

Conceptualizing Skills Shortages in Nigeria and Analyzing the Skills Development Framework: TVET and the Job Stake

¹Caleb, Emmanuel Ezekiel (PhD) & ²Tambari Mtormabari Deebom (PhD)

¹Department of Industrial Technology Education, University of Uyo, Uyo, Nigeria

²Department of Vocational & Technology Education
Rivers State University, Port Harcourt, Nigeria

Abstract: The mismatch between skills demand and supply in the labour market has gone beyond an employer problem to a national issue with consequence for individuals, employers and the nation. Skills have become the differentiating factor among individuals and nations. Countries today are ranked based on high and low skilled economies. The assertion that the market should determine the demand and supply of skills will fall flat in Nigeria, because the economy is still mostly ran with low skills, in effect, there is low productivity and innovation. The Government must take the lead in transition from low skilled to a high skilled economy. However, such an effort would require a skills development framework. This paper analyses skills development, with emphasis on skills shortages, skills demand, supply and the role of TVET in skills development in Nigeria. It concludes with policy recommendations that skills development must form an essential part of all responses as well as general economic, social and labour market policies, in order to sustain job growth, social and economic development. Also, that maintaining a close connection between training institutions and industries through effective Industry-training policies has the potential of building a bridge between the worlds of learning and of work.

Keywords: skills supply, skills demand, TVET, technological innovation, Globalization, Skills training

Introduction

The general concept of skills refers to productive assets of the workforce that are acquired through learning activities. "Skill" is broadly defined as any personal characteristic that is productive of value and can be augmented through some form of investment (Valiente, *et al*, 2020). Skills and skill levels are defined as some combination of education, training and experience (Tether *et al*, 2005; Toner, 2011). In practical terms, skills can often be measured based on educational qualifications and occupations, both of which are used as substitutes for skill in this study. This approach is taken by many national statistical agencies in the classification and definition of occupations for the collection of labour market data (Toner, 2011). These classifications do not in any way solve the skills

problem, but only help in understanding the phenomenon.

In recent times, the demand for highly skilled labour has been increasing. Four types of evidence support this claim as stated by Green (2016)- Tasks requiring high skills have become more important; jobs increasingly require high levels of education and training; high-skilled occupations have expanded most rapidly, while mid-skilled occupations have declined; and the median returns to higher education have been maintained or even increased (Green, 2016).

The prosperity of a nation depends in large part on how productive its economy is. In turn, the productivity of the economy is a function of the skills of the workforce. The quality and quantity of skills in a country, to a large extent, determines the types of jobs and industries the economy can support. The comparative advantage of the industrialized economies lies in more knowledge-based goods and services it offers. The world is moving into a high skills knowledge economy, where knowledge and skills have become the driving force behind innovation, technology and productivity. In supporting this notion, Brown and Lauder (2006) as well as Valiente, *et al* (2020) averred that global and national agendas in TVET and skills development have adopted the knowledge-based economy imaginary, which expects that global competition dynamics and technological advances will boost the demand for skills and the offer of highly qualified jobs.

Skills development will remain a vital component of developmental initiatives as skills have become an essential factor for classification of individuals, regions and countries. Individuals are classified based on their skills level. The differentiating factor between individuals even in the same occupation is the quality of skills acquired. Countries today are ranked based on skills. No wonder the tag "high skills economy". The quality and quantity of skills in a country is a reflection of the rate of technological innovation and diffusion in that country.

