



Government of Punjab

Punjab Skills Development Sector Plan 2018

Providing Skills for Productive Employment





PUNJAB SKILLS DEVELOPMENT SECTOR PLAN 2018

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Government of Punjab

**Department of Industries, Commerce and Investment
Punjab Technical and Vocational Training Authority (TEVTA)
Punjab Vocational Training Council (PVTTC)
Punjab Skills Development Fund
Various Administrative Departments**

Planning & Development Department

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I. Introduction

Better access to “quality employment” or employment with better income for the citizenry is at the heart of the Government of Punjab’s Growth Strategy 2018 – which is the basis for this Sector Plan. The Growth Strategy recognizes human capital enhancement as a critical path to achieve this objective. Addressing the human capital challenge through the provision of skills is critical. This is because Punjab’s youth bulge, a consequence of its demographic transition, is resulting in a surge of young adults (15-29 years of age) with poor education entering the job market. Unless effective measures are taken to build the human capital of new entrants into the labour market as well as existing participants in this market, Pakistan will be saddled with a working-age population that has low human capital for many decades.

International experience suggest that skills and vocational training programs are no silver bullet as the positive benefits are not always guaranteed and the program costs can be substantial (For details see World Bank 2012, Orazio Attanasio and others 2011, David Card and others 2011, Natalie Chun and others 2012, Joan Hicks and others 2011, and Fares and Puerto 2009). The success of these programs depends on the prevalent economic growth environment as well as features of program design, including the following:

- a) adequate supply of quality training opportunities that are aligned with labour demand;
- b) providing low cost access to these opportunities
- c) maximizing the return to these opportunities through complementary interventions that improve access to jobs and markets.

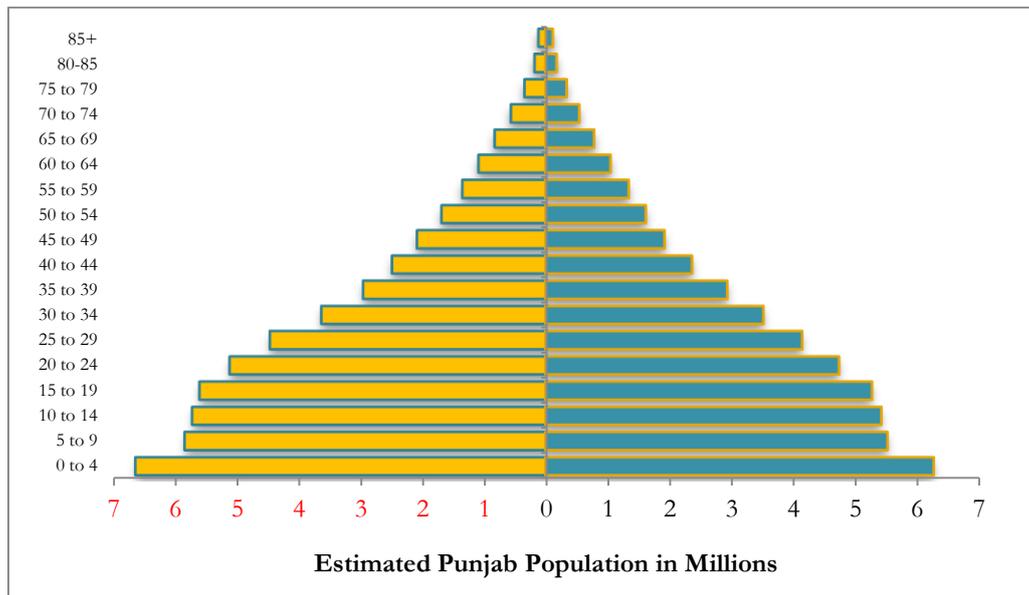
The Government’s Skills Development Sector Plan is holistic and addresses each of these elements of design. It sets itself the target of training 2 million workers by 2018. However, it does not restrict itself to increasing the supply of skilled labour alone; it also sets itself the challenge of improving the economic and non-economic returns to skills training.

This document describes the contextual challenges for the Skills Development Sector Plan and provides an analytical framework to motivate the Sector Plan by analyzing the challenges in the markets for skilled labour and skills training in Punjab. It lists a set of interventions that we seek to put in place to ensure that public investment in skills training produces net gains in terms of economic and non-economic outcomes. It also outlines an institutional framework for better planning and delivery of quality training and strengthening linkages with jobs and markets. The success of the Sector Plan is critically tied to an increase in the trend rate of economic growth through the implementation of various measures proposed in the Punjab Growth Strategy.

2. Contextual Challenges: Demographic Transition, Low Quality jobs and Education Deficit

Punjab's rapid demographic transition is an important contextual factor for the Skills Development Sector Plan. This ongoing transition is increasing the share of young adults in the population. Approximately two-thirds of Punjab's population today is below the age of 30.¹ Within this group, the size of Punjab's population between the ages of 15-29 is estimated at about 30 million and a further 36 million are below the age of 15. (See Figure 1 below.) This youth bulge, which is likely to carry on well beyond 2025, is resulting in a surge of young adults entering the job market. The decline in fertility in Punjab and Pakistan is reducing the dependency ratio and increasing the proportion of young adults (15-29 years) in the population at a high rate, from 26.4% at the time of the 1998 Population Census to about 29% now.² This demographic transition provides an opportunity for increasing economic growth if these young adults can be connected to productive opportunities. Declining fertility rate also provides an opportunity for women to participate more actively in the labour force and boost economic growth. However, failure to exploit these opportunities can have severe social, economic and political consequences³.

Figure 1. Youth Bulge in Punjab in 2013 (Male shown on left)



Source: Estimates from the Population Council, as quoted in Punjab Growth Strategy 2018

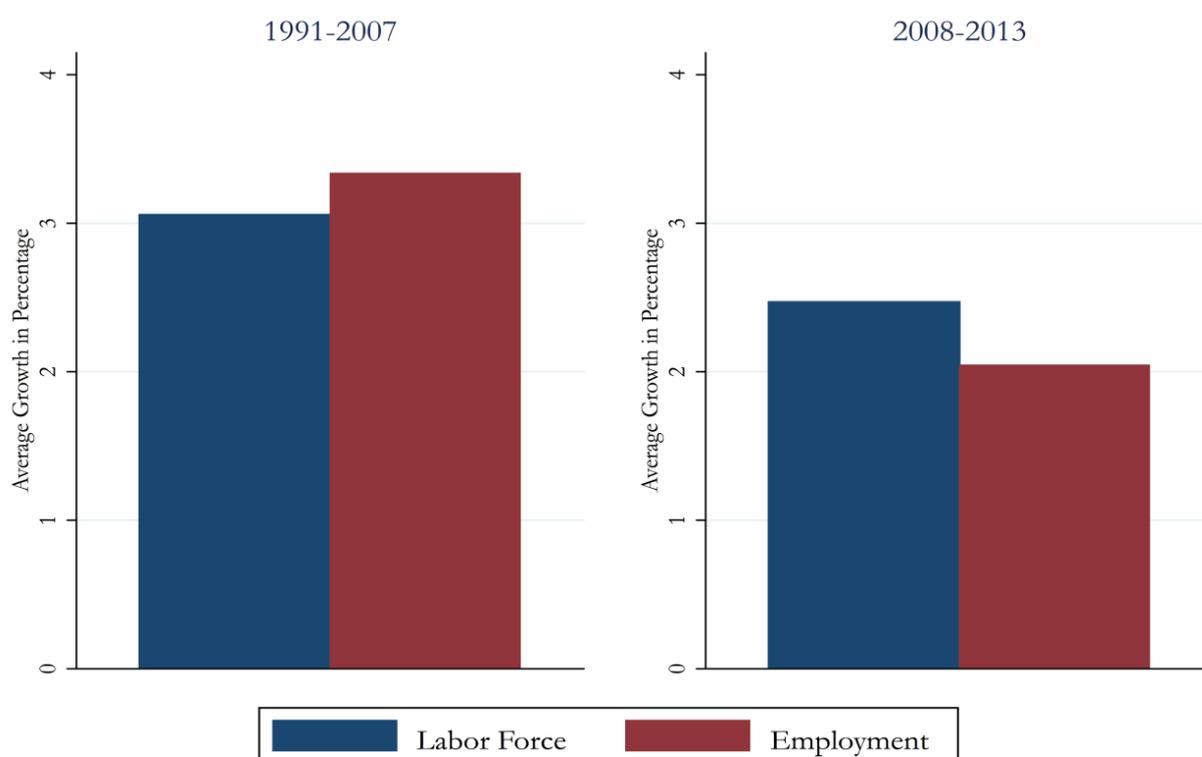
¹ Estimates from the Population Council (2014).

² *ibid.*

³ There is a positive correlation between unemployment and serious property crime in Punjab. Source: Ali Cheema and others 2014.

This rise of young adults seeking productive employment requires Punjab to increase its rate of job creation, if we are to keep unemployment at historical levels. Estimates suggests that the labour force in Punjab may increase by 2.7 percent - 3.25 percent every year as more than 1 million new workers enter the workforce every year due to the ongoing the demographic transition. At the current rates of labour force participation, this implies the need to create between 900,000 to 1.1 million new jobs every year till 2020 to keep unemployment at its current level. Failure to improve rates of economic growth and job creation can cause unemployment to rise to more than 10.7 percent by 2020.⁴ This is of concern because the rate of growth of employment has been lower than the rate of growth of labour force in the recent past (See Figure 2 below). Increasing the rate of employment creation is therefore an important challenge that the Punjab Growth Strategy and this Skills Development Sector Plan aim to address.

