Education Intelligence

Pakistan skills blueprint

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Contents

Background

As a very young country, Pakistan represents a growth opportunity for education and training provision: 34 per cent of the population is under 15 years of age and 21.6 per cent is between the ages of 15 and 24. At the moment, education expenditure is comparatively low at 2.4 per cent of GDP, and one study of the federal budget in 2011/12 suggested that only 1.8 per cent actually reaches the sector. The average time spent in school is eight years and the literacy rate of those over the age of 15 was only 55 per cent in 2009. Pakistan's growing youth population has an unemployment rate of almost 28 per cent, but given that much activity takes place outside the country's formal economy, it is likely that this number is much higher.

While the importance of the skills sector in Pakistan has long been acknowledged, it suffers from poor planning, supervision, funding and evaluation practices. Nonetheless, it is an area of great interest, especially as the youth population of Pakistan continues to grow, given the relationship between a strong skills sector and a nation's human capital. In essence, vocational and technical programmes, if suitably administered, provide students with skills that will enable them to transition seamlessly into the job market and succeed in industry. This then leads to economic advancement and to the competiveness of individual citizens as well as of the nation itself in a global knowledge economy.

The term 'skills' is one that is increasingly used internationally but it encompasses a range of different meanings. There are soft skills and hard skills, vocational, professional, technical, foundational and life skills; there are skills acquired through theory and those gained through practice. In this report, the term 'skills' is used to refer to technical and vocational education. In Pakistan, technical education generally refers to profession-specific training for technicians and post-secondary technical education. Vocational education, on the other hand, applies more to semi-skilled and skilled workers, who often require fewer years of training.

The above descriptions refer to skills that will enhance the growth and productivity of Pakistan. However, there is also an area of skills development that applies to Pakistan, and that is skills for the reduction of poverty; doubtless, with roughly one quarter of the population living below the poverty line according to the World Bank, Pakistan's vulnerable communities would benefit from learning skills to enhance their earning potential.

Skills education and training

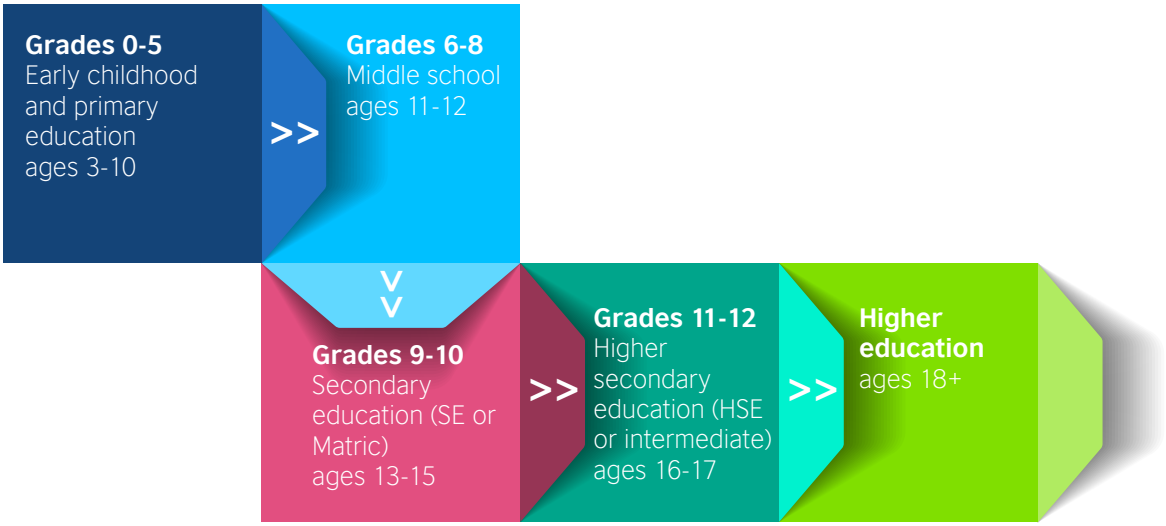
The need for a more advanced technical and vocational education sector in Pakistan is growing rapidly for a number of reasons. Firstly, as mentioned, Pakistan's youth population as well as its wealth are growing rapidly and in order for the burgeoning nation to become competitive, it must invest in its human capital. Currently, the skills being taught in the sector do not correlate to those needed in industry, creating a mismatch between what is needed and what is available. This further impacts unemployment, productivity and on some level, national morale. The International Labour Organisation (ILO) has predicted that in Pakistan, with an additional year of technical education comes a 2.4 per cent rise in salary. The Pakistani government has made public its desire to transform the country into a higher education hub; in order for that to be a viable option it must offer a technical and vocational system as a pivotal part of a holistic higher education experience. Pakistan is also in greater need of qualified workers and tradesmen. Despite the numerous options and the fact that the system is meant to provide skills for students that fit them for the workplace, it has not kept its relevance to industry's needs in recent decades.