Skills in the Nigerian Context

The subject of skills has been one of the most talked about with respect to the socio-economic development of Nigeria. Skills, ranging from leadership skills,

management skills and technical skills have shaped the discourse for decades. Multi-level approaches to the skills challenge have not resolved the lingering crisis. The effect—untapped human resources, skills mismatch, skills shortages, over supply and over demand for skills. The skills challenge in the country is now everyone's problem. The labour market is characterized by low level skills. Trained individual can no longer find employment, not because there are no openings, but largely a consequence of employers seeking workers with relevant skills. In certification, sh/e is qualified, but in performance (skills) they fall short. The impact on the economy is enormous – low productivity and lack of innovation. A shortage of skills has been a recurring theme for employers in Nigeria. A cursory look at the Nigerian labour market shows that there is no shortage in the supply of labour, but a mismatch between skills demanded and skills supplied. This skills gap has millions of Nigerian youths trapped in it and many more are headed into the same trap.

The rising number of people who are over schooled but undereducated, the slow rate of innovation in the economy and burgeoning graduate unemployment, calls for an analysis of skills development framework in Nigeria. Technical vocational education and training (TVET) system has an important role to play in assisting with the seamless transition from school to work by effectively matching skills demanded by employers with the skills possessed by workers. This task would be made easy if a skills development analysis is done. This encompasses analysis of skills shortage and the underlying causes, an examination of skills demand and supply as well as the drivers of skills demand and supply.

Skills Development: The Components Driving Change

One recurring labour challenge in Nigeria is the low level skills in the labour market. This often transcends into low productivity for companies and high level of skills demand by employers. Skills development therefore, becomes essential. Skills development is the process of identifying skill gaps and developing these skills. Skill development is for determining the skill gaps and overcoming them. A productive society and economy is dependent on a skilled and capable workforce, which must be drawn from the available labour force. It is widely acknowledged that education and skills are key components in driving inclusive development and favourable labour market outcomes. It is also evident that the type of education will largely determine the type of skills developed.

Skills development is globally considered as key for productive employment. However, understanding the economy's skills requirements is critical to skills planning and development. A clear sense of the

required mix of skills is needed to formulate appropriate policy that will improve the alignment between skills demand and supply. Countries have identified skills development as a strategic objective and are stepping up investments in skills. Countries, however, are at different developmental stages and apparently would require different set of skills. A number of significant global trends have created urgent demand for new forms of higher order skills development to meet economic and social needs. This is made up of primarily technological innovation and the challenges of globalization.

The UK Department for International Development (DfID) (2000) defines globalization as the growing interdependence and interconnectedness of the modern world through increased flows of goods, services, capital, people and information. Globalization has social, economic and technological implications. The process rides on technological advances, spreads technology and ideas, raises the share of trade in world production and increases the mobility of workers. The world has become a global community, where people compete based on skills. International movement of labour is a prominent feature of globalization. The integration of national economies is consequently followed by the movement of people. Globalization aids the diffusion of knowledge. It is also clear that knowledge explosion, shifts in the demographics and in the composition of trade has major consequences for skills requirements. Globalization will continue to fragment production stages, which in turn changes not only the type of jobs performed by workers, but also the range of tasks performed (Scarpetta, 2016).

Globalization and the diffusion of information and communication technology have accelerated the explosion of knowledge across the globe. In response to the effect of globalization, developed economies are advocating for the creation of a high-skilled, knowledge based economy by upgrading the education and skills of its workforce. The creation of world-class skills is assumed to be a route to economic prosperity, reduced income inequalities and social cohesion, thereby eliminating the negative effects of globalization, while also maintaining competitive advantage (Leitch Review, 2006). This is based on the principle that in the knowledge economy, innovative ideas and technical expertise hold the key to the new global competitive challenge. Both developed and developing countries now face more competition as a result of globalization. Dahlman (2007) averred that competitiveness have expanded beyond the cost of factors of production, or on a specific technological advantage. It encompasses continuous innovation, high level skills and an enabling environment. High level skills and innovation are a function of a skills development framework. Brown, Ashton and Lauder (2010) commented that the UK has

entered a global skills race. Within this race, education, knowledge and skills assume ever-greater importance (Brown & Lauder, 2006). The future of work according to Caleb, et al (2017) will be largely shaped by technology, the capacity of labour and change management. Training, along with research and development, work organisation and capital, will determine whether an economy is a high-skill economy that provides for rising standards of living.