Figure 2. Labour force and Employment Growth Rates in Punjab for Working Age Population (15-64 years), 1991-2007 and 2008-2013



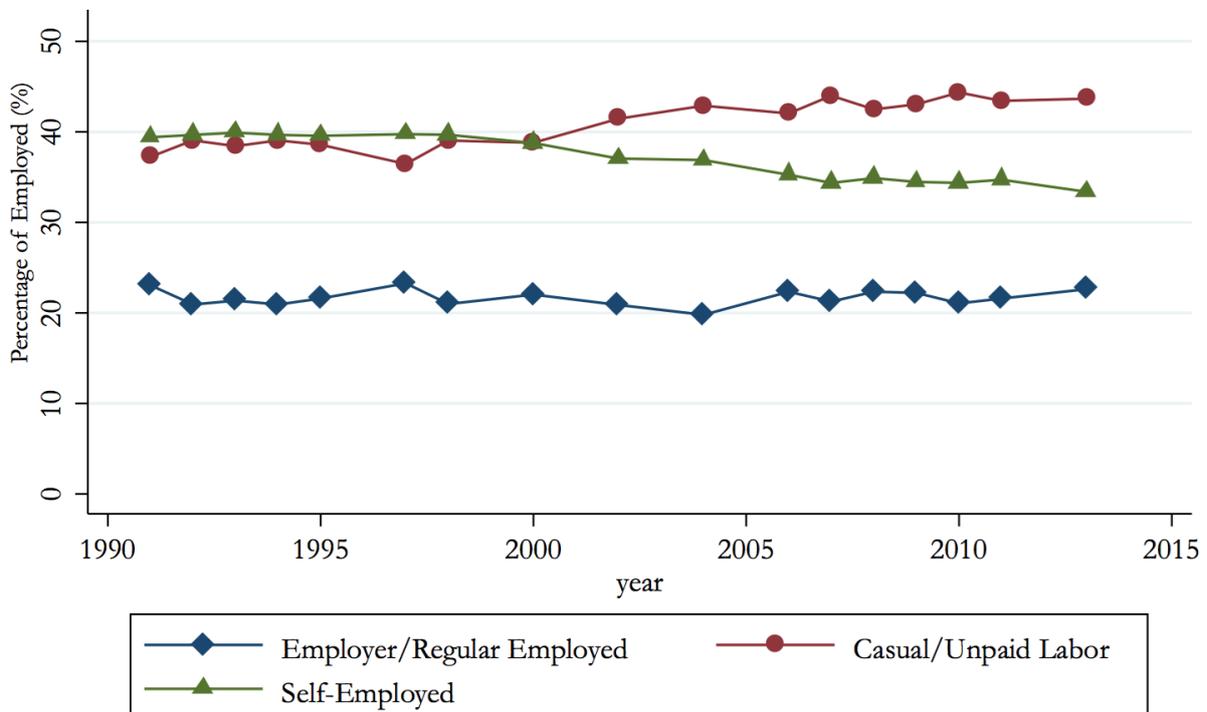
Source: Labor Force Survey (various issues)

We recognize that the challenge is not just about increasing the number of jobs, it is also about creating “quality jobs” that provides improved income for the citizenry. Recognizing this challenge is important because the economy has historically struggled with

⁴ Assuming a historic GDP growth rate of 4.5% and a GDP growth-to-jobs elasticity of 0.529.

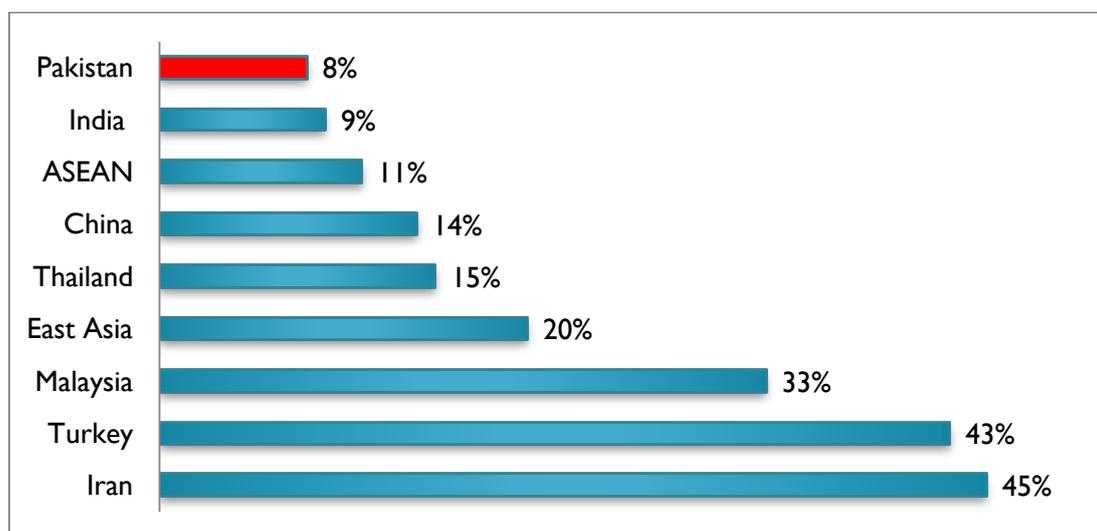
creating quality employment. There has been little change in the structure of employment during the past two decades (See Figure 3 below), with a majority of jobs being concentrated in low productivity agriculture, unskilled daily labour and low productivity household enterprises (See David Robalino and Yoonyoung Cho 2012). Labour productivity in Pakistan is also increasing at a very slow rate compared to other countries (See Figure 4 below). This low-quality employment trap is creating an “aspirations crisis” in young adults that needs to be addressed on an emergency footing.

Figure 3. Structure of Employment in Punjab, 1990-2013



Source: Labor Force Survey (various issues)

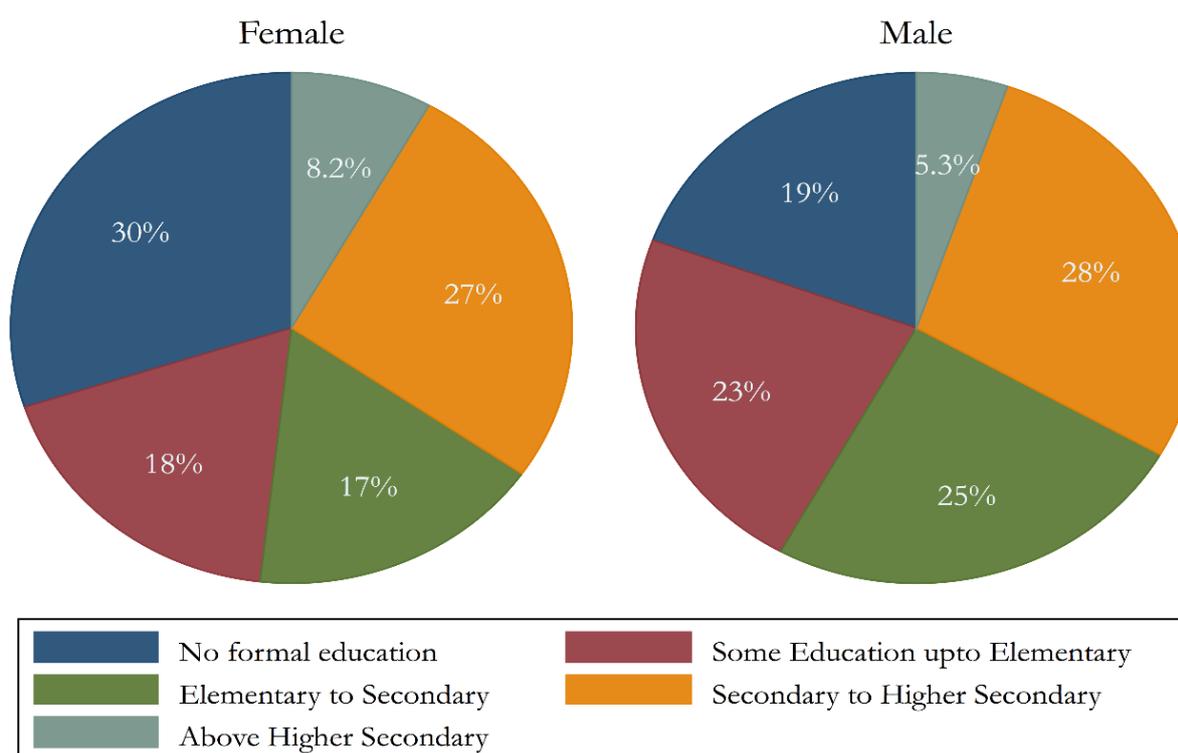
Figure 4. Growth in Labour Productivity per Worker 2005 – 2011



Source: Asian Productivity Organization

An important factor hampering the creation of quality jobs as well as access to them, is low human capital in the working age population (15-64 years) and among young adults (15-29 years). Despite strong improvement in education indicators in the past five years, educational attainment in working-age and young adults remains low (Figure 5). Weak quality of learning (which is being addressed as part of the Punjab Growth Strategy) is creating poor human capital even among those who attend school. (See Tahir Andrabi and others 2007, and ASER Pakistan 2014). **An important objective of the Skills Development Sector Plan is to design interventions that increase the rate of human capital accumulation in those individuals who have low education attainment and poor quality of learning.**

Figure 5. Education deficit in young adults (15-29 years) in Punjab by gender, 2013



Source: Labor Force Survey (2013)

Skills training has not been able to replace or supplement education as a path towards developing human capital, and this weakness further contributes to the low rate of human capital in our labour force. Only 12% of the working age population (15-64 years) and young adults (15-29 years) in Punjab have acquired skills training⁵. **Thus, the Government**

⁵ Source: Labour Force Survey 2012-13.

recognizes that access to quality skills training is a critical path towards increasing the rate of human capital accumulation.

