVET in 2011 concluded, among other observations, that "there is a widely held perception in Ghana that only people who are academically weak undertake technical and vocational education. A significant proportion of current TVET trainees, particularly in the informal sector (primarily apprenticeships), are therefore labeled as school dropouts, which impacts on the self-esteem and external perceptions of trainees' abilities." Government's commitment to promoting TVET is very low, and it is evident in the low funding of TVET. This is despite the fact that in an estimate of education expenditure per student in 2012, TVET recorded GH¢3,351, compared with GH¢1,372 for SHS, GH¢837 for JHS, and GH¢412 for primary. Some people consider government's commitment to promoting TVET very low, considering the fact that TVET education is more expensive than academic education and the total amount spent on TVET accounted for only 2.9% of the total education budget, compared to 22.8% for primary, 17.0% for JHS, and 18.5% for SHS. In addition, only 12% of the budget allocation to the Ministry of Employment and Labor Relations is allocated to NVTI, which in absolute terms is far lower than the 1% from the Education Ministry. The politicization of Ghana's education system, which culminated in the increase in the duration of second-cycle education from three to four years in the mid-2000s and its subsequent reversal to three years, with no clear national vison on education and the need to address poor quality of education, does not promote the quality of skills development. This political battle shifted government focus from the core issues confronting the education system, including non-payment of salaries of new teachers, lack of adequate classrooms, and teacher absenteeism.

5. Recent Initiatives and Programs

5.1 Institutional Structure

The regulation and coordination of the formal education system in Ghana falls under the Ministry of Education. Basic and second-cycle education falls under the purview of the Ghana Education Service, while the National Council for Tertiary Education is the regulatory body of tertiary education in the country. Technical and vocational education is governed by the National Vocational and Technical Institute (NVTI) Act (351) of 1970, and the Council for Technical and Vocational Education and Training COTVET ACT (718) of 2002. The NVTI Act mandated the establishment of the National Vocational and Technical Institute "to co-ordinate at the national level all aspects of vocational training including apprenticeship," while the COTVET Act provides legal backing for COTVET to reform technical and vocational skills development in the country by coordinating and overseeing all aspects of technical and vocational education and training. In effect, there are two government institutions working in the skills development sector in Ghana, COTVET and the NVTI, with a seeming conflict in roles. On the informal side of Technical and Vocational Skill Development (TVSD) are the trade associations for various trades, which have recently come together to form the Federation of Trade Associations of Ghana. The federation comprises all the major trade associations in Ghana.

5.2 Recent and Current Programs

Ghana's education system has undergone a number of reforms over the years. One major education reform that sought to respond to mismatches between education and labor market requirements at the pre-tertiary level was the New Educational Reform Program (NERP) in 1987. The reform reduced the number of years at the pre-university level from 13–17 years (six years primary, four years optional middle, and seven years secondary) to 12 years (6-3-3). Basic education was made compulsory for all children and was defined as the first nine years of schooling (six years primary and three years JHS). A

major thrust of the reform was the diversification of the formal academic courses offered at the pre-university level to include hands-on practical courses. Courses such as vocational skills, technical drawing, and life skills were introduced at the junior secondary level to provide some employable skills beyond the literacy and grammar education. This was intended to make students useful in the labor market after school even when they are unable to pursue second-cycle education. The seeming rush and ad-hoc implementation of the reform resulted in a turnaround back to the old system, which still emphasizes grammar and literacy education. There were no or at best a limited number of trained teachers to handle the vocational, technical, and life skills courses that inculcate employable skills into pupils. Many junior secondary schools did not have workshops to handle practical aspects of the program.