The assimilation of knowledge and the capacity to build on it most often requires scientific and engineering know-how. Investments in education, human capital as well as research and development are quite essential to build the capacity to absorb and efficiently use knowledge. Globalization presents everyone with an opportunity, but not homogenous. According to Aslam, et al (2018), new knowledge and technologies do not necessarily develop everywhere and at the same time. Therefore, the way technology spreads across countries is central to how global growth is generated and shared across countries. Finally, technology advances are calling into question the kind of jobs one can expect for the future and who will perform them (Scarpetta, 2016).

Technological innovations are one of the main drivers of skills development. Technological change is reaching a new era worthy of the label "fourth industrial revolution (4IR)". The Fourth Industrial Revolution (4IR) has ushered in industry 4.0, an upgrade from the last industrial revolution driven by electronics and information, communication technologies (ICT). It is characterized by the fusion of the digital, biological and physical worlds, through the growing utilization of new technologies such as artificial intelligence (AI), cloud computing, robotics, 3D printing, the Internet of Things (IoT), advanced manufacturing and advanced wireless technologies, among others. Industry 4.0 thrives on the power of disruptive technologies in increasing digitization and productivity. Technological innovations will continue to alter the world of work with potential to be both more creative and adaptive. The impact of the 4IR on jobs is already being felt, however, it is projected that there will be a seismic shift in tasks demanded and education and skills policies should be ready to adapt to it.

The 4IR still follows the social, economic and political patterns of previous industrialization, where countries and individuals at the centre of its invention and application maintain the market leader status ((Usoro, et al, 2021). The OECD (2017) report stated that the future impact of technology on jobs will be largely determined by the specific characteristics of countries and regions, as well as by their capacity to adapt educational and skills policies. Thus, the economic structure of the country/region, the available

pool of skills, the institutional framework, as well as the capacity to implement policies that adapt to forthcoming change, will determine the final impact on jobs. Emerging technologies driving Industry 4.0 are expected to give rise to new occupations and bring rapid changes to existing occupations. This in turn, will drive the demand for new skills and up-skilling of the workforce. Consequently, as already witnessed, certain occupations are expected to decline in their significance, while others are expected to become more important. Jobs will be lost or vanish in an occupation, while highly skilled jobs will be created in the same occupation. Stakeholders involved in skills planning and development must take cognizance of this shift in skills demand and supply (Valiente, *et al*, 2020).

Skill Shortage, Supply and Demand: The Nigerian Context

The concept of skills shortage generally points to the situation where the supply of labour does not sufficiently meet the demands. However, such a simplistic definition masks the underlying conditions fueling shortage and gives the impression that the economy or certain areas of the job market are in dire need of labour which is not available in the country. Take for instance, the Nigerian situation, where employers are complaining of not finding qualified persons to fill job positions, but the rate of graduate unemployment in all fields is astronomically high. So, why are they struggling to match jobs with labour? The concepts of demand, supply, shortage and prevailing conditions are not always direct. One needs to understand the relationship between the three concepts to help in skills development. Labour supply is one side of the shortage equation and the other side is demand.

In practice, skill shortages exist when employers are unable to fill or have considerable difficulty in filling vacancies for an occupation, or specialized skill needs within that occupation, at current levels of remuneration and conditions of employment and reasonably accessible location (Department of Education, Science and Training, 2000). Skill shortages are a concern for employers, not least because they are associated with productivity shortfalls (Green, 2016). The main indicator of skill shortage is evidence that employers cannot fill vacancies for skilled workers (Michel, 2017). In explaining skills shortage, Shah and Burke (2005) defined shortage as situations where the demand for workers for a particular occupation is greater than the supply of workers who are qualified, available and willing to work under existing market conditions. In essence, skills shortage is determined by hard to fill vacancies not necessarily because there are no individuals with certifications, but practical skills for the job.