The present structure of education and training

Schools

The present education system, excluding the technical and vocational sectors, is organised as follows:

Figure 1: Pakistan's Education System



The schools and higher education system illustrated in Figure 1, as well as technical and vocational institutions, is largely publicly funded and the majority of the Pakistani population

enrols in the public system. However, due to inefficiencies throughout the system and the fact that it does not cater to many groups, including those who may not finish higher secondary or go on to higher education, the private education sector is becoming more popular. It is estimated that roughly one third of students are enrolled in privately funded programmes.

Pathways to technical and vocational education

There are a number of pathways students may take in navigating the technical and vocational sector but in spite of the number and diversity of options, the system as a whole remains limited. Its governance is also fragmented, and this will be described in a later section. Technical and vocational education in Pakistan is targeted at those that finish middle school (grade 8) or secondary education (grade 10). There is a large percentage of students that does not matriculate from grade 8 to grade 9, which is to be expected given the average years in spent in school in Pakistan, and then again from grade 10 to grade 11. It is worth noting that the entry qualifications for most technical and vocational programmes include Matric Certification, but there is a sizable population who leave school at age 12 and may require further training.

Technical education in Pakistan is generally made up of three months to three years of further education that takes place after a student's Matric examination, or grade 10. Vocational education can take the form of courses ranging in duration from six to 18 months; these normally are taken by middle school and Matric graduates. There are exceptions to both rules. Students can earn technical school certificates or enrol in agricultural technical courses (Agro-Tech) after grade 8 or enrol in the more commonly known Diploma of Associate Engineers (DAE) after grade 10. Much of this training is done at Polytechnics and Colleges of Technology. Students may elect to take a vocational trade course after middle school or perhaps a vocational certificate course after grade 10.

While most of the focus when speaking about technical and vocational education is on the tertiary level, vocational education also exists in schools, educating students while they are still in school in skills that may be beneficial to their future.

Further, the Ustad-Shagird (master-learner) system is an integral part of the informal education sector, but only the most learned see success and thus many in Pakistan continue to learn their craft simply through day-to-day labour or by going abroad to work.