2.1. Key Public Entities for Skills Development in Punjab⁶

Skills development, or vocational training, is a shared responsibility between Federal and provincial governments. There are a number of Federal and provincial departments and agencies working in the sector. **Vocational training** implies practical training for producing skilled workers; such training covers vocational certificates. The entry requirements range from primary school to matriculation. **Technical education** refers to diploma-level courses (of three years' duration) that produce technicians or highly skilled workers.

An overview of the Skills sector agencies working in Punjab is given below:

National Vocational and Technical Training Commission (NAVTTTC) is the apex standard-setting body for vocational and technical skills. It has the responsibility to carry out skills planning and research; define skills standards; and develop curricula, policies, and standards for areas such as accreditation, teacher training, skills testing, certifications etc. The **National Training Bureau** is mainly educating **vocational** trainers and carrying out trade tests for institutes affiliated with it. **National Institute of Science and Technical Education** performs similar functions for science and technical teachers. It is also involved in the development of curricula and textbooks.

Skills Development Councils are small organizations led by the private sector that carry out training and award certificates.

Punjab Technical Education and Vocational Training Authority (TEVTA) is a large public provider that instructs vocational trainees as well as technical trainees, and has more than 350 institutes. The **Punjab Vocational Training Council** delivers vocational training through its more than 150 institutes. Zakat funds the council. **Punjab Skills Development Fund (PSDF)** functions as a skills-financing agency to promote the delivery of private training. Its program design represents a major shift in delivering public resources for skills development – as it exclusively funds private training providers. It currently works in districts of southern Punjab, aiming to provide skills mostly to the vulnerable groups - young men and women in southern Punjab districts that have few employment opportunities. **Punjab Board of Technical Education (PBTE)** functions as an awarding body, carrying out trade tests and examinations for TEVTA and private institutes. A few hundred private institutes are registered with PBTE.

The total number of TVET trainees across Pakistan is around 300,000 to 500,000. No estimate exists for those trained in unregistered institutes or under informal apprenticeships. The TVET sector is supported by modest budgetary allocations. For example, in Punjab, the skills budget in

⁶ This section is obtained from Ernesto Sánchez-Triana, Dan Biller, Ijaz Nabi and others (2014).

2011–12 was less than 1% of the education budget. A renewed attention to the skills sector will mean allocating additional resources linked with measurable outputs.

Nature of existing Skills Development programs in Punjab: Ongoing skills development initiatives in the country as well as Punjab are of two types: “One set of initiatives aims to improve the skills of the poorest segment of the society as a form of social protection (these include Federal Government’s Benazir Income Support Program’s Waseela-e-Rozgar program that is focused on the poorest 20% of the nationwide population). The other set of initiatives aims to enhance worker capabilities in general that make the hiring enterprises more competitive and therefore more profitable so that they are willing to pay higher wage to workers who acquire such skills. Typically, these initiatives require as a prerequisite many more years of school education than the poor can afford. Thus the beneficiaries of these programs, by design, are generally from higher income groups than the poorest 20%. These programs may be called industrial competitiveness and growth-promoting skills initiatives.” (See Ernesto Sánchez-Triana, Dan Biller, Ijaz Nabi and others 2014).

3. Analytical Framework: Understanding the Challenges in the Skills and Labour Market

To have an impact, skills training has to alter opportunities and constraints in two inter-related markets:

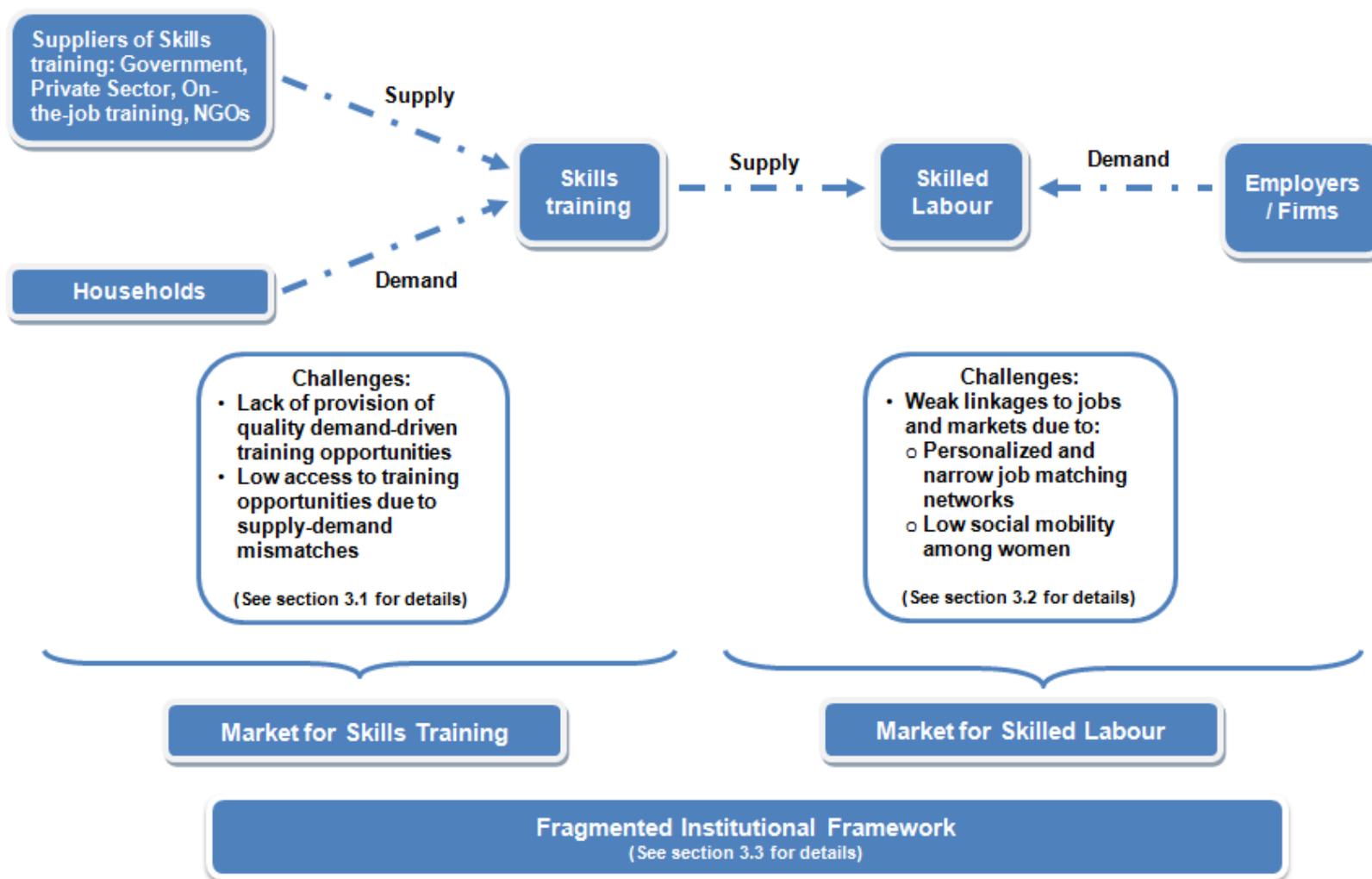
- 1) **Market for skills training**
- 2) **Market for skilled labour**

The *market for skills training* consists of individuals and households demanding beneficial skills for the purpose of increasing their income, entering value chains and obtaining gainful jobs. The supply of skills training comes from a various organizations, including government, non-government and private sector training providers and firms. The interaction of the demand and supply sides of this *market for skills training* actually determines the quality of skills being provided.

The *market for skills training* is one channel that determines the supply-side of the *market for skilled labour*, by affecting the total available pool of skilled workers. The demand for skilled labour primarily comes from enterprises and firms seeking to hire skilled workers and engaging skilled suppliers and sub-contractors. The decision of graduates of skills programs to enter the *market for skilled labour* is closely tied to mechanisms of “job matching” that match skilled labour to the demand of employers. These mechanisms include labour market subcontractors, employment exchanges, etc. Thus, it is important for the success of our Skills Sector Plan to identify effective mechanisms for job matching and provide graduates of skills programs with access to these mechanisms.

The Skills Development Sector Plan framework emphasizes the importance of implementing interventions that will mitigate context-specific challenges in both of these markets. This is because creating a strong impact requires a comprehensive set of interventions to address the demand and supply sides of both these markets. Figure 6 below provides a visual representation of this analytical framework underlying the Skills Development Sector Plan.

Figure 6. Analytical framework for challenges in the Markets for Skills and Skills Training



This framework identifies three types of challenges that the Skills Development Sector Plan seeks to address:

- I. Providing demand-relevant, good quality skills training opportunities.
- II. Implementing and mainstreaming measures that lower the cost of accessing these skills training opportunities.
- III. Maximizing the return to skills training opportunities through complementary interventions that strengthen linkages of trainees with jobs and markets.

Strands (I) and (II) relate to the *market for skills training* and (III) is related to *the market for skilled labour*. In the remaining part of this section we provide a more detailed analysis of the challenges on both sides of the markets identified in Figure 6. Later sections use this analysis to propose a comprehensive set of interventions.