Essentially, skill gaps occur where existing employees do not have the required qualifications, experience and/or specialized skills to meet the firm's skill needs for an occupation. Workers may not be adequately trained or qualified to perform tasks, or may not have upskilled to emerging skill requirements (Department of Education, Science and Training, 2000). Granted, skills shortages may also be as a result of low pay, work conditions and location. However, it is generally taken as an indication of the widening gap between skills demand and supply.

The demand for skilled labour corresponds to employers' skill demand (Green, 2013). That is, the skills employers are looking for in prospective employees in order to fill job vacancies. Industries and occupations are changing and as such, the skills demand is also changing. Adoption of more advanced technologies, innovations and changing patterns of work organization has transformed demand for skills in very many ways. Consequently, increasing proportions of the workforce are required to have more advanced core skills (Rychen & Salganik, 2003). On the other hand, technological advancement is also increasing the demand for highly-specialized skills based on high levels of knowledge in specific fields or even at the intersections of fields, as in areas like biotechnology (European Commission (2001).

"Demand" under consideration refers to the labour market. In practice, it is the demand for one category of labour, say a company is in need of car design expert and that position is hard to fill. On the demand side, understanding the economy's skills requirements is critical. Considering the rapid change in technology, skills development experts have to view skills requirements (demand) in terms of either current skills demand or future skills demand. This is essential because the demand for a category of labour might still be there while occupational changes as a result of innovation would require higher skills for the same job vacancy yet unfilled. Planning for skills must look into the future. Current employment is generally the starting point for analysing current skills requirements. However, where particular skills are in short supply, current employment may not reflect the demand for skills. Consequently, an assessment of current skills requirements should incorporate information arising from current employment patterns, as well as from various other sources, including vacancies and feedback from employers regarding skills shortages (Asmal, et al, 2020).

Supply in the skill formation market refers broadly to all the activities provided to enable someone to learn, including teaching, training, learning resources, and access to the environment of a learning organization (Green, 2013). Skills supply has to do with the quantity

and quality of the labour market. The future skills supply in a country can be ascertained through consideration of two key components: first, the skills of the current labour force, along with trends within the labour force, and, second, the education and training pipeline, which determines the skills that will be available in the labour force in the future.

In determining the direction of future skills supply in a country, considerations are more often along the lines of two key components: first, the skills of the current labour force, along with trends within the labour force. Second, the education and training pipeline, which determines the skills that will be available in the labour force in the future (Asmal, et al, 2020). The supply side is often made up of students and learners, graduates, employees, job seekers, unemployed people, education and training institutions. The labour market in Nigeria is not short of supply in terms of quantity, but quality. A broad description of the labour market is low level skills almost in all sectors of the economy. The effect is the low productivity in the economy. Low skills whether in employment or not, would generally lead to low productivity with the effect being little or no innovation. If at the height of the COVID-19 pandemic, some sections of the society were calling out traditional drug sellers, locally called "agbo" to come up with concussions for battling Corona virus, one will begin to wonder if there are no pharmaceutical companies considering the amount of pharmacy graduates. The productivity expectation even from the public is low. Increased supply of labour, that is, the number of graduates churned out by training institutions notwithstanding, the way out of low productivity as a result of obsolete skills acquisition is the development of higher order skill that drives innovation and enhanced productivity.

Understanding Skills Imbalances

Within the labour market of any nation, skills supply is matched against the skills requirements (or skills demand) of the economy. In scenarios where skills supply and skills demand were aligned with each other, no specific adjustment or intervention would be required in the education and training system. The system is at equilibrium. While this may look good for the economy and job seekers as people are finding jobs that require their skills. The caveat for a country like Nigeria may be that the skills required are low skills and that the economy is creating enough of these skills. This happens in economies where raw material sales go up and more money is made available for expenditure supporting local economies. As the volume of trade increases, the need for more low skilled workers might also increase. This might make economic sense, however, such growth is prone to market fluctuations as witnessed recently in Nigeria

with falling oil prices leading to contracting economy. Technology, globalization and workplace innovations should be the real drivers of skills demand and supply.