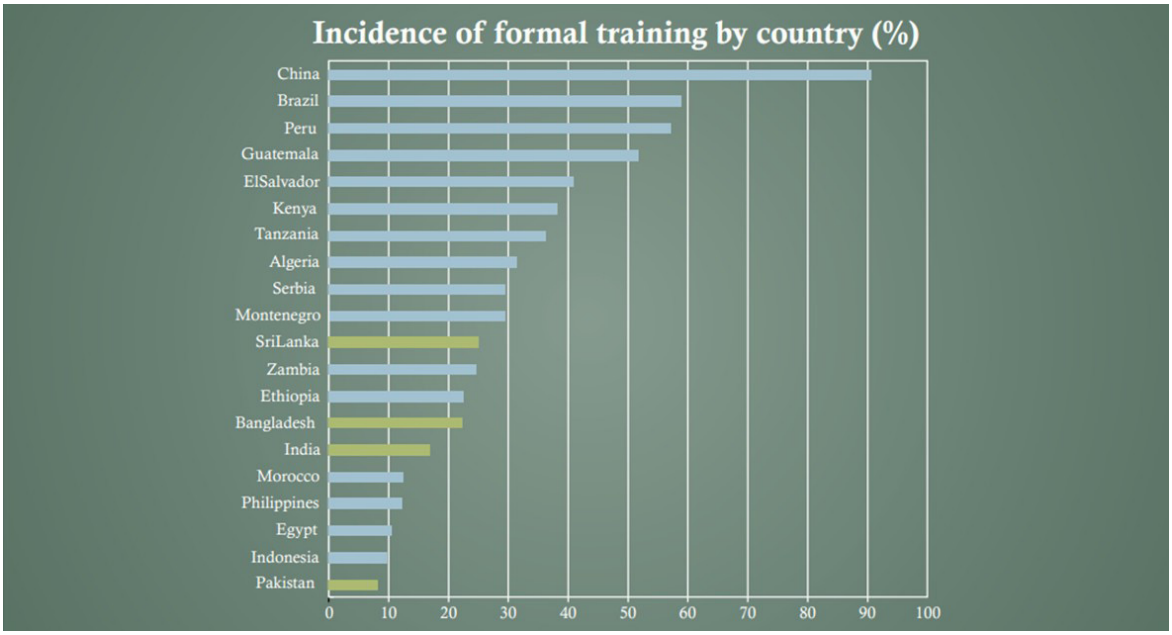
Reforms to the sector

Since independence and its inception, the vocational system and its many segments has been through a number of reforms, although few have been successful. In 2007, a plan entitled Vision 2030 led to the formation of a federal body, now known as the National Vocational and Technical Training Commission (NAVTTC, formerly NAVTEC) to oversee technical and vocational education and provincial entities that govern the sector. These reforms and governing bodies will be covered in a later section on policies towards skills education.

Global, regional and local trends

As a whole, Pakistan's technical and vocational system remains fragmented and ranks poorly compared to other nations regionally and globally.

Figure 2: Formal training: the international picture



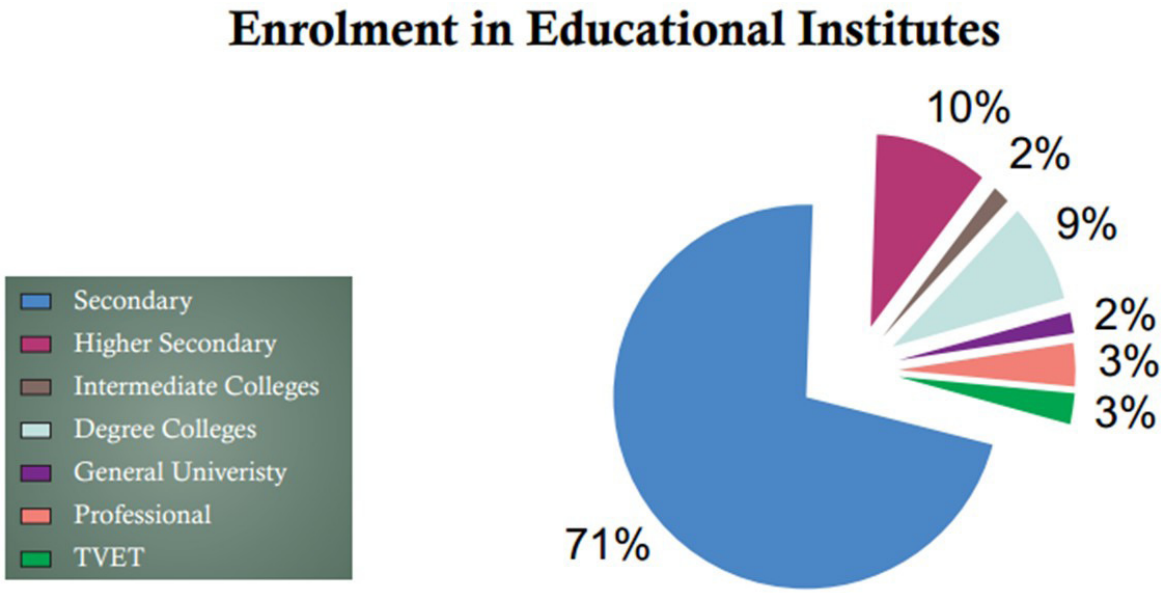
Source: World Bank, 2007

Pakistan has 64 technicians per one million people in its population, which is exceedingly low as compared to technically advanced countries, which have anywhere from 1,500 to 2,500 technicians per one million people. Further, the global average of those in technical and vocational programmes is 10 per cent; developed countries have an average enrolment of 18 per cent and developing countries have on average enrolment rates of eight per cent at the vocational and technical level. Pakistan has an average enrolment of 1.66 per cent in the sector.

Current provision and demand

There is a growing market of millions of students in Pakistan who leave school early or do not continue on to higher education; this is the target market for technical and vocational education and training (TVET) programmes in the country.