There are some ongoing programs in the TVET sector to improve efficiency and the quality of graduates into the labor market. This includes the introduction of Competency Based Training (CBT), the implementation of the National TVET Qualifications Framework, and the Skills Development Fund. The COTVET LI made provision and gave legal backing for the establishment of the National TVET Qualifications Framework, with eight levels from Proficiency 1 to Doctor of Technology. A World Bank/DANIDA-supported Skills Development Fund managed by COTVET is also providing a demand-driven response to critical challenges encountered by the productive sectors of Ghana: (i) the need for an adequately qualified labor force, (ii) the urgency of providing new entrants into the labor market with gainful, employable skills, and (iii) inadequate access to new technologies and innovations. At the third-cycle level, polytechnics and teacher training colleges have been upgraded to tertiary status, while private participation in tertiary education has been enhanced under the educational reforms in the mid-1980s. This has resulted in expanded enrollment at the tertiary level, largely on account of the proliferation of private universities without quality change in the content. Some interventions related to skills development over the past decade include the Skill Training and Employment Placement (STEP) Program 2002–2006 and the National Youth Employment Program (NYEP)/Ghana Youth Employment and Entrepreneurial Development Agency (GYEEDA), which began in 2006. These programs were designed to provide employable skills for unemployed youth in the country, but the reality is that the modules under GYEEDA engage the youth over a period without a clearer skill improvement agenda and better placement in the labor market.

6. Key Issues and Challenges for Skills Development

The low quality of skills and skill mismatches in terms of quality and quantity have been linked with many factors. A number of challenges confronting education and skills development in Ghana emerged from the field interviews. Five of these challenges are summarized below:

- *Poor quality of infrastructure and poorly motivated teachers*

Many schools and training institutions lack modern equipment and tools, as well as good quality classrooms, libraries, and sanitation facilities to promote effective teaching and learning for the production of high-quality skills for the economy. Teacher motivation is observed to be very low, with frequent complaints from teachers about low salary levels and poor working conditions, which have been the underlying reasons for frequent industrial action by teachers in the country.

- *Poor school supervision*

Teacher supervision, particularly at the basic and secondary-school levels, is very weak, and this has been cited as a major cause of teacher absenteeism in Ghana. This has a negative effect on teaching and learning, resulting in poor performance of students in recent times. At the tertiary level, the proliferation of private universities, many of which lack quality teaching staff and infrastructure, brings to the fore the need for a quality accreditation process and more effective supervision by the National Council for Tertiary Education (NCTE).

- *Poor linkage between skills training and industry, culminating in skills mismatch*

This is reflected in the development of training curricula with generally no input from industry, as well as lack of opportunities for instructors to undertake periodic training in industries to be abreast of changes in the world of work. This may largely explain the limited application of practical and case studies in teaching. The emphasis on a supply-driven approach to skills development, reflected in the overproduction of graduates in humanities and limited number of graduates in science, engineering, technology, and medicine relative to the requirements of the labor market, is also an indication of poor linkage between skills training and skills requirements of industry.

- *Neglect and poor perception of vocational and technical training*

Despite the renewed government focus on TVET that led to the establishment of COTVET, the sector continues to be plagued by a number of challenges. These include conflict between the mandates and operations of NVTI and COTVET, poor perception of TVET culminating in underfunding of the sector by government, limited engagement of industry as a significant player in TVET, problems with quality assurance in the TVET system, and the conflicts created by keeping the governing structure of TVET under separate ministerial mandates, while the informal sector also operates under its own conditions.

- *Politicization of the secondary education system in Ghana*

The politicization of the duration of the secondary education system in Ghana, which has seen different governments from different political parties trying to outdo each other, tends to keep them from addressing the main challenges facing the education system in the country. The increase in the duration of second-cycle education from three to four years in the mid-2000s, and subsequent reversal to three years in 2009, were carried out without looking at the relevance of the change to the national economy. The immediate effect was the graduation of over 300,000 students in 2012 against the backdrop of limited placement at the tertiary level, thereby throwing many of them into the labor market.

7. Recommendations

There is no question about the fact that the sure way for Ghana to experience economic transformation and be able to compete effectively in the global market is to increase the quantity and quality of its human capital base. This requires a serious commitment from government. Thus, to put Ghana on the path of economic transformation requires a number of policy actions and programs to reverse the declining trend in the quality of skills of the labor force by addressing various challenges confronting the sector. The following suggestions are outlined to stimulate debate.