3.1. The Market for Skills Training

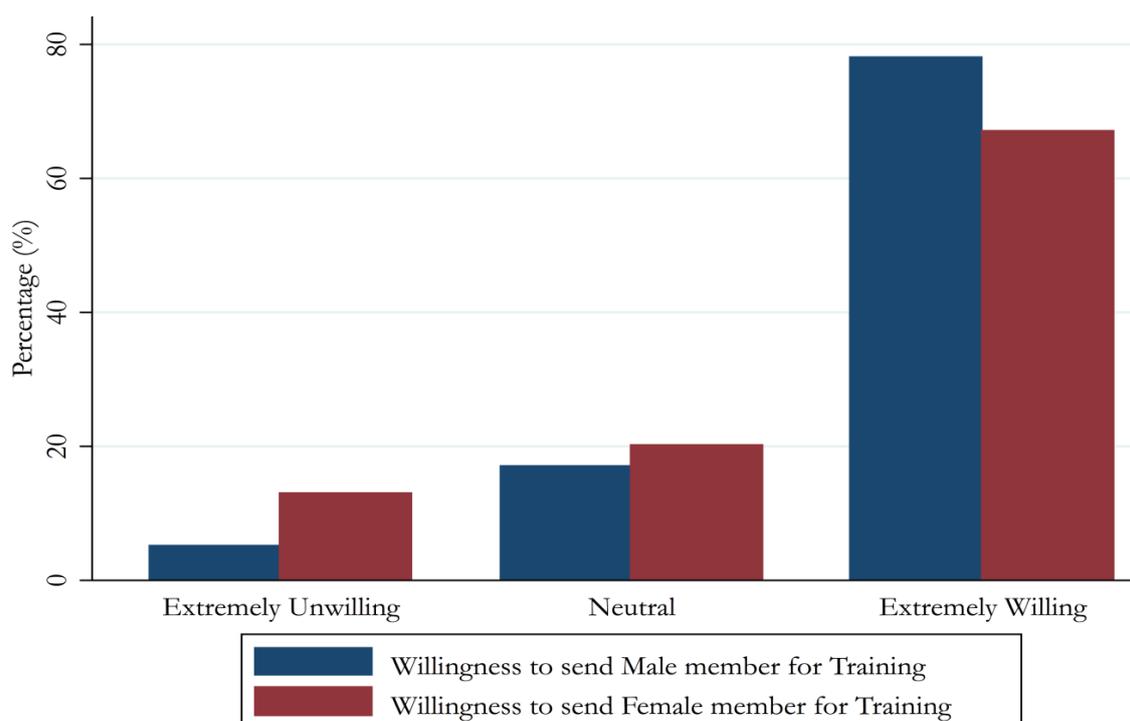
An important constraint reducing the impact of skills training is the supply shortage of quality skills training. The prevalence of formal vocational training in Punjab is low, with only 12% of working-age population (15-64 years) having completed vocational training⁷. Government estimates reveal a combined capacity to train approximately 164,000 individuals in the private, government and non-government sectors in the province. Recently conducted surveys of employers in the province reveal that almost one-fourth of enterprises reported a lack of skilled employees, suggesting that low formal sector supply of skills training is not being offset by informal and on-the-job training (See World bank 2014a and Ali Cheema and others 2012b.) **This suggests that the base of skills training is extremely small at present and there is a need to increase the supply of skills training.**

Evidence shows that there is strong demand for skills training among households as well as employers. It also shows that household demand for skills training is not gender-biased. The CERP-PEOP survey shows a high demand for skills training among households in the high poverty districts of Punjab (See Figure 7 below, and Ali Cheema and others 2012a). There is a minor gender gap in the demand for skills training. In addition, over two-thirds of households who expressed willingness to enroll a family member in skills program had a preference to enroll a young adult. We should expect the demand for skills training to be at least as high, if not higher, in the more developed districts of Punjab.⁸ The CERP-PEOP survey also shows that the demand for skills training is not lower among individuals with poor education, which is an important target group for our Sector Plan. Recently conducted surveys of employers in Punjab also show a healthy demand for skilled workers among employers (See World bank 2014a, and Ali Cheema and others 2012b).

⁷ Labour Force Survey 2012-13

⁸ Labour Force Survey 2012-13 shows that the prevalence of vocational training is higher in urban areas for both genders as compared to rural areas.

Figure 7. Household demand for skills training in South Punjab's High Poverty Districts, 2012



Source: CERP-PEOP Baseline Household Survey (2012)

Evidence suggests that the market is failing to provide demand-relevant supply of skills due to a number of demand-supply mismatches, which include the following:

- Education-related barriers to entry for skills training:** There is a mismatch between the education requirements of formal skills training providers and the education profile of working-age adults who demand this training (See Ali Cheema and others 2012a). Data from Punjab Skills Development Fund (PSDF) reveals that skills training providers typically require middle to high school education for entry into quality courses. This excludes a large part of the target population because a large share of this group lacks the required education. This needs to change because a priority target group for the Skills Development Sector Plan is young adults and existing members of the labour force with poor education.
- Weak integration of literacy and numeracy in skills training:** The *market for skills training* is currently under-supplying training in basic cognitive skills (such as literacy, numeracy, problem solving etc.) and non-cognitive skills (such as team work, professionalism etc.) even though these skills are positively correlated with higher income and employers place a lot of importance on them (See Ali Cheema and others 2012a and 2012b, and World bank 2014a). The existing system's weakness in integrating cognitive and non-cognitive skills

with job-specific skills is a problem because it reduces the access to skills training for people with poor education, by restricting the skills training menu that they can access⁹.

- **Forgone Employment is a Constraint for Male Enrollment in Skills:** Almost sixty percent of working-age males say that forgone employment and income is a significant constraint to enrolling in skills training programs¹⁰ (See Ali Cheema and others 2012c). However, a study also found that offering higher stipends does not reduce this constraint and has only a moderate impact on increasing enrollment rates¹¹ among the male population (See Ali Cheema and others 2013b). It appears that the main constraint is not forgone cash income but a low expectation of finding a better paying job after skills training.
- **Low Social Mobility is an Access Constraint for Women:** Low social mobility among women reduces their likelihood of accessing skills training. The CERP-PEOP survey shows that course completion rates for women reduce by 6 percentage point for every kilometer increase in distance from the skills training centre (Ali Cheema and others 2013a). The most important factors that explain this fall are: a) women trainees not being able to arrange safe and secure transport; and b) increased disapproval from the community when they have to travel outside their locality for skills training. The study finds that locating the training centre in the neighbourhood of residence increases enrollment by 5 times, and providing secure transport to the training centre increases women's enrollment by 3 times, compared to the typical method of creating demand that is used by training providers.¹²

Low skills training capacity in the province: The current gross annual training capacity of relevant providers in Punjab to provide skills training stands at about 164,000 individuals (See Figure 8 below). Therefore, the Government is faced with the necessity to have a comprehensive vision and strategy which targets not only the shortfall in current capacity of the public sector to train individuals, but also accounts for the growth rate in labour force.

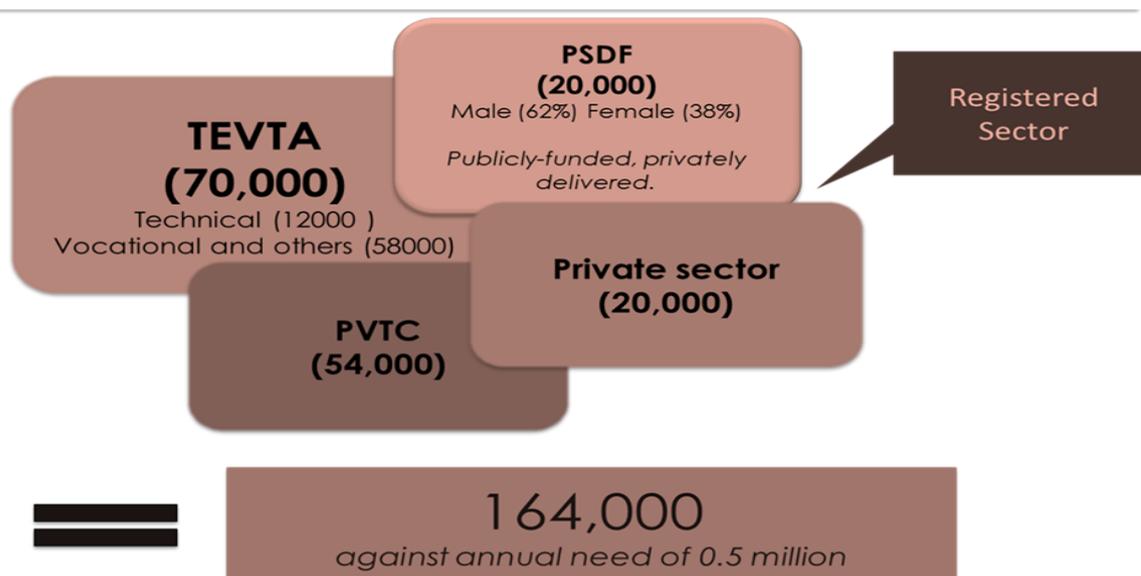
⁹ Research has shown that cognitive and non-cognitive abilities have a positive effect on workers' job market outcomes. (See James Heckman and others 2006; Rita Almeida and others 2012; Fares and Puerto 2009).

¹⁰ There are similar findings for young-adult males.

¹¹ This result is based on a randomized-control-trial (RCT) evaluation of PSDF's Skills for Jobs program (2012-13), and was designed to determine the impact of different stipend levels on course completion rates among urban males in south Punjab. It finds that doubling the stipends from a base level of Rs. 1,500 per month increases enrollment by 5 percentage points only (Ali Cheema and others 2013b).

¹² These results are based on a randomized control evaluation of PSDF's Skills for Market intervention (2013-14), which was designed to determine the impact of in-village training and provision of secure group transport on enrollment rates among rural women in south Punjab (Ali Cheema and others 2015).