Figure 3: The distribution of enrolled students in secondary and tertiary education



Source: AEPAM 2007 and NAVTAC survey 2006/7

According to NAVTEC, in 2009, 2.2 million students were enrolled in higher secondary and college degree programmes as compared to 314,864 in the 1,522 technical and vocational institutes. This number can also be compared to estimates of 326,000 students in bachelor's programmes and 250,000 in master's programmes in-country. It is apparent that despite the sizable potential market, the formal vocational and technical sector is not as successful as it could be.

Rural provision of technical and vocational education is rare and a further imbalance can be found when studying the number of programmes in cities as opposed to less urban areas, in which there are a greater number of young people in need of skills and training. That is not to say, however, that there are no vocational and technical options outside of the major cities. Khyber Pakhtunkhwa (KPK) has increased the number of vocational institutes within its borders by nearly a quarter in the last five years, with subjects related to management and commerce seeing some success. That said, the small increases in enrolments that followed, at four per cent, were not as substantial as previously hoped despite the enrolment of females increasing by 18 per cent.

As of 2009, Pakistan was home to 18 Colleges of Technology, 54 Polytechnics (11 of which are for women), and 25 Monotechnics; most of these are found in Sindh province and in total they offer training in over 30 technologies and technical skills.

The most popular vocational courses are those in management, engineering and information technology and they are mostly taught at various Vocational Training Institutes (VTIs) or Government Vocational Institutes (GVIs). There are 409 vocational institutes in Pakistan, most of which are in Punjab, that provide training in over 40 skills.

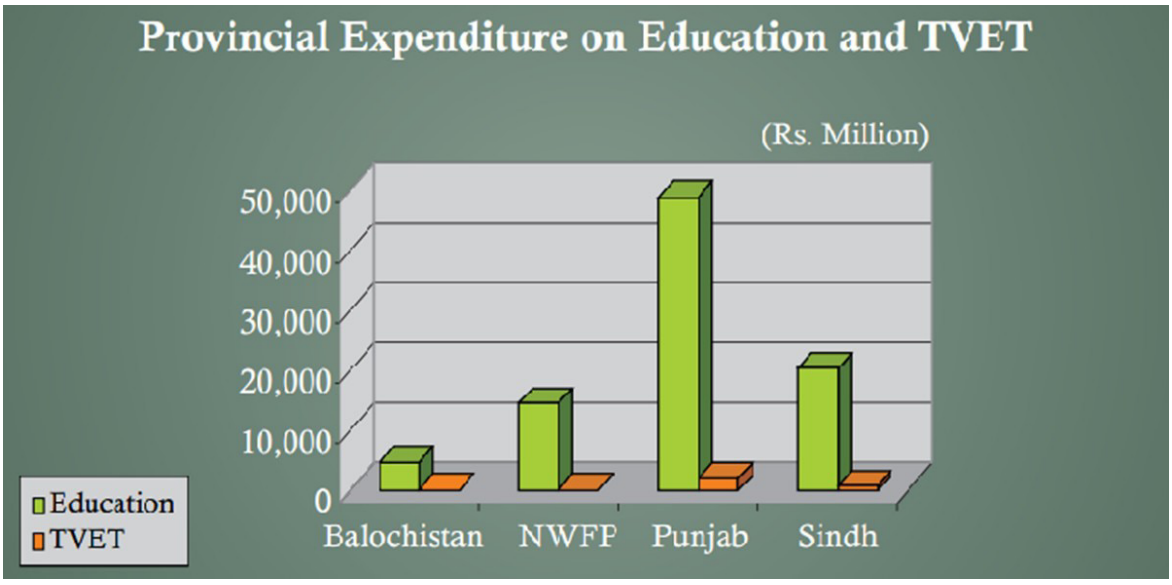
Currently, technical and vocational subjects are offered throughout the country at over 1,000 schools but constraints, including a lack of current equipment, knowledge and relevant curricula diminish the impact of such programmes.

Other forms of technical and vocational education also exist. Over 200 commercial training institutes and in-house development programmes provide skills for workers, as do international agency-sponsored programmes. An apprenticeship system exists through apprenticeship training centres (ATCs) and state organisations, such as the air force, but it is seen as ineffective and an inefficient use of resources.

Funding

The bulk of funding for the technical and vocational sector comes from the provincial ministries and is not necessarily linked to specific programmes, outcomes or standards.