Challenges/Issues	***Recommendations***
Skill mismatch	Bridging the gap between industry and training/academic institutions through: ▪ Participation of industry in curriculum design, at least at the TVET level ▪ Development of internship mechanisms for students or trainees ▪ Measures that offer instructors opportunities to spend time periodically with relevant industry and relevant sectors from the world of work, to stay in tune with new developments in the workplace ▪ Commitment to the promotion of science, engineering, and technology education to produce the skills required to enhance growth and transformation of manufacturing as a major step toward the transformation of the Ghanaian economy ▪ Considering the high cost of training science, engineering, and medical students, public universities funded by government could concentrate on producing science, engineering, and health graduates, while private

	universities with minimal resources focus on training students in humanities ▪ Provision of incentives, such as scholarships, training, and motivation of science teachers and provision of science equipment at the secondary school level, to increase the supply of science-oriented students in secondary schools
Poor quality of skills from education and training institutions	▪ Tighten the criteria for issuing accreditation to private tertiary institutions and monitor existing ones to ensure quality ▪ Promotion of internships, seminars, and field work by education and training institutions to enhance links between training and world of work. ▪ Raise teacher motivation with incentives such as salary enhancement, better pension packages, and promotion based on performance rather than on length of service. ▪ Tighten supervision and monitoring system ▪ Increase investment in the provision of better school infrastructure, teaching aids, and other facilities to promote effective teaching and learning ▪ Comprehensive review of the country's education system, including duration and curricula, to make it relevant to the needs of the economy and to propel the country to embrace economic transformation.
Poor perception and conflicting governance structure of TVET	▪ Streamline the governance system of TVET by giving the mandate to one ministry to have oversight responsibility for TVET ▪ Harmonize the legal framework of NVTI and COTVET to avoid conflicting responsibilities ▪ Step up government funding of TVET to improve training facilities and equipment of TVET institutions to make it more attractive ▪ Identify successful TVET graduates to showcase their work as a way of addressing poor perception about TVET ▪ Promoting quality assurance of TVET system
Politicization of education	▪ Comprehensive review of the country's education system, devoid of partisan politics, to cover duration and curricula to make it relevant to the needs of the economy and to propel the country to embrace economic transformation

References

ACET (2012). *Ghana Economic Transformation Case Study*, Accra, Ghana.

Aryeetey, E. Bortei-Doku, D. Doh, and P. Andoh (2011). "From Prejudice to Prestige: Vocational Education and Training in Ghana." Report for City and Guilds Centre for Skills Development and the Council for Technical and Vocational Education and Training (COTVET), Accra, Ghana.

Baah-Boateng, W., and K. Ewusi. (2013). "Employment: Policies and Options," in K. Ewusi (ed.), *Policies and Options for Ghana's Economic Development*, third edition, pp. 190–221, Institute of Statistical Social and Economic Research (ISSER), University of Ghana, Legon Publications.

Baffour-Awuah, D., and S. Thompson. "A Holistic Approach to Technical and Vocational Skills Development (TVSD) Policy and Governance Reform: The Case of Ghana." Paper presented at the Triennale on Education and Training in Africa of ADEA, the Association for the Development of Education in Africa, Ouagadougou, Burkina Faso.

Baah-Boateng, W. (May 2013). "Human Capital Development: The Case of Education As a Vehicle for Africa's Economic Transformation," *Legon Journal of International Affairs (LEJIA)*, vol. 7, no. 1, pp. 31–55.

Boateng, K., and E. Ofori-Sarpong (2002). "Analytical Study of the Labor Market for Tertiary Graduates in Ghana." A World Bank/National Council for Tertiary Education and National Accreditation Board project.

COTVET (2009). "Skills Development Fund Operations Manual," draft zero, February 1, 2009.
COTVET (2011). Annual Report.
COTVET. Regulation 2195.
Government of Ghana (2010). "Education Strategic Plan 2010–2020: Volume 1," Ministry of Education.
Government of Ghana (2013). "Education Sector Performance Report, 2013," Ministry of Education.
World Bank (2009a). "World Development Indicators, 2008," World Bank, Washington, DC.
World Bank (2009b). "Ghana Job Creation and Skills Development," Washington DC.

