

Skilling Africa: The Paradigm Shift to Technical and Vocational Skills Development

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1. Introduction

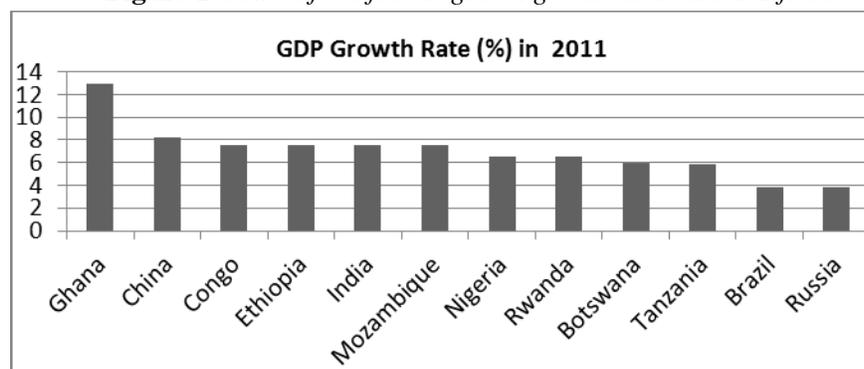
The primary objective of technical and vocational education and training (TVET) is the acquisition of employable skills for the world of work. Without job-related skills, young people and adults cannot benefit from employment opportunities that offer a decent income. The large numbers of young people who are not in education, employment or training is not only an indictment on the efficiency of national education and training systems but also a national security concern.

Youth unemployment is a major concern of many African governments. Over 20% of the youth population of about 200 million in sub-Saharan Africa are either unemployed or in low-paid or precarious jobs (African Economic Outlook, 2010; Garcia and Fares, 2008). On the streets of major African cities, an increasing population of out-of-school youth and adults compete dangerously for space in between moving vehicles as street vendors. According to the Africa Progress Panel (2012) there are 173 million Africans between the ages of 15 and 24 years, most of whom have entered the world of work from childhood with limited education and skills for decent employment and jobs. Every year 8 million to 10 million poorly skilled young Africans make the difficult transition from school to the labour market, where they end up in insecure and sometimes hazardous employment with no prospect of further education or developing their skills.

As the recent history of conflicts and wars in Africa amply demonstrates, unemployed youth are more likely to be recruited into armed movements and criminal gangs. They are also candidates for illicit activities, including drug trafficking, and cyber crime (Adams, 2008; World Bank, 2008). Even graduates of higher education institutions are not spared the frustration of seeking and not finding jobs. In countries such as Zambia and Ethiopia, young graduates may take up to 5 years after training before finding a job.

2. Skills mismatch in the current African labour markets

Figure 1: *Some of the fastest growing economies are in Africa*



Source: IMF 2012

It is paradoxical that employment creation in the formal sector of even rapidly growing economies has not kept pace with the growing numbers of new job seekers. According to the International Monetary Fund, 7 of the 10 fastest growing economies are in Africa (Figure 1). Yet the markets are not able to absorb new entrants. While this phenomenon of jobless growth may be subject to various economic arguments and analysis, it is evident that most new entrants lack the skills required for employment in capital-intensive, technology-driven firms. In addition, because the formal industrial sector is not expanding fast enough to absorb significant numbers of graduates and trainees, the majority of young people are more likely to find employment mainly in the small business and informal sectors.

The acquisition of employment relevant skills is a pre-requisite for young people and adults to participate meaningfully in the economy towards the achievement of sustainable livelihoods.

Recognizing that the problem of youth unemployment in Africa is partially linked to the grammar-type education systems inherited at independence which have for a long time marginalized technical and vocational education, many countries have taken steps since the 1990s to revitalize their technical and vocational education and training (TVET) systems.

The formal TVET system has not measured up to the expectation of equipping young people with the skills that coincide with the needs of the employment sector. The reasons for this skills mismatch are not difficult to find. Formal TVET delivery systems tend to be largely school-based and driven by a rigid supply-side curriculum. TVET in the traditional school system tends to be dominated by theory lessons and examinations and the quest for certificates rather than the acquisition of the practical skills competences in demand by the labour market.