Figure 8. Current Skills Training Capacity of Regular TVET and Private Sector in Punjab

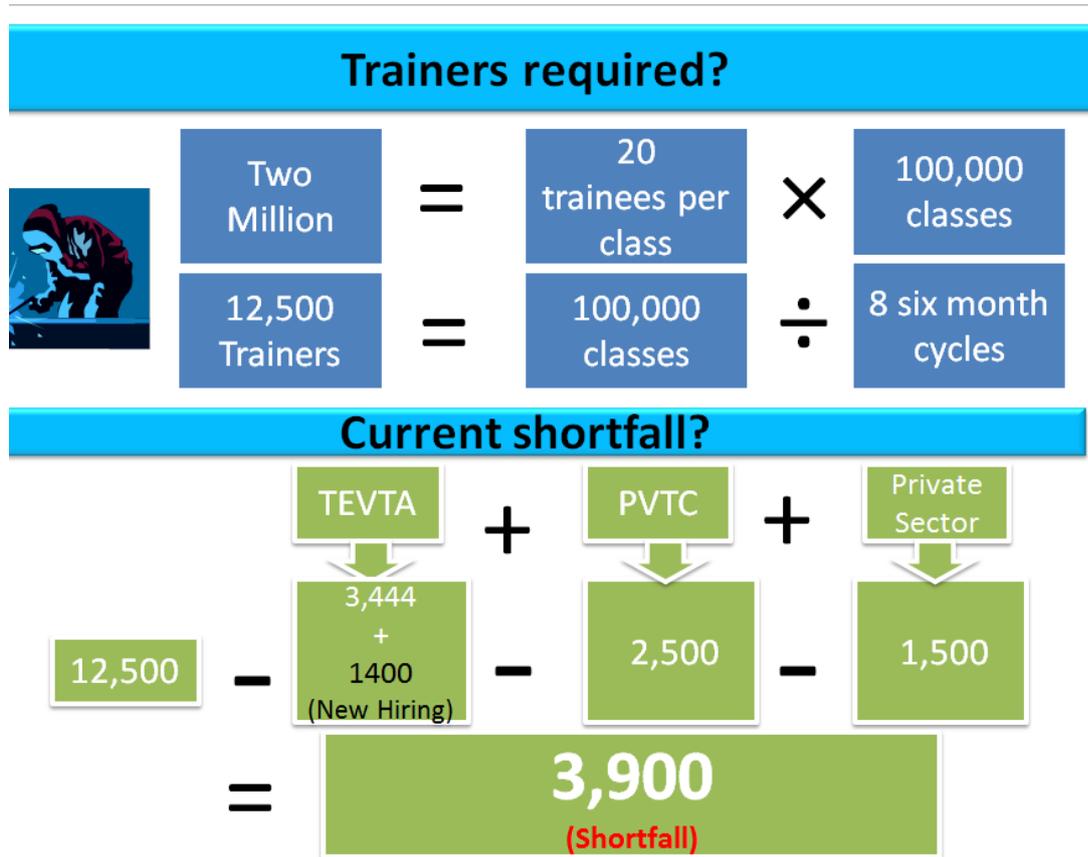


In the absence of a concerted effort to increase skills training capacity in the province, Punjab will be unable to meet the target of 2.0 million trained workforces by 2018 as slow employment generation, under-employment, widening skills gaps, and global competition will increase the difficulties in generating employment opportunities for a large workforce.

Shortage of trainers in Punjab: In accordance with the lack of training capacity highlighted above, the number of qualified trainers in Punjab is critically low. TEVTA currently has 3,444 trainers, with another 1,400 trainers recently hired; PVTC has 2,500 trainers; and the private sector can be counted upon to ensure availability of 1,500 trainers at best. (See Figure 9 below.)

With a target of two million trained individuals, at a rate of 20 individuals per course, a total of 100,000 courses/sessions will need to be held. These classes – divided over eight cycles of six-month each, over 4 years – will require 12,500 trainers in total. However, the existing capacity results in a shortfall of 3,900 trainers. This means that there is a glaring need to increase the number of trainers in the short term if the Punjab Skills Development Sector Plan 2018 is to be effectively implemented.

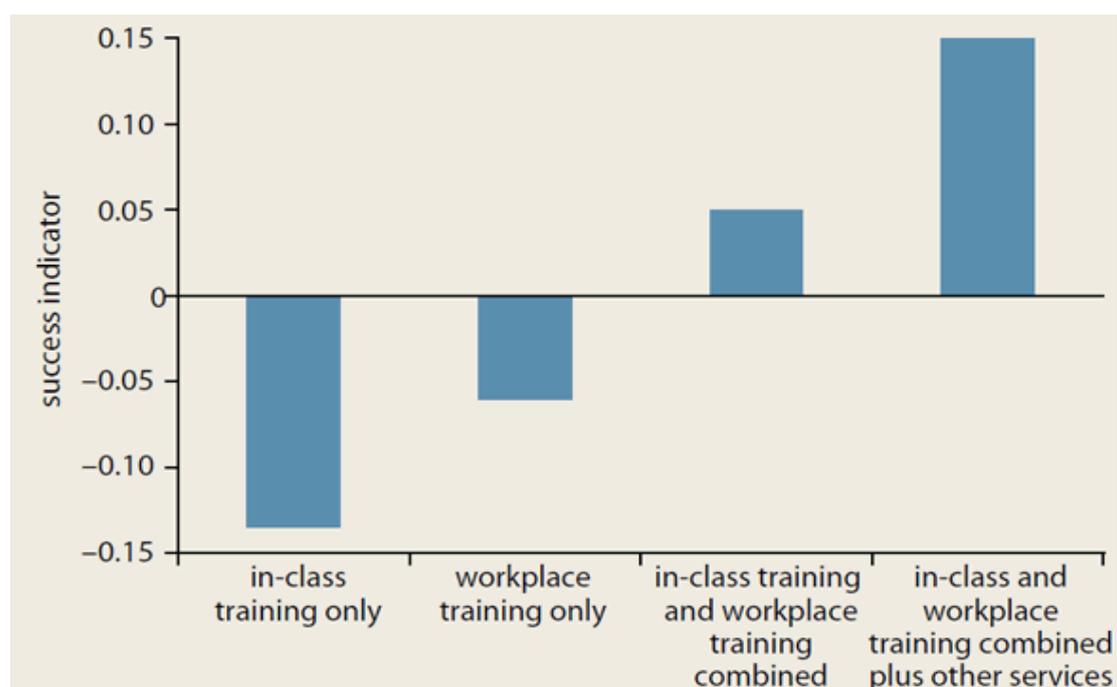
Figure 9. Shortfall of qualified trainers to meet quantitative target of Skills Development Sector Plan 2018



3.2. The Market for Skilled Labour

Evidence from developing countries shows low returns associated with skills training programs that provide either in-class or workplace training only (See Figure 10 below). Instead, integrated programs that combine on-the-job and classroom training have positive returns. The success rates of skills training program increase significantly when in-class and workplace training are combined with work experience and job placement components.

Figure 10. Combining Work and Training Increases the Success Rate of Skills Programs

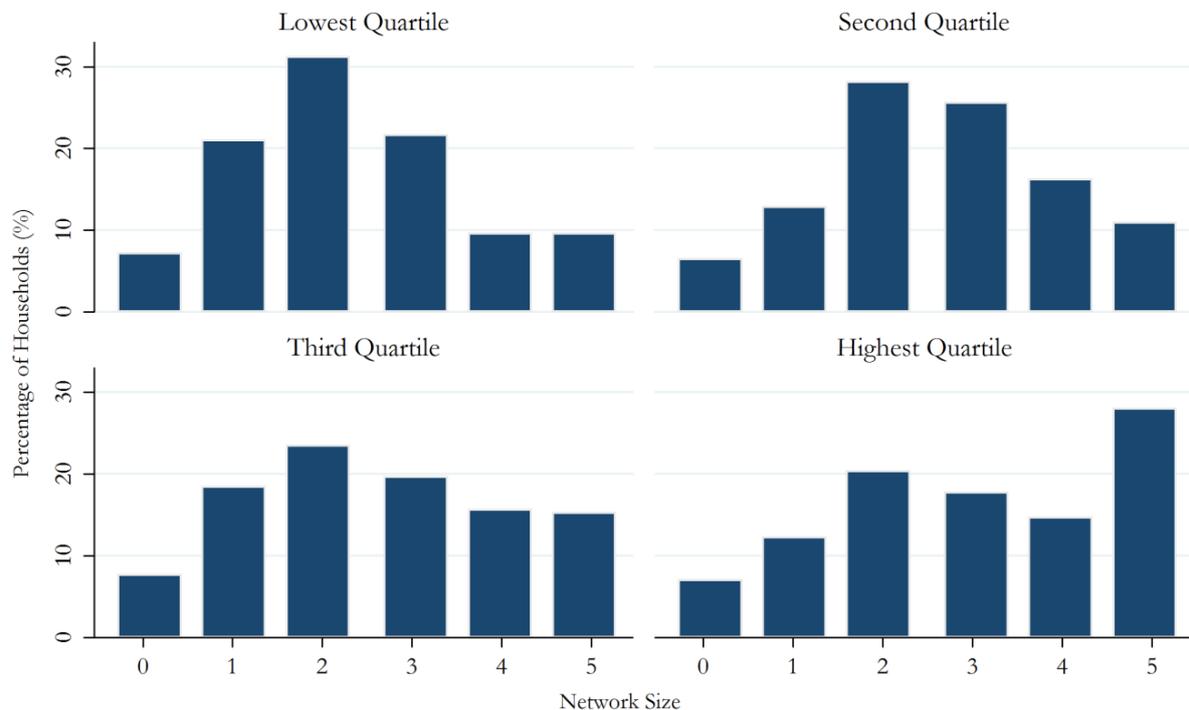


Note: This figure shows the correlation between type of skills training and the success of a program, with success defined as improving employment or income as well as being cost-effective. Source: Fares and Puerto 2009, as shown in World Bank (2012), “World Development Report 2013: Jobs.”