Appendices

Table A1: Enrollments in Primary, Junior High, and Senior High Schools

	Primary		JHS		SHS	
Year	No. of Sch.	Enrollment	No. of Sch.	Enrollment	No. of Sch.	Enrollment
2008/09	17,881	3,710,649	10,218	1,285,577	670	490,334
2009/10	18,579	3,809,258	10,768	1,301,940	697	537,332
2010/11	19,723	3,962,779	11,709	1,335,400	720	728,076
2011/12	19,835	4,062,062	11,567	1,385,367	757	758,468
2012/13	19,854	4,105,916	12,439	1,452,585	828	842,587

Source: *Educational Management Information System (EMIS), 2013*

Table A2: Transition from JHS to SHS

Indicators/Year	2008/09	2009/10	2010/11	2011/12	2012/13
Transition Rate from JHS3 to SHS1	51.4%	52.2%	57.5%	50.7%	61.2%

Source: *Government of Ghana, 2013*

Table A3: Enrollment in Formal TVET Institutes

Indicators/Year	2008/09	2009/10	2010/11	2011/12	2012/13
Early Leavers	795,243	764,608	607,324	626,899	609,998
No to Formal TVETs	52,661	56,661	71,848	62,303	61,496
% Intake into TVETs	6.6%	7.4%	11.8%	9.9%	10.1%

Source: *EMIS, 2013*

Table B: Level of Education by Occupation in 2013 (%)

Occupation	None	KG	Primary	JHS/Middle	Sec	Voc./Tech.	TT/Nursing	Poly	University	All
Armed forces	0.0	0.0	0.0	30.1	21.5	17.1	0.0	15.5	15.9	100.0
Managerial	6.6	2.9	6.2	24.5	16.4	4.0	4.0	5.2	30.2	100.0
Professional	1.2	0.2	0.9	9.6	22.6	4.9	22.2	7.7	30.8	100.0
Technicians	1.5	2.3	4.3	28.4	27.6	8.5	2.8	10.1	14.5	100.0
Clerical	0.5	0.2	1.4	24.5	33.7	10.6	0.4	13.0	15.8	100.0
Sales & service	16.9	10.6	15.2	39.3	12.2	3.5	0.4	1.0	0.8	100.0
Agriculture	38.6	14.2	18.3	23.7	4.1	0.6	0.3	0.2	0.2	100.0
Craft	15.7	9.3	15.1	45.1	8.1	5.1	0.1	1.1	0.4	100.0
P&M	7.5	5.9	13.3	56.5	12.1	3.1	0.0	0.7	0.8	100.0
Elementary	20.1	15.6	17.7	35.1	9.0	1.8	0.0	0.3	0.3	100.0

Source: *Computed by authors from GLSS 6*

Key Informants Interviewed

NAME	INSTITUTION	POSITION
Mr. Seth Akwaboa	Association of Ghana Industries	Executive Secretary
Mr. Gyimah	Association of Ghana Industries	Council Member
Mr. Francis Kusi	Ministry of Trade and Industry	Project Coordinator, MSME Project
Mr. Eunice Dapaah	World Bank	Education Economist
Mr. Alex Frimpong	Ghana Employers Association	Executive Secretary
Mr. Noataz El Hout	Nestle Ghana Limited	Managing Director
Mr. Charles Cofie	Formerly of Unilever Ghana	Former CEO
Dr. Yaw Baah	Ghana Trades Union Congress	Deputy Secretary General
Mr. Kwamina Amoasi-Andoh	ILO Office	National Project Manager
Mr. Christiana Addo	ILO SCORE Office	Administrative Assistant
Mr. Perfect Edo	PefTech Ghana Limited	Director
Mr. Isaac Ansah	PefTech	
Mr. Emmanuel Asamani	SCORE Training Solutions Ghana	Director
Mr. Isaac Eze	Ghana Education Service	TVET Director
Mr. Nikki Boa Amponsem	2nd Image Academy	Proprietress
Dr. Louis Boakye-Yiadom	University of Ghana	Senior Lecturer
Mrs. Portia Odei Opoku	Unemployed	M. Phil in Psychology