3. Importance of informal sector skills development

In Africa, the majority of workers in micro and small enterprises learn their trade on the job in the informal sector rather than in the formal TVET sector. In some countries, the informal sector accounts for more than 80% of all skills training (ILO, 2007). In Ghana, for example, 85% to 90% of skilled workers learnt their trade in the informal economy. In Morocco, the percentage is 80.3% and only 4.5% of skilled employees attended any formal TVET institution. In the case of Zimbabwe, the majority of young people working in the informal sector acquired their technical and entrepreneurial skills outside the formal skills training system¹.

The skills needs of out-of-school youth, early school leavers, and adults are best addressed by informal sector training providers. Informal sector training is more flexible than school-based TVET which is characterized by rigid admission criteria, age restrictions, and foreign language limitations on learners. Formal sector training providers are often too rigid in their operations and training curricula, and are ill-equipped to respond to the peculiar training needs of these categories of learners in terms of flexibility in training delivery, teaching methodology, admission requirements, and language of instruction. On the other hand, the medium of instruction in the informal sector is very often the local language and hence culturally friendlier to illiterate or less educated learners. Although skills development in the informal apprenticeship sector tends to be slow to incorporate new technologies into

¹ Government of Zimbabwe. 2013. Ministry of Small, Medium Enterprises and Cooperative Development. FinScope Study

their training curriculum, traditional apprenticeship training remains the dominant avenue for skills acquisition by young people in many parts of Africa.

The reality of skills acquisition in Africa, which is informal-sector dominated, calls for a paradigm shift in skilling Africa from a school-based formal TVET system to a holistic and inclusive system of technical and vocational skills development (TVSD). This paradigm shift from TVET to TVSD was endorsed by the participants at the 2012 ADEA Triennale held in Ouagadougou, Burkina Faso, under the sub-theme of “Lifelong technical and vocational skills development for sustainable socio-economic growth in Africa.”²

4. Paradigm shift from TVET to TVSD

Skills for the world of work may be acquired from different learning environments. These include:

- Formal, school-based system
- Informal sector training system (e.g. traditional apprenticeship system)
- Enterprise-based, on-the-job training
- Non-formal, semi-structured or unstructured training, and
- Online, internet-based training

Technical and vocational skills development takes place at different levels, in different types of formal, non formal and informal learning environments. These include technical and vocational schools, polytechnics, business enterprises, and apprenticeship training centres.

4.1 Conceptual Context, Rationale and Justification

The notion of skills in the context of technical education and training is complex and its definition has to be approached from different contexts and perspectives. The concept of skills is multi-dimensional, e.g. cognitive skills, critical skills, core skills, soft skills, etc. A practical approach to understanding the different dimensions and connotations of “skills” would therefore be to adopt a parametric definition that takes into account the dimension of *time* (short-term, medium-term, or long-term skills), the dimension of *content* (basic, specific, or critical skills) and the dimension of *context* (skills that are sector-specific and linked to particular social, industrial, technological or economic activity or environment).

The TVSD paradigm shift naturally encompasses both the technical and cross-cutting skills (e.g. critical thinking, problem-solving, entrepreneurial and analytical skills) that are necessary for functioning effectively in the world of work and are capable of driving innovation or being adapted to new learning environments or different sectors of economic activity. Technical and vocational skills may also therefore be classified in terms of core competencies and knowledge that promote employability, employment, productivity, and lifelong learning.

² The sub-theme synthesis report is available at the ADEA website: www.adeanet.org

In Africa as in most parts of the world, TVET is often associated with the formal schooling system.

The formal technical and vocational education and training system is based more on getting a qualification rather than on acquiring skills and competencies for successfully integrating the world of work. The non formal and informal skills training sectors (including traditional apprenticeship) are poorly equipped, only marginally linked to the formal sector (if at all), and lack channels for upward mobility and professional development. Although traditional apprenticeship, which dominates the skills development sector in many countries and has proven to be culturally and pedagogically effective in the transmission of skills from master crafts persons to their trainees, the sector has been largely ignored by governments, with little or no strategic support for their skills development activities.