An important constraint negatively affecting the success of skills training in Punjab is the existing nature of job matching networks. These networks tend to be personalized, narrow and exclusive, and are weakening the link between acquiring skills and gaining employment. Most people say that they use personalized networks to match workers to jobs (See Ali Cheema and others 2012a). Figure 11 below shows that economic well-being of families is highly correlated with how large and wide their job search networks are. This shows that individuals stuck in low wage jobs also have the narrowest job search networks, and this is likely to reduce their chances of getting access to good quality jobs after completing skills training. Employers also depend on personalized networks to fill vacancies (See Ali Cheema and others 2012b). There is also strong gender-bias in existing job matching networks. Studies have also

suggested that existing labour contractor networks are keeping productivity in Punjab’s fan industry low (See Theresa Chaudhry and Christopher Woodruff 2013). Thus, **it is essential to integrate effective job placement mechanisms into skills training programs, to allow trainees to increase their access to jobs and markets. This is required to realize better income and higher employment of skills trainees.**

Figure 11. Size of Job-Search Network of households in 4 poor districts of Punjab, by Consumption Quartile



Source: CERP-PEOP Baseline Household Survey 2012

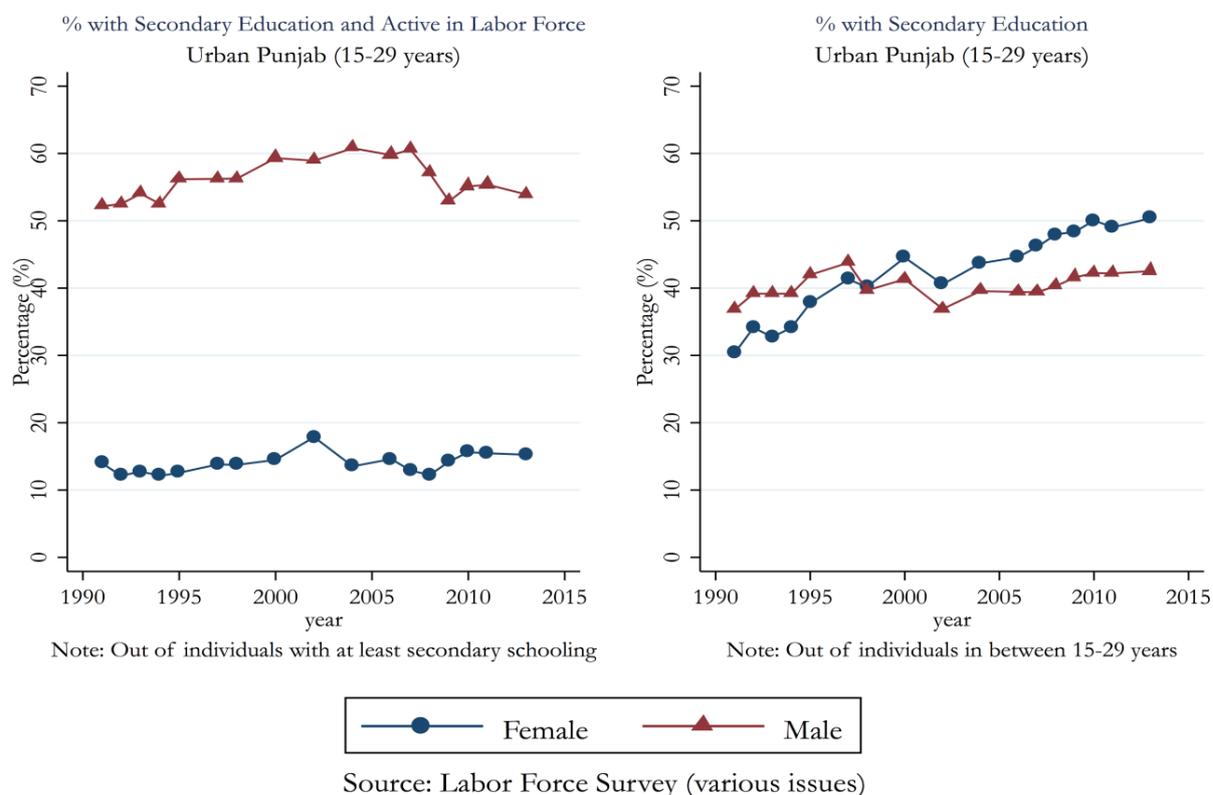
Note: An index on the scale of 0-5 is used to depict job search network size for households; where 0 represents narrowest network and 5 represents the most diverse network.

For women, low social mobility is reducing their access to markets (for self-employed women) and access to quality jobs (for job seeking women). This is because local job markets offer only a few quality job opportunities for women and they remain poorly integrated into value-chains (See Ali Cheema and others 2012a). Another constraint is that employers in Pakistan are very reluctant to employ women except outside a few sectors, such as education and health (See Ali Cheema and others 2012b).

Thus, poor social mobility, weak linkages with market and low demand for female employees are some important factors why labour force participation among educated young women (those who have completed high school) has remained stagnant in urban areas despite a dramatic rise in

their education qualification in the past 25 years¹³ (See Figure 12 below). This suggests that in the case of women, acquiring education and human capital alone is insufficient to increase their labour force participation.

Figure 12. Labour force Participation and Education attainment among Educated Young Women in Urban Punjab, 1990-2013



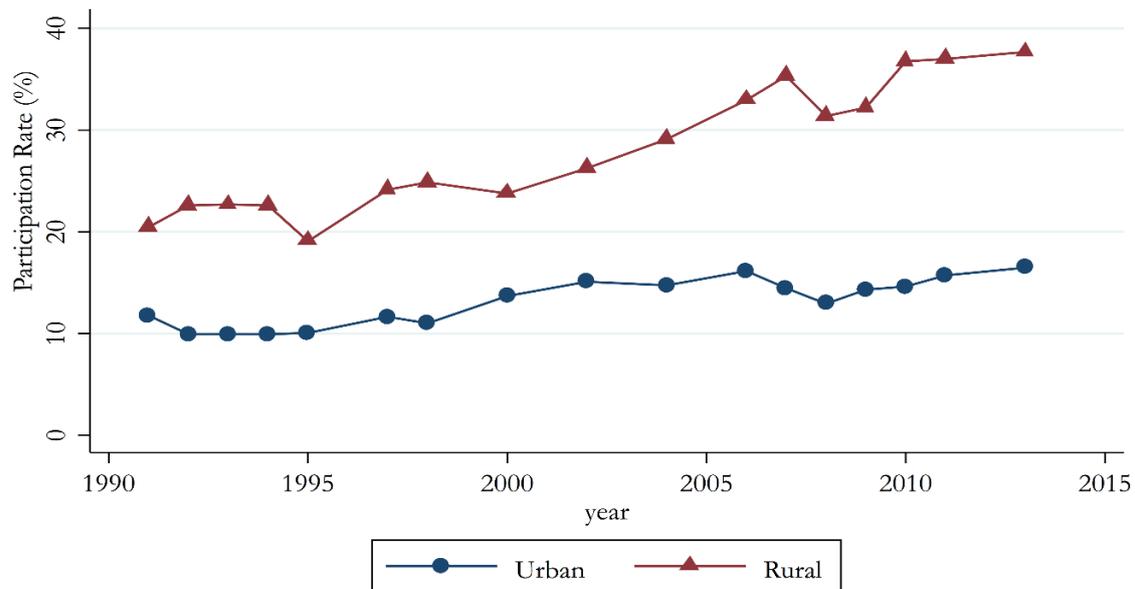
We must recognize that a declining fertility rate in Pakistan, a consequence of the ongoing demographic transition, and improvements in women’s education are creating favourable conditions that help increase female labour force participation. This can potentially contribute to economic development if this trend rate can be increased further. Female labour force participation rates have doubled over the last twenty years in rural areas and have increased by about 1.5 times in urban areas (See Figure 13 below).

However, a number of challenges remain. Currently the female labour force participation rate is one of the lowest in South Asia (See Reema Nayar and others 2012). Labour force participation rate is increasing most rapidly among rural women who have the lowest level of education and are engaged in low productivity self-employment and casual labour jobs in agriculture. Therefore,

¹³ The right hand side graph of Figure 8 below shows that young women in urban areas have rapidly surpassed young men in terms of education. 25 years ago, this cohort of women had education attainment that was 10 percentage points lower than that of men, and now this situation has reversed by 2013.

in order to create an economic growth impact we must increase their human capital and improve their access to value-chains and better jobs.