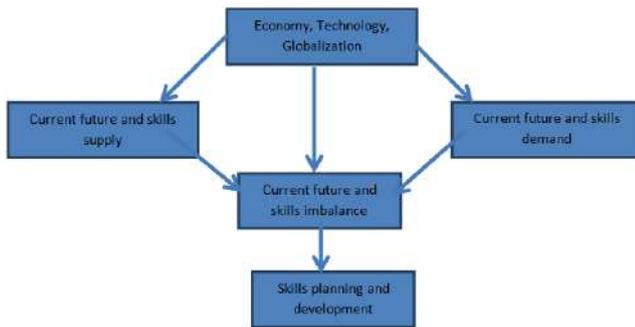


Figure 1: Framework for the analysis of skills supply, demand, and imbalances

There are also scenarios where skills supply and skills demand are not aligned, the result would be a skills imbalance that would need to be addressed through appropriate policy and implementation actions.

The Organisation for Economic Co-operation and Development (OECD) (2017) distinguishes between three types of skills imbalances:

1. Skills shortages. These arise when skills demand exceeds skills supply. They may manifest as an inadequate number of workers in high-demand occupations. When related to occupations, these shortages can be referred to more precisely as 'occupational shortages'. Skills shortages may also be measured as deficiencies in the competencies associated with occupational shortages. The skills shortages experienced in Nigeria are with reference to skills competencies of the labour market. The skills demanded by companies are higher than what training institutions are offering.
2. Skills surpluses. These occur when skills supply exceeds skills demand. They are characterized by a relatively high supply of but low demand for a given skill. Signals of surpluses include unemployment among individuals with a particular level of educational attainment or qualification. The labour market in Nigeria is characterized by a very large chunk of people who have certifications for occupations that they have low skills for.
3. Skills mismatches. These refer to the inadequacy of workers' skills relative to the requirements of the jobs they are currently in or to a situation in which workers' skills exceed those required for their jobs. Mismatches can be measured relative to qualification level, field of study, or competencies. When measured in relation to competencies, mismatches are often referred to as 'skills gaps'. The following mismatches is considered in particular:

a. Qualification mismatches. These occur when workers have an educational level that is not in line with that required by their jobs.

b. Field-of-study mismatches. These occur when workers are employed in a field that is different from what they studied and are qualified in.

A consequence of skills mismatch is underemployment.

The types of imbalances identified through these considerations of supply relative to demand inform the actions that need to be taken on the supply side (that is, in the education and training system) so that the demand for skills (or the skills requirements) in the economy can ultimately be met by the supply of skills.

Benchmarking Skills Development in South Africa

Skills development is a global challenge, still, responses are national. In trying to put the Nigerian response in perspective, the researchers benchmarked the approach of South Africa to skills development. Though there cannot be an 'ideal' skills development policy (SDP), comparative analysis and policy learning have the potential to expose national stakeholders to the policies and experiences of other countries, as well as to strengthen their knowledge of international labour standards (ILS) on skills development. This will enable them to develop effective, relevant and equitable policies suitable for their country's context (Aggarwal&Gasskov, 2013).