The rationale and justification for the paradigm shift from TVET to TVSD (Box 1) is premised on the following key attributes and characteristics of TVSD:

- TVSD is non-discriminatory with regard to age, gender, status or stage in life; in other words, *TVSD is for all*;
- TVSD does not value one learning or training environment over and above another;
- TVSD covers the entire spectrum of skills training from basic to higher level skills;
- TVSD acknowledges the diversity of provision and pathways which, in effect implies a unique system of recognition, validation and certification of skills acquired from the different learning environments: formal, informal, and non formal.

Box 1: Paradigm shift in the delivery of technical and vocational skills

- From a centralized, public sector, state-controlled system to a *decentralized, regulated, and partnerships based* learning and training system
- From a *fragmented* approach to a *coordinated* approach
- From a *certificate-oriented* logic to a *skills competence* logic
- From a *supply driven* to a *demand and employment driven* system
- From a purely *education sector, school-based system* to a *diversity of learning pathways* encompassing formal, non formal and informal learning systems and dialogue with other sectors and stakeholders
- From a system of *exclusion* to a system based on *equity of access and outcomes*.

TVSD is not only about a holistic, multi-stakeholder, and inclusive system of skills acquisition but is also concerned about financing and costs as well as mechanisms to support the integration of trainees into the world of work. The key attributes and characteristics of TVSD are summarized in Box 2. It is worth noting that the OECD also endorses the expanded view of TVSD to embrace the inclusive and broad definition of TVET used in the UNESCO and ILO Recommendations for the 21st Century as: “*a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life*” (African Economic Outlook/OECD 2008).

Box 2: Characteristics of a sustainable TVSD system

- A coherent, integrated and multi-partnership governance and management system
- Identification of the emerging and productive sectors of the economy that will facilitate the transition of trainees into the world of work
- Strong basic skills and acquisition of additional skills at the school level
- Technical skills as well as cross-cutting skills such as creativity, team building, communication, and critical thinking skills which are necessary for effective participation at the workplace
- Flexibility and diversity in the acquisition of skills so as to permit easy socio-economic integration and upward mobility of trainees
- A multi-partnership mechanism to assure training quality
- Relevant teaching and learning equipment and infrastructure
- A diversified and sustainable financing mechanism based on accurate information on the cost of training
- A diversified skills evaluation and validation mechanism that recognizes the different skills acquisition pathways (formal, non formal, and informal) and an examination system that emphasizes skills rather than certificates
- Linkages between the formal, non formal, and informal modes of acquisition of technical and vocational skills
- A tracking mechanism to follow up on the products and trainees of the training system
- A mechanism to support the employment and self-employment of trainees

4.2 The paradigm shift and its implications

4.2.1. At the policy level

The paradigm shift from TVET to TVSD means that skills development policies must extend outside the borders of the formal school system. Policy reforms must cover all modes of skills acquisition as well as assign specific national development functions to TVSD. Is the policy focus on providing skills for supporting private sector growth or youth and women economic empowerment? Or is the thrust of the policy on diversifying the national stock of skills and the development of high level skills for participation in the global economy? It is important to link TVSD policies to clear and realistic economic and national human resource development goals that also take into account national values and technological preferences. Policies must address strategies relating to:

- The development of effective partnerships between training providers, the employment sector and civil society.
- The establishment of a national skills inventory and labour market information systems that analyze the supply and demand of labour and track the growth sectors of the economy.
- The creation and growth of enterprises which would stimulate the demand for employable skills.
- The development of innovative approaches for upgrading the professional and pedagogical skills of master craftsmen, TVSD instructors and system managers.
- The introduction of appropriate technology and modern farm practices into the agricultural sector.

- The re-structuring of the traditional apprenticeship system in order to make the system more efficient and promote the upward mobility and professional development of the apprentices.