Figure 13. Female Labour force Participation in Punjab



Source: Labor Force Survey (various issues)

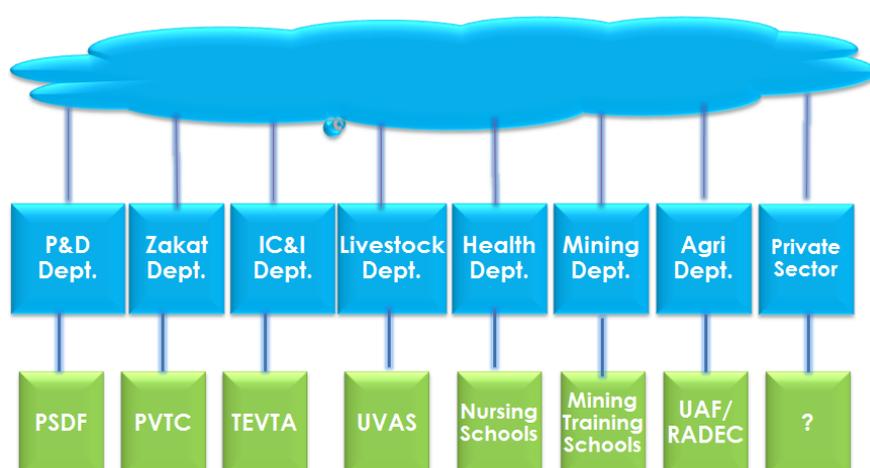
Local and flexible jobs for women are a solution: The example of the Education sector in Punjab shows that women are extremely responsive to job opportunities provided these jobs are local (a short distance away) and offer work conditions that allow them to manage the burden of their domestic work as well (See Tahir Andrabi and others 2013). Thus, increasing female labour force participation requires a full set of measures that build education and skills and ensure the supply of local jobs and market opportunities that are flexible. International evidence suggests that these interventions can be enhanced by supportive measures that help further fertility rates (See Claudia Goldin 1995; and Kristin Mammen and Christina Paxson 2000). The Government’s strategy in this area is discussed in detail in the Punjab Growth Strategy 2018’s chapter on Demography and Population.

3.3. Institutional and Programmatic Challenges

A fragmented institutional framework at the Provincial level for policymaking, implementation and financing of skills development reduces the effectiveness of skills as a path to achieving high human capital. Public sector institutions are providing supply-driven training with weak links with jobs and employers (See Yasin Janjua and others 2010 and World Bank 2014b). We have not been able to institutionalize mechanisms that ensure that skills training is relevant to the demands of the market. In these skills programs our impact is usually measured by the number of graduates produced rather than in terms of income and jobs. As a result, recent studies have listed a number of problems in these TVET programs, which include: outdated courses, poor infrastructure and resources, and little exposure to industry (See Andreas Blom and others 2009 and Yasin Janjua and others 2010).

In the absence of a unified and overarching Skills Development Sector Plan at the provincial level, public sector entities have been working in silos. There are considerable functional overlaps between different agencies. Moreover, an umbrella framework is lacking to coordinate the strategic and operational interaction between various public sector agencies, as shown in Figure 14 below.

Figure 14. Current Structure of Skills Development and Technical Training Entities



Currently we are lacking a single pivotal and focal Skills Agency in Punjab and a single authority for quality standard assessment, which reduces holistic planning and gives rise to variations in standards in public-funded skills training. In addition, a large number of Departments and agencies are engaged directly and indirectly in training at the provincial level but with little coordination. This fragmented structure reduces our ability to exploit complementarities between various skills training programs and between these programs them and other interventions. Further, at least three pivotal Government agencies are involved in testing and certification, which increases variations in quality standards in the market.

Recently the Government has taken a number of innovative measures at the program level to address these challenges. It has institutionalized the Punjab Skills Development Fund (PSDF) with partial support from the United Kingdom’s Department for International Development (DfID). (See Box 1 below.)

Box 1. Punjab Skills Development Fund's success in delivering quality skills training

Punjab Skills Development Fund (PSDF) is a training fund designed to increase the skills training market throughout the province including the high-poverty districts. Its design is a major shift in the delivery of public-funded skills training programs and its model is based on the following:

- identifying demand for skills using strong evidence
- competitive performance-based tendering that also helps reach the vulnerable groups of target population
- third-party monitoring to ensure compliance
- rigorous evaluation to allow the program to be modified to increase access to skills trainings and to maximize returns from these trainings.

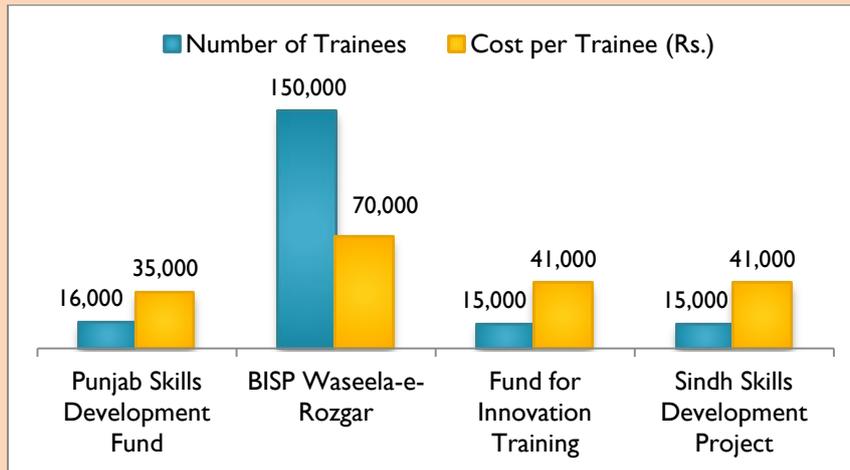
PSDF ensures that public-funded skills training is relevant to demand: It has made extensive use of detailed surveys to change the menu of skills training that is available. In addition, it has developed a framework of engaging with employers through cluster-based employer engagements and by establishing of an employer registry.

One example of this is the **Skills for Garments scheme** developed by PSDF. It was designed by identifying the skills needed by the garments sector, by using cluster-based employer workshops where garments manufacturers’ input was utilized to design the training program. These employers were then used directly as trainers and training providers to bring their best practices to the program.

Similarly, Punjab Vocational and Technical Council (PVTC) has been using Institute Advisory Boards (IABs) which have strong participation of local industry at the institute level, to provide advice on curriculum and information on demand for skills. Experience from these programs can be used to the design an appropriate institutional framework to ensure that public-funded skills training is demand-relevant.

The PSDF model is cost-effective: The skills training provided by PSDF is cost-effective due to transparency, ongoing third-party monitoring and independent yearly financial audits. The testing services are outsourced to national and international accredited certifying agencies. See Figure 15 below to see the program’s cost-effectiveness relative to other skills training programs.

Figure 15. PSDF cost-effectiveness: Comparison with four skills programs



Source: Ijaz Nabi 2013

The successful implementation of the PSDF model provides a solid foundation for the Government to build upon.

4. Proposed Programmatic Interventions

The Skills Development Sector Plan represents a radical break from the past model of public-funded skills training that used budgetary support to invest in public-sector institutions. The ‘**new model**’ builds on the recent innovations of the Government and its main features include the following (a schematic diagram is given in Figure 16 below):

- a. Developing and expanding a ‘**market**’ for skills training to ensure a supply of skills through a diversity of training providers. This objective will be achieved by using a mix of performance-based financing, competitive tendering, and rigorous evaluation conducted by third parties.
- b. Developing best-practice curriculum and teaching and learning resources (TLRs), through ‘**knowledge partnerships**’ with high quality private sector employers and international training providers. This includes bringing training in cognitive and non-cognitive skills into the mainstream.
- c. Providing incentives to the private sector to engage in the supply of skills training.
- d. Creating a link between skills provisions and the need of priority sectors and high employability-high growth clusters and value-chains. **These have been identified in the Punjab Growth Strategy, and include among others: garments, light engineering and other value-added manufacturing, agribusiness and livestock, local health and education facilities, etc.**
- e. Institutionalizing mechanisms to elicit demand for skills by using surveys and engagements with employers.
- f. Restructuring public sector institutions to substantially increase their efficiency.
- g. Reducing the cost of accessing training opportunities for both men and women, by introducing complementary interventions.
- h. Strengthening job and market linkages by introducing integrated programs that go beyond in-class training and workplace training alone.

Figure 16. A New Model for Skills Training in Punjab



To ensure the financial sustainability of skills training, the Skills Development Sector Plan seeks to develop an incentive framework in the medium term to provide incentives to employers to directly contribute a part of the cost of skills training that is relevant for **their sector**. This framework will assess the relevance of various co-funding arrangements¹⁴. These include: employer-based opt-in and non-voluntary levy arrangements for employer networks; and establishing an innovation grant fund, whereby groups of employers put forward proposals for Government co-investment to be selected on the basis of best value.

In the short run, the Sector Plan proposes three strands of interventions to address the three types of challenges in the markets for skilled labour and skills training identified in the last section.

¹⁴ See Marsden and Dickinson 2013 for a review of international evidence on co-funding arrangements for skills training.

4.1. Strand I: Expanding the Supply of Demand-Relevant, High Quality Skills Training Opportunities

4.1.1. Establishing a Framework for Eliciting Demand

The Government seeks to institutionalize the following mechanisms to elicit demand for skills: (a) Industry Sector Skills Councils (ISSCs) that directly involve employers in designing competency standards and training programs; and (b) using surveys to create objective information on hard-to-find jobs, skills gaps and employer and household demand for skills. These mechanisms for eliciting demand will become pivotal institutions for developing ‘knowledge partnerships’ with the private sector.

4.1.2. Increasing Supply of Skills Training in Under-Served Priority Sectors, Value-Chains and Clusters

The Government will use the mechanisms for eliciting demand to identify under-served priority sectors, value-chains and clusters. It will set up an innovation grant fund to seed supply for these sectors with direct engagement from the private sector. To maximize impact it will use the innovation grant window to provide incentives for developing training models that ensure coordinated diffusion of best practice skills, identified through knowledge partnerships with the private sector, throughout clusters and entire value chains. Some of these priority sectors have already been identified in the Punjab Growth Strategy, and include among others: garments, light engineering and other value-added manufacturing, agribusiness and livestock, local health and education facilities, etc. As part of an upcoming World Bank-assisted project on skills development, the Government will initiate a competitive grant mechanism to increase skills training for workers focusing on these and other priority trades.