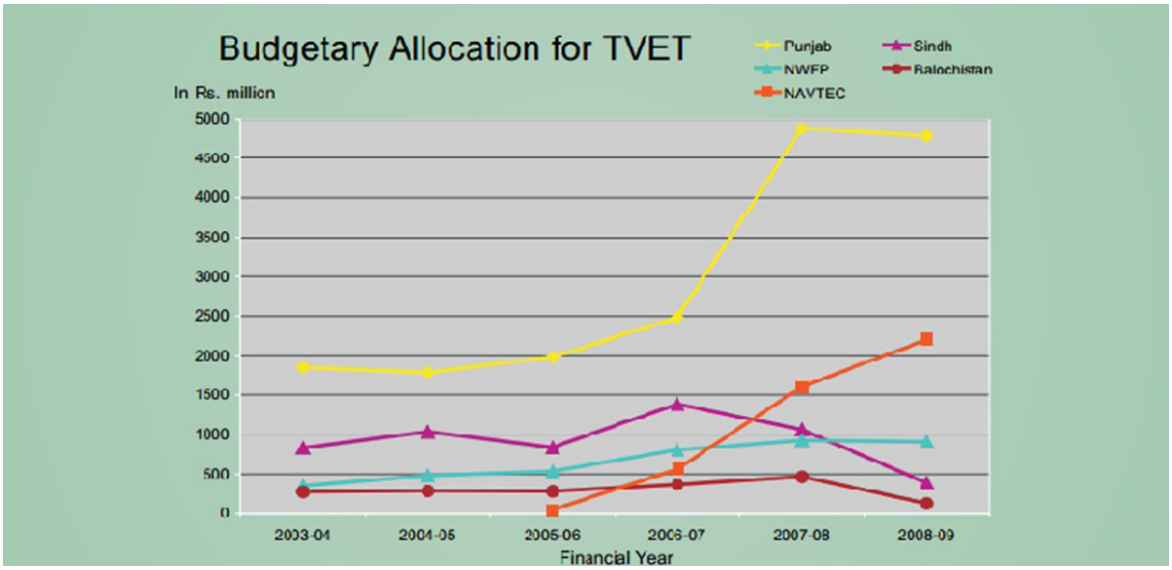
Figure 4: Provincial spending on education and the skills sector



Source: NAVTEC, Skilling Pakistan, provincial governments

As can be seen from Figure 4, the total spending on the skills sector is minimal at best. The province of Punjab spends the most on technical and vocational programmes, however it spends the lowest as a per cent of total spending on education.

Figure 5: Provincial budgets for technical and vocational education and training



Source: NAVTEC, Skilling Pakistan, provincial governments

Taken as a whole, spending on the skills sector in Punjab increased in the last decade but fell in 2008, when Pakistan's economy was hard hit by the world financial crisis. Interestingly, spending in Sindh as well as Balochistan fell in 2008 to levels below that of 2003 while federal spending through NAVTEC increased steadily since its inception in 2006. Nonetheless, funding remains a very difficult issue.

Policies towards the sector

There has been no shortage of reports, commissions and policies put forth by the Pakistani government with regards to the skills sector; however, little action has been taken in the marketplace. Generally, each new set of guidelines takes a somewhat critical view of the previous plan and puts forward a new course of action that is seldom based on concrete data.

Following the National Education Policy 1998-2010 plan, the Medium Term Development Framework (2005-2010) was formed in order to, again, meet the needs of industry locally and abroad, provide adaptable skills sets to Pakistanis and enhance public-private partnerships. Its goals are seemingly more realistic than in the past; the Medium Term Development Framework called for intake at the skills level to be 400,000 by 2010 as compared to the call for one million students made in a previous plan. The plan also called for the provision of a vocational and technical stream for 2,000 secondary schools. The midterm analysis of the plan revealed that despite demand for technical and vocational skills by nearly one million students, provision is convoluted and remains relatively independent of economic needs, partially due to a lack of strong governance, which is examined below.

The Education Policy, passed in 2009, focused on three main issues. Firstly, the lack of links between the sector and industry, secondly, the lack of strong governance and lastly the expansion of the provision of high-quality skills. The Policy calls into question the fact that there is no clear delineation of responsibilities between NAVTTC and the provincial bodies and the fact that planning is muddled. It called for a National Qualification Framework and for various bodies, including private investors and those not currently involved in the sector such as Labour departments, to promote the sector. It also called for a system that evaluates the applicability of programmes to be put in place.