4.2.2. Priority areas in operating the paradigm shift

Legislative and governance framework

The paradigm shift to TVSD requires a legislative and governance framework that ensures effective management and coherence of training provision across the entire spectrum of skills training. Governance is at the heart of successful skills development strategies. In practice, this requires the establishment of a national coordinating agency to drive the entire skills development system within a well-defined policy and regulatory framework. Such an apex body is necessary to oversee a more holistic and flexible TVSD delivery system that is better coordinated and managed. Several countries, including Rwanda, Senegal, Uganda, Kenya, and Ghana (Box 3) have put in place national skills development coordination agencies of one kind or the other. In all cases, these TVSD coordination and oversight bodies are imbued with legislative functions and powers to:

- Regulate and coordinate training, and advise on all matters related to training
- Promote access, equity and relevance in training
- Establish a training system that meets the needs of both formal and informal sectors
- License, register and accredit training institutions
- License and register trainers
- Assure quality and relevance in training
- Accredit skills examination and curriculum development bodies
- Conduct regular monitoring, evaluation and inspection of training institutions; and
- Mobilize resources for development of training.

Box 3. TVSD Legal and Policy Framework in Ghana

Recognizing the need to reform TVSD provision in Ghana, the Council for Technical and Vocational Education and Training (COTVET) was established by an Act of Parliament in 2006 to coordinate and oversee all aspects of skills development across all levels (pre-tertiary and tertiary) and sectors (formal, informal and non formal). The Council's coordination activities extend to all 9 government ministries undertaking skills training of one kind or the other as well as private training providers. The Council is governed by a 15-member Board with an Industrialist as the Chairman and representation from the public and private sectors. In particular, the Council is empowered to:

- rationalize the assessment and certification system in technical and vocational education and training;
- take measures to ensure quality in delivery of and equity in access to technical and vocational education and training;
- maintain a national database on technical and vocational education and training;

- facilitate research and development in the technical and vocational education and training system;
- source funding to support technical and vocational education and training activities;
- facilitate collaboration between training providers and industry to promote demand driven curriculum development and placement, and national internship programs;
- promote co-operation with international agencies and development partners;
- advise Government on all matters related to the management and improvement of the technical and vocational education and training system

Source: Government of Ghana, COTVET Act (2006)

Quality and quality assurance

In the new skills development paradigm which places equal value on skills acquired, no matter the learning environment, the issue of quality and quality assurance assumes critical importance. In effect quality is the glue that ensures comparability of standards and qualifications within an education and training system. Training quality is enhanced by the availability of well-trained and practically-oriented teachers and instructors with excellent pedagogical skills and experience from the world of work, appropriate learning and teaching materials and adequate training equipment and facilities.

The paradigm shift also emphasizes the important role of ICT in the provision of TVSD and the need for innovative, multi-partnership financing options. The integration of ICT and technology-mediated teaching and learning into training provision can also contribute to quality delivery of skills. Training for high-quality skills is also closely linked to the building of strong, professional management and leadership capacity as well as a suitable quality monitoring and evaluation mechanism to drive the entire system.

A major challenge to the achievement of a harmonized TVSD qualification system is the quality of training in the informal apprenticeship system. In the traditional apprenticeship system, the quality of the skills the apprentices acquire depends largely on the skills competence and attitude of the master trainers. Furthermore, there is hardly a standardized curriculum for the different occupational trade areas with very little innovation in the teaching methodology and the conduct of trade tests. The creation of a national qualification framework with clearly-defined standards and benchmarks offers the best response to the challenges of quality and quality assurance within the informal training sector. Finally, the competency based training approach, which has gained much traction in the training systems of many countries, is rightly acknowledged as a quality-improvement learning methodology.

Relevance and employability

One of the key characteristics of TVSD is the emphasis on easing the transition from training to employment. The success of any technical and vocational education and training program is best measured by its external efficiency and interface with the productive sectors of the economy. The

acquisition of technical and vocational skills must lead to gainful wage or non-wage employment. For this to happen, it is important that training is geared towards the needs of the labour market. One way of doing this is to create a mechanism for predicting or following the dynamics of the labour market. Tracer studies which track the destination of graduates in the job market can also provide useful feedback for the revision of training curriculum so as to enhance the employability of trainees. Furthermore, since employment opportunities in the formal economy in most countries have not kept pace with the growing labour force, entrepreneurship education has become one of the strategies to support trainees to start their own businesses. Finally, the employability of trainees can be enhanced if the TVSD curriculum incorporates instruction in employment-related skills, such as communication skills, report writing skills, team building skills, negotiation skills, and essential business development skills.