Since most jobs generated by strongly labour-absorbing activities are low-skilled in nature, a substantial segment of the South African labour force is still low-skilled. Generally, there has been a modest economic growth in post-apartheid South Africa. Even with rising educational attainment, there is still high unemployment and underemployment, with race still determining the kinds of jobs one gets. The economy have been largely driven by capital intensive industries, retail trade and financial services, rather than by productive and labour-intensive elements within the agriculture and manufacturing industries. South Africa has been characterized as being positioned within a low-growth trap with adverse effect on labour market and lagging behind in higher order skills development (Asmal, et al, 2020). The growth path in South Africa as averred by Agénor et al (2012) is biased towards capital-intensive and high-skilled intensive sectors, indicating that much of the labour force now remains excluded from the South African economy give the low level skills in the economy. This is suggestive of an overall mismatch in skills demand and supply, the same conditions in Nigeria, another middle income country. However, the response of South Africa to the skills

mismatch challenge has been somewhat better than that of Nigeria.

Since the advent of democratic government in 1994, considerable efforts have been pursued towards planning for skills needs in South Africa. In 2009, the government of South Africa prioritised skills planning through the government priority to “establish a credible institutional mechanism for skills planning” (Department of Higher Education and Training, DHET, 2013). Overarching government strategies with a skills development focus have since followed including the Reconstruction and Development Programme (RDP), the Growth, Employment, and Redistribution Strategy (GEAR), and the Accelerated Shared Growth Initiative of South Africa (ASGISA). The National Skills Development Strategy (NSDS) is an overarching strategic instrument for skills development that broadly aims to develop the skills needed for social development and sustainable economic growth. The National Development Plan (NDP) 2030 was launched in 2012. It provides a long-term strategic development plan for South Africa. The strategy identifies the improvement of the quality of skills as critical to the achievement of its objectives. The plan sets out South Africa’s economic priorities and highlights the actions that must collaboratively be taken by government, the private sector and labour to address job and economic challenges. The key industries of the economy, including agriculture, mining, tourism, manufacturing, and high-level services, are identified by the plan as major drivers of employment. The plan also indicates that, historically, the highest employment growth has been through the services sector. This key finding provides the basis for the rationale of aligning skills development to plan for investment in industrial sector strategies and of addressing the challenges faced by stakeholders in conducting work on skills planning (Asmal, et al, 2020).

Initially, the contents of NSDS were compared and it was observed that these could be broadly grouped into four major areas:

1. Introduction and situation analysis;
2. Preamble – vision, mission, objectives, guiding principles, scope and target groups;
3. Policy statements as per thematic areas; and
4. General implementation strategy – implementation, monitoring and evaluation mechanism and institutional framework.

Benchmarking the South African approach to skills development, Nigeria would have to be consistent in its approach towards skills development. Skills development efforts in Nigeria are at best fragmented and performance of the skills planning mechanism

have not been effective as evidenced by sustained skills shortages, which reflects the great need for a more coordinated, coherent and responsive skills planning system. Adapting the South African model to skills development could help Nigeria develop a national skills development plan.

TVET and Skills Development, the Job at Stake

Efforts aimed at bolstering skills development systems by countries have typically included restructuring education and training systems to align them with the demands of the new market economy. Skills development for employability stresses practical, technical and vocational skills, rather than largely academic knowledge. This in effect stresses the centrality of Technical and Vocational Education and Training (TVET) in any response to the skills conundrum in Nigeria.

With over 80% of occupations revolving around application of technical and vocational skills to the world of work, there is an overwhelming impact of TVET on skills and human development as well as economic growth with clear benefits for individuals, economy and the society at large (Oketch, Green & Preston, 2017). Technical and vocational skills do not only improve an individual’s economic fortunes, it also enhances the innovation and productivity of a nation’s economic growth. The critical importance of investing in TVET to promote social, economic and ecological development has been acknowledged in Nigeria. Therefore, recent developments and concerns in TVET can be viewed through a prism of TVET’s economic, social, its internal efficiency and quality. An essential function of TVET is its social component. For individuals with low level skills, the opportunity to acquire skills for employability is a crucial factor in improving their prospects for gaining employment. Thus, TVET becomes essential in combating poverty and improving the quality of citizens. The economic relevance of TVET is measured through its capacity to provide the economy with manpower to meet even growing industry demands for highly skilled workers. The internal efficiency and quality of TVET relates to the relevance of training to both industries and developmental goals. The has also become the main issue facing TVET in Nigeria – issues of being supply driven without linking training to labour market demands, lack of responsiveness to changes in occupations and inadequate skills development. On meeting developmental goals, Countries are at different stages of economic development and require different levels of skills development. As such, educational training systems are to adapt to developmental goals of government by focusing on developing key skills that will help government meet its stated objectives. The focus on skills development by government has got

stakeholders focused on the role of TVET in developing skills in emerging technologies.