The approach paper for the 10th five year plan stated that the focus for the sector should be on public-private partnerships, higher standards and information and communication

technology. A 2010 draft of the plan itself touches on the fact that goals from previous plans have been unrealised and states that attention should be given to linking the skills sector not only to industry but to the higher education sector. The plan mandates that NAVTTC should take an active role in the recruitment of private entities in the skills sector. It also touches on the relevance of Skills Development Councils in the advancement of the technical and vocational market, which will be examined in a later section.

With the numerous plans and policies in place as well as the disaggregated governance of the technical and vocational sector, NAVTTC produced a paper named Skilling Pakistan: National skills strategy 2009-2013. The three main objectives of this plan are quality assurance, the provision of relevant skills and the advancement of access, equity and employability through the sector. This comprehensive document, covering technical and vocational education as well as apprenticeships, rights of minority groups and private sector involvement, was forged after consultations with numerous stakeholders as well as in-depth study of the previous policies regarding not only education but also labour, youth advancement and trade. The strategy put forth is not dissimilar to the others; the plan emphasises a demand-driven model in which business and industry play a pivotal role in provision, teaching and learning. It also sets forth a framework of its objectives for all involved parties to follow.

Objective: Providing relevant skills for industrial and economic development

- Introducing competency based training
- Establishing industry specific centres of excellence
- Increasing the role of the private sector
- Reforming the apprenticeship system
- Encouraging entrepreneurship

Objective: Improving access, equity and employability

- Expanding geographical provision
- Making training delivery flexible
- Focusing on skills for women
- Training for disadvantaged groups
- Integrating informal economy workers
- Enhancing the mobility of skills workers
- Providing career guidance and placement services
- Offering vocational education in schools
- Enhancing the status of skills training

Objective: Assuring quality

- Streamlining policymaking
- Establishing a National Qualifications Framework
- Registering and accrediting institutes
- Reforming the management of training institutes
- Training trainers
- Undertaking research

Source: Skilling Pakistan: National skills strategy 2009-2013

In addition to the multitude of plans that directly affect the vocational and technical sector, there are many that indirectly impact the market, such as Pakistan's 2013-2018 Development Strategy, which defines key areas of growth to be renewable energy, technology, oil and gas and manufacturing (such as textiles, surgical instruments, sports goods and leather goods) in the years to come.

Governance issues

One issue that has consistently plagued the technical and vocational sector has been the lack of strong and concrete governance. Historically, the sector, or at least parts of it, has been placed under the jurisdiction of various bodies, including the Ministry of Labour, the Ministry of Education, Social Welfare Ministries and the Ministry of Agriculture. In 2007, the National Vocational and Technical Education Commission (NAVTEC) was founded and in 2011 its name was changed to the National Vocational and Technical Training Commission (NAVTTC).

The objective of NAVTTC is to oversee and facilitate policies, qualifications frameworks, curricula, partnerships and labour market input in the technical and vocational sector. It is meant to meet national and international demand for skills and coordinate between the various provincial governing bodies. NAVTTC has done some work towards advancing the sector, such as publishing competency standards for industries such as hospitality and beauty as well as collecting information about skills needed abroad, but its work remains incomplete at best.

But although NAVTTC shoulders the responsibility of guiding the sector at the federal level, the diversified nature of the skills market means that it is governed also at the provincial level. In fact, Vocational Training Institutes are managed by local education departments while apprenticeship and technical training programmes are governed by provincial labour ministries.

This fragmented administration was further cemented by the passing of the 18th Amendment in 2010, which devolved much power in the education sector to the provincial level. As such, NAVTTC has had a difficult time synchronizing the many technical and vocational programmes and regulations. The current structure and responsibilities of organisations involved in governance of the sector is as follows:

Figure 6: Governance of the skills sector

Level of agency	Organisation	Details
Federal	NAVTTC	Responsible for overarching guidance and planning
	Ministry of Labor & Manpower(NTB) Ministry of Education, Ministry of Professional Technical Training, Ministry of Science & Technology Directorate of Technical Education (DTE) Board of Technical Education (BTE) Private centers	4 technical institutes and 52 vocational institutes
Punjab	Technical Education and Vocational Training Authority (TEVTA)	113 technical institutes and 1373 vocational institutions
Punjab Vocational Training Council (PVTC)		53 technical institutes and 411 vocational institutions
Sindh	Technical and Vocational Training Authority (TEVTA)	27 technical institutes and 716 vocational institutions
KPK	Directorate of Technical Education & Manpower Training (DMT)	2 technical institutes and 47 vocational institutions
Balochistan	Directorate of Manpower Training	
Skills Development Council (SDCs)	Public-private partnerships	

Source: Public policies and governance perspective in education Sector-Pakistan (Technical and Vocational), Aftab, R. (2013)

As stated, each province has its own technical and vocational governing body that is supposed to be made up of government, business and academic stakeholders. However, the makeup and outlook of the bodies is dissimilar from province to province and unfortunately the one constant through the regions is the lack of emphasis on industry needs; according to the Asian Development Bank, many of the provincial administrators place more importance on increasing enrolments as opposed to quality and standards. Therefore, despite nominal increases in the numbers of students, teaching and learning continue to fall behind.

Private sector involvement

Private sector involvement in the skills sector is minimal but slowly increasing. The Asian Development Bank (ADB) and the ILO have helped launch a number of Institute Management Committees (IMCs) in order to research industry needs and relay them to relevant programmes. However, their effectiveness has been nominal due to inefficiencies and that fact that few institutes heeded their advice.

Partly as a response to the deficiencies of the IMCs, the Skills Development Councils (SDCs) were created. Currently there are five SDCs, one in each province and one in the capital. The SDCs are funded by a multitude of organisations including the World Bank, ILO, the Employers' Federation of Pakistan, the National Training Bureau and the Ministry of Labour and Manpower. Each Council is tasked with assessing the needs in their region as well as providing efficient training, linking industry to students and determining standards.

The British Council has worked with NAVTEC and its predecessor in the past to form Industry Advisory Groups, or IAGs, that work to link industry and the skills sector in five sectors, namely textiles, construction, tourism and hospitality, surgical instruments and agriculture, dairy and livestock. An Advisory group is comprised of a management group from the private sector and a working group of industry professionals and practitioners. Funding for IAGs comes from NAVTEC as well as international trade organisations and donations. It is the responsibility of the IAG to keep NAVTEC abreast of the demand for specific skills, competencies that are necessary for employment and possible partnerships. The British Council has also cooperated

with Pakistani authorities to set up seven Centres of Excellence (CoE) in priority areas.

Along with various programmes and involvement by the British Council and international agencies such as the ILO and ADB, there are a handful of other private partnerships in the Pakistani skills sector. Various non-governmental organisations in the country have provided training and skills and a few UK-Pakistan partnerships exist for curriculum development and social enterprise. UNESCO and other private bodies give money for teacher development. However, historically private partners and local industry have been reticent to participate in the technical and vocational sector without some government funding.

SWOT analysis

Strengths

- Pakistani leaders view the skills sector as important and necessary, both historically and today.
- There is governing infrastructure in place for the skills sector. Not only is there a network of provincial and federal entities to oversee the sector, but also various plans, policies and mandates have been published on how to improve the system to provide relevant, high-quality skills to young people. In addition, the presence of IAGs and SDCs shows attempts to link the skills sector to industry as well as higher education.
- With a growing youth population and increasing household incomes, higher levels of education are increasingly attractive in Pakistan, ensuring a wide and viable market for provision.
- There has been nominal success at the technical level, most notably with the relatively popular Diploma of Associate Engineering.

Weaknesses

- The system lacks qualified staff and faculty. Up to 40 per cent of teaching positions in technical and vocational education are vacant and most existing teachers have little industry experience or contacts and no access to professional development due to budgetary restrictions.
- The teaching infrastructure is out-dated; facilities and laboratories do not have adequately modern equipment and the curricula taught are sometimes no longer relevant. Further, much of the coursework is in English, perhaps making it harder for younger students or those less proficient in the language to grasp.
- There is a lack of information surrounding the skills sector; not only are there no monitoring and evaluation practices to collect data, there is no quality assurance system that ensures what is being taught is up to international or industry standards.
- Governance of the sector is fragmented, which has led to a lack of realistic planning and implementation as well as mismatched and minimal funding.
- Anecdotally, there is a social stigma attached to the technical and vocational education system in Pakistan.
- The system does not have proper ties with industry in order to assure synergies between the sectors. Additionally, it does not link with the higher education system to ensure horizontal entry in tertiary education.