With 60% of the world's uncultivated arable land, agricultural development has great potential for growth in Africa. The agricultural sector provides employment for more than 65% of the population in many African countries, a figure that represents about 500 million people, mainly rural dwellers (Beaujeu et al. 2011). Yet the sector is underserved by the various education and training systems. The agricultural sector has remained under-developed and dominated by peasant farmers using outmoded or inefficient farming systems and practices. The paradigm shift to TVSD should therefore promote policies and strategies for the provision of skills required in areas such as irrigation, farm mechanization, land preparation, food processing, livestock production, and agri-business and marketing. TVSD policies must also target the application of low-cost technology in the agricultural and rural development sectors. There is also the need to develop programs and courses to prepare students for green jobs, green trade and the green economy, especially in areas such as solar engineering and green-house agriculture.

Assessment and certification

The implementation of the new paradigm in skills development calls for the development of a unique system of skills validation and certification that integrates the formal, non formal and informal sectors and incorporates the concept of lifelong learning and environmental sustainability. A holistic and inclusive TVSD requires an assessment and certification system that can validate and certify skills and qualifications acquired from different learning environments, whether formal, non formal or informal. A harmonized system of skills evaluation and recognition will provide employers with the same standard of skills-sets against which occupational and job classifications can be benchmarked. Such an evaluation system will also promote up-skilling, re-skilling, multi-skilling and lifelong learning. National Qualification Frameworks (NQFs) have been shown to be an effective tool for harmonizing learning achievements, validating experiential learning, and generally promoting lifelong learning. NQFs facilitate the mapping and benchmarking of skills acquired, no matter the mode of acquisition, onto a unique qualifications framework. In this way, informal sector workers without any academic credentials can have their technical skills validated and appropriately rewarded by employers who often hire on the evidence of certificates or diplomas.

The development of NQFs is therefore fundamental to the recognition, validation, certification and harmonization of skills qualifications acquired from different learning environment. There is no unique model of NQF. However, the paradigm shift to TVSD suggests that NQFs should focus on models that ensure that all types of skills training for employment are recognized and benchmarked on a common

framework, rather than a model that is based on a comprehensive accreditation system encompassing general education, higher education, and technical and vocational education. The development of a TVSD framework that addresses the qualification needs of learners in both the informal apprenticeship and the formal, school-based TVET sectors as well as those of existing employees is therefore a priority. This is the option that countries such as The Gambia, Ghana, Mozambique, Nigeria and Senegal have chosen.

Since the paradigm shift from TVET to TVSD also implies that skills acquisition is a lifelong learning undertaking, it is important to have a system that validates and certifies skills acquired on the job through work and experienced-based learning. Recognition of prior learning (RPL) is a key element of TVSD. In Africa, the Mauritius Qualifications Authority³ is a leader in the development of systems for RPL. In general, RPL may be seen as a tool for re-training and upgrading the skills of the workforce as well as for re-orienting workers back into the world of education and training in a sustainable and lifelong learning context. Obviously, the viability of RPL is premised on a functional NQF where RPL-validated skills qualifications can be recognized and benchmarked.

Access and equity

The paradigm shift to TVSD also emphasizes the notion that access to skills development opportunities should be available to all age groups and categories of learners regardless of sex, physical disability or geographical location. In particular, TVSD calls for pragmatic policies and practices that address the needs of persons with disabilities and other vulnerable and marginalized groups in the society. Policies and strategies are also required to address the gender, equity, and access dimensions in skills development. The geographical distribution of training institutions is a factor of inequity and unequal access to TVSD. In many countries, the majority of the better endowed formal TVSD institutions are located in the urban centres, making it difficult for rural dwellers to get access to quality and diversified skills training opportunities as their compatriots in the cities. The participation of the youth and other vulnerable groups in skills development programs that lead to gainful employment is also important for the promotion of social cohesion and stability, particularly in post-conflict and fragile societies.