The key elements in the future role of TVET will be its capacity to integrate more closely with the workplace and its capacity to integrate into the innovation cycle. TVET and its practitioners will need to become more global, better networked and closer to the technological edge in every industry. The challenge is that technical and vocational training programmes in many countries, Nigeria inclusive are supply-driven and are very often not designed to meet observed or projected labour market demands. The emphasis appears to be on helping the unemployed to find jobs, without any critical attempt to match training to available jobs. This situation has resulted in many vocational school graduates not finding jobs or finding themselves in jobs for which they have had no previous training. Non-targeted skills development is one of the major weaknesses of the TVET system in many African countries. Further compounding the challenge has been changing technologies and automation which continue to alter the nature of work tasks in industries for engineers and technicians (Caleb, et al, 2017), requiring employees to learn new ways to perform their jobs.

TVET institutions also have a role to play with regard to the 4IR. Beyond high skills training, Cohen (2019) makes the point that TVET institutions should adopt a demand-led approach, where industries are actively involved in devising training, skills, and career pathways for TVET students. These career pathways would be informed by current work and skills requirements, allowing TVET students to learn in-demand 4IR skills.

Conclusion

The assertion that the market is the most efficient mechanism for coordinating the supply and demand of skills may be a very tricky one for developing nations like Nigeria. The Nigerian economy is not yet a high skills economy, as such, the demand for middle level and low skills is still high. This assumption will lead to continued low productivity and innovation in the Nigerian economy. With little or no innovation in the real sector, the skills set is most likely not to change. Efforts to escape the 'low-skills trap' in Nigeria should be championed by government than from businesses and mostly with a focus on the expansion of the supply of skills. Aligning Nigeria's education and training landscape, an aspect of skills supply more closely to the requirements of employers and the structure of the economy (skills demand) is what a skills planning and development system should aim to do.

Policy Recommendation

Skills development must form an essential part of all responses as well as general economic, social and

labour market policies, in order to sustain economic and job growth and social development. Maintaining a close connection between training institutions and industries through an effective Industry-training policies has the potential of building a bridge between the worlds of learning and of work. Policies to improve skills combined with policies to sustain growth and investment, facilitate job search, and support entry and re-entry into the labour market can lead to more and better jobs.

Furthermore, skills development policies must be geared towards meeting three broad objectives-

1. focused on matching skills supply to current demand for skills- the essence is to ensure the relevance of training to the world of work. This implies that training must be demand driven not supply driven.

2. skill development effort should be focused on helping workers and enterprises adjust to technology and workplace innovation – the focus here is on helping workers move from low skilled jobs to high skills performance. Skills development efforts are geared towards expanding productivity and driving innovation through higher skills acquisition and application.

3. building and sustaining competencies for future labour market needs- this involves planning for future skills demand and supply, by providing training, going beyond up-skilling of workforce to "rights-skilling".

Providing the workforce, particularly young people, with skills that respond to labour market needs is an imperative for meeting developmental goals. TVET has a great responsibility to train workers in these new skills. This involves the training systems in different countries understanding, and anticipating, the needs of future employers, having the flexibility to adjust and so provide appropriate TVET in a timely manner and to adjust to changes in jobs that currently may not appear to require green skills but will in the future. It is clear that Nigeria will need to develop policies, training programmes and skills qualifications frameworks while also maintaining close links with TVET providers.

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