- There is little provision for minority groups, including women and disadvantaged groups, or those in rural areas.

Opportunities

- Institutions are in place to govern the skills sector properly as well as link it to both industry and higher education. Mechanisms set out by the SDCs and IAGs can help design more modern and relevant curricula and NAVTTC and the provincial bodies can work with the HEC to ensure a more holistic tertiary system.
- Though there is still little public-private involvement in the sector it is both growing and encouraged by the local governments. These and new partnerships should be developed.
- As budgeting is an issue both publicly and privately, there is an opportunity to link funding to outcomes in order to incentivize operating parties; for example, funding could be linked to production, employment or enrolments.
- Competencies for both teachers and students have been published and must be promoted. This means the implementation of national quality standards for students, the monitoring of programmes to ensure goals are being met and the provision of professional development and in-house training for faculty and staff.
- Pakistan still has a sizable poor population therefore skills for poverty reduction can be an area of growth for the country in order to ensure the nation's most marginalised people have basic skills to generate income on their own.
- There are a number of technical and vocational institutes that operate independently of each other and could perhaps benefit from partnering or connecting to provide courses, faculty and resources for their students.

Threats

- Pakistan's education system in general is not strong and this threatens the technical and vocational sector in a few different ways. Firstly, many students are not learning basic skills at the primary and secondary level and therefore are not equipped to undergo further education. This feeds into why vocational and technical education in secondary schools is difficult to implement. This also accounts for the fact that women and disadvantaged groups have lower chances of enrolling in skills-based programmes; these groups tend to drop out at higher frequencies. Secondly, in many schools in Pakistan, students learn by rote memorisation, which is counterproductive at the technical and vocational level, when practical skills and learning are at a premium. Lastly, there is a lack of access, not only for the groups mentioned above, but for the rural and poor populations that may not have the option to continue their education due to lack of provision.
- The lack of links to industry is a major threat to the sector, given the current mismatch in what is being taught and what is needed for gainful employment. Also, curricula are out-dated and largely theoretical. As such, the human capital being built is not effectively benefiting the country.
- With minimal private involvement, the sector largely lies on government and provincial funding, both of which are inadequate for the policies set forth by the governing bodies.
- There is a lack of cohesion in the sector, at all levels. Each of the provincial governments works in a different way and they do not work together nor with NAVTTC, the central authority, to ensure a unified approach to technical and

vocational education. Institutes themselves have few links with each other, much less to industry or to higher education institutions.

- Political instability along with security concerns in Pakistan continues to motivate eligible students to travel abroad for both their education and employment.

Recommendations

The technical and vocational education system in Pakistan has all the necessary structures and sentiment, but much is lacking in effective implementation and evaluation. The areas in need of improvement and refinement are diverse.

- There needs to be an organised and streamlined framework that links organisations involved in technical and vocational education and training and clearly delineates relationships and responsibilities within the sector. This includes not only the federal and provincial governing bodies but also the SDCs, IAGs, industry stakeholders and higher education sector. Until the management and funding of the sector is coordinated, the technical and vocational market will remain disconnected.
- Pakistan would benefit from the effective employment of skills for poverty reduction. Small advances made by its sizable poverty-stricken population could effect considerable change.
- As the majority of plans and policies emphasise, public-private programmes and partnerships will continue to propel the sector forward so long as they are demand-driven. There is a need for curriculum development, faculty training, the teaching of soft skills and up-skilling workers as well as facilitating industry links.
- The government has produced competencies for the technical and vocational education system; these competencies should now evolve further into standards and a national quality assurance framework for the sector. Industry, which should heavily input into the sector, should also participate in the formation of such a plan.
- Pakistan should ensure it is adhering to international standards for federal funding of education as a whole in order to elevate its primary and secondary school system and produce students who are ready to take on further education.
- Data collection must be employed in the sector in order to better ascertain challenges and opportunities; currently there is little to no evidence behind the plans and policies for the technical and vocational sector in Pakistan.
- The British Council should consider end-to-end solutions with regards to the Pakistani skills market, such as certifying teachers and then continuing their professional development or providing updated curricula every few years. These more specific recommendations should be based on current and relevant primary data.

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