Increasing access to TVSD partly depends on the expansion of the entire skills development system. Investment in formal TVSD training institutions being costly and the number of such training institutions rather limited, the formal TVSD sector is unable to expand as quickly as it should to meet the enrolment demand. This calls for the establishment of multi-partnership training programs involving industry and the private sector and civil society. An important trend in TVSD enrolment rates is the growing importance of private training institutions. In Kenya, it is estimated that 70% of TVET institutions are privately owned. In Senegal, private providers account for more than half of the total enrolments⁴. The dominance of private providers, some of whom issue their own diplomas, has implications for training quality assurance and the appropriate placement of trainees in the world of work, since employers may have difficulties correctly assessing the value of “in-house” diplomas issued by private training providers. NQFs are uniquely placed to address these kinds of placement challenges in the employment sector.

³ See details at website of the Mauritius Qualifications Authority: www.mqa.mu

⁴ See Synthesis Report of Sub-theme 2 of the 2012 ADEA Triennale

In many African countries, the technical and vocational education track is still considered as a last resort or second choice to general education by both parents and learners. Career guidance and orientation of primary and secondary school students as well as public education can help minimize the poor perception of TVSD. In the long run, however, research-based empirical evidence may also be necessary to understand the underlying dynamics and causes of the poor status and attractiveness of TVSD.

5. Financing TVSD

There is the need to diversify funding sources and invest in sustainable financing initiatives. Investment in TVSD yields high economic returns in terms of a better qualified and entrepreneurial workforce that is capable of making a greater contribution to labour productivity and economic growth. A skilled TVSD graduate has a higher chance of getting employed than an unskilled individual. In this sense, TVSD is not as expensive (in relative terms) as is often claimed. Financing remains the weakest link in the delivery of quality TVSD. Ordinarily, TVSD is very costly, up to four times more expensive than general education. To start with, there is need for countries to build their capacity to evaluate the cost of training provision and to find alternative financing mechanisms that are not overly dependent on government subsidies or international donor assistance.

6. TVSD Research

Systematic TVSD research is necessary to underpin country-level TVSD policies, programs and action plans. In particular, evidence-based research findings on the real impact of TVSD on economic growth, employability and individual incomes can help inform policies and strategies that improve management practices and TVSD reforms as well as raise the attractiveness and prestige of TVSD.

7. Conclusion

The objective of this ADEA issues publication is not only to bring conceptual clarification to the paradigm shift from formal, school-based TVET to a holistic and inclusive TVSD but also to highlight the experiences of countries that have begun the process of achieving a coordinated and flexible system of skills acquisition that addresses the key issues that are closely linked to the change of paradigm. The country experiences reported in this publication highlight the progress and challenges related to the following key thematic areas:

Policy and Governance

- Enabling policy framework and environment
- Innovative partnerships between training providers, the employment sector and civil society
- Good TVSD system management practices
- Innovative TVSD financing mechanisms

Quality and Quality assurance

- Innovative approaches to the upgrading of the professional and pedagogical skills of TVSD instructors and system managers
- Skills development strategies that incorporate the concept of environmental sustainability

- Integration of ICT and e-learning into the delivery of TVSD
- Application of technology and modern farm practices in the agricultural sector
- Re-structuring of the traditional apprenticeship system in order to make the system more efficient and promote the upward mobility and professional development of the apprentices
- Quality monitoring and training evaluation mechanisms

Relevance and employability

- National skills inventory and labour market information systems that track the growth sectors of the economy
- Government economic policies that stimulate the creation and growth of enterprises and hence the demand for employable skills
- Skills development strategies that take into account the process of globalization and the ever changing skills needs and dynamics of the real world of work

Assessment and certification

- Skills validation and certification frameworks that integrate the formal, non formal and informal sectors
- National and Regional Qualification Frameworks and their role in promoting employability and lifelong learning

Access and equity

- Skills development strategies that incorporate the concept of lifelong learning
- Good practices that incorporate gender, equity and access dimensions into skills development
- Pragmatic policies and practices that address the skills development needs of persons with disabilities and other vulnerable groups and the youth in fragile states or post-conflict situations
- Educational policies and interventions that enhance the attractiveness of TVSD.

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