4.1.3. Integrating Cognitive and Non-Cognitive Skills

The Government seeks to integrate cognitive and non-cognitive skills with job-specific training because of the value employers and households place on these skills and their strong positive correlation with better jobs.

4.1.4. Restructuring Public Sector Institutions

The Government will seek to restructure TEVTA that involves unbundling its regulatory function; restructuring human resource competencies and establishing a framework for decentralized delivery of skills training backed by performance-based grants and public-private partnership arrangements. We will also institutionalize a performance-based competitive grants financing model in PVTC based on a robust framework to measure performance on the basis of

competencies and job placements of trainees. We will develop the capacity of these public sector institutions (TEVTA and PVTC) to manage performance-based grants and track outcomes.

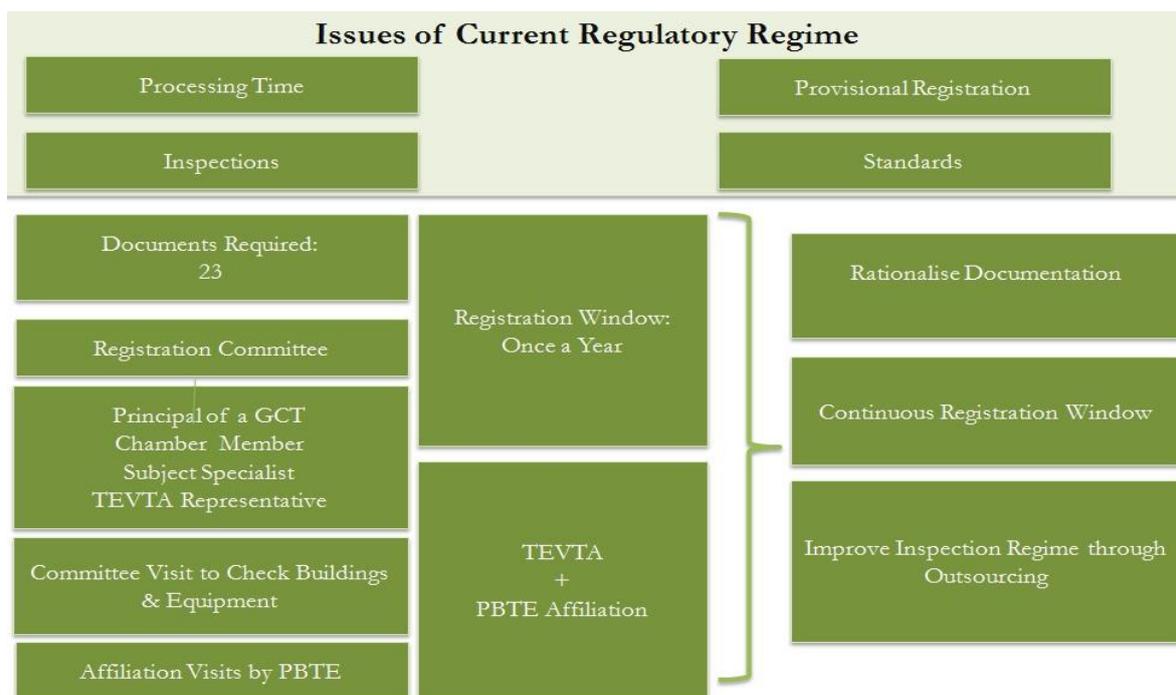
4.1.5. Integrating Technical Streams into Higher Education

The Government will provide technical assistance to the Higher Education Department to design effective learning transitions from secondary education to technical education and vice versa.

4.1.6. Promoting the Private Sector for better delivery of skills training

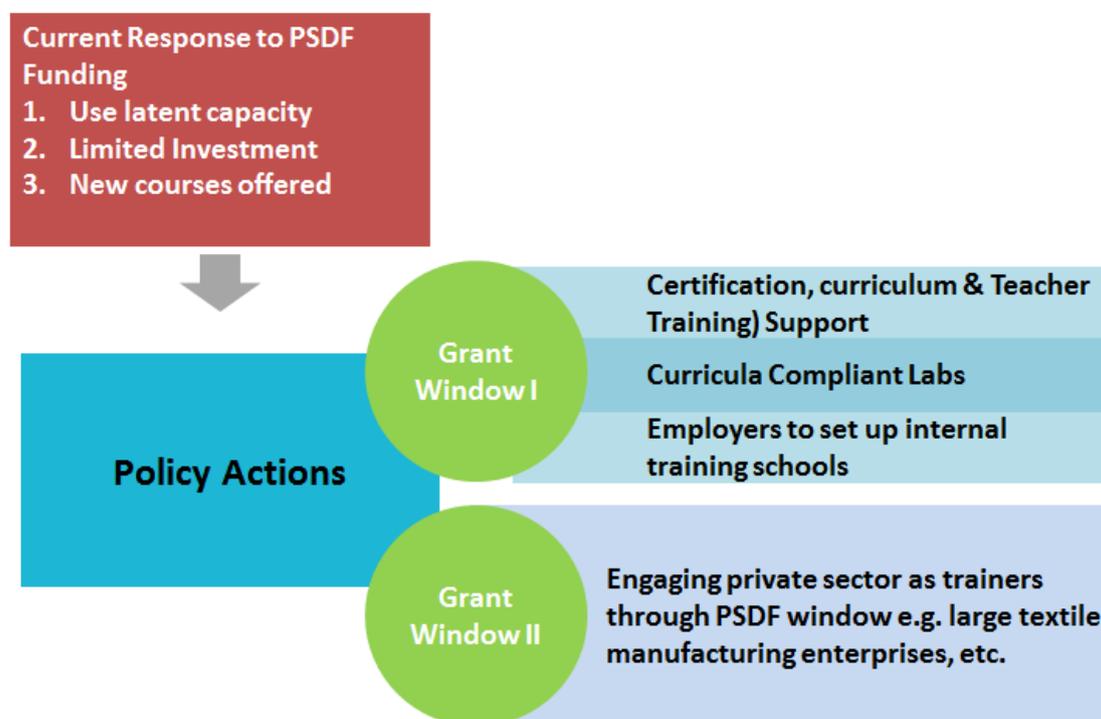
The role of the private sector will be crucial for the effective implementation of the Sector Plan. It envisages greater and more effective participation from the private sector towards a variety of outcomes. The government plans to use latent private sector training capacity by reducing the regulatory burden on private training institutes. Regulatory reform for a transition to a better operating environment for private sector skills providers will be achieved through a rationalization and lowering of regulatory requirements and fewer barriers to setting up and operating private facilities: continuous registration, less documentation, outsourced site inspections, and more streamlined clearance processes. Figure 17 below illustrates some of the envisaged reforms.

Figure 17. Proposed Regulatory Regime for Private Sector Skills Providers



The Government also plans to leverage PSDF financing to private institutions to streamline performance-based grant funding mechanisms. The grant financing will be subject to the achievement of prescribed targets by participating institutions, and will support the institutions towards the achievement of desired strategic outcomes for increasing their capacity or for improved relevance, quality, and delivery of training contents. Figure 18 below showcases the proposed Grant Financing mechanisms.

Figure 18. Proposed Performance Based Grant Financing Mechanisms



Further, to enable the private sector to participate more effectively in the market for skills training, the following interventions will be done:

- a) Private sector institutions have to go through multiple public organisations at the time of registration. The institute first has to make a case and go through an inspection by TEVTA and subsequently has to make the same case with the same set of information before PBTE. Even though the purposes of having to go through TEVTA and PBTE are distinct, the processes and documentation requirements are the same. TEVTA and PBTE will be moved towards joint inspection and approval regime rather than having to do two separate rounds.
- b) The participation of the private sectors will be encouraged in order to enhance the efficiency of public sector institutions. The Government will encourage TEVTA to identify ‘sick’ institutes and use PPP Management Models – **Management Contracts, Rehabilitate-Operate-and-Transfer (ROT) or Rehabilitate-Own-and-Operate (ROO)** – to hand over the running of these institutes to private sector institutions and

industries. There is strong interest in the donor community in assisting the Government in such measures that improve collaboration between the private sector and training providers.

4.2. Strand II: Improving Access to Skills Training Opportunities

4.2.1. Target Groups

The priority target group for the Skills Development Sector Plan is young adults (15-29 years). Within these group individuals with: (a) poor education will be the priority group for vocational training; and (b) high school education will be the priority group for technical education. The Sector Plan is designed to be inclusive and will target young women, low income individuals and high poverty districts in proportion to their share in Punjab's population.

The educational qualifications required by formal training institutes under the departments serve as a barrier to entry by excluding a majority of potential male and female trainees. Accordingly, the rules and regulations shall be relaxed to attract a larger pool of trainees.

To ensure effective targeting of its skills programs so that they reach the desired beneficiaries, the Government will use appropriate targeting mechanisms such as the comprehensive and credible National Socio-Economic Registry used by the Benazir Income Support Programme.

4.2.2. Increasing the Menu of Public-Funded Skills Training

In order to be inclusive, the Sector Plan will broaden the skills training menu to include trades that are relevant to the less educated population and are taught using accessible curriculum and pedagogical methodologies. We will seek to establish a competitive innovation grant fund to provide incentive to skills training providers to develop these relevant curricula, TLRs and pedagogical methodologies. The skills training menu for the less educated will also emphasize cognitive skills (functional numeracy and literacy) and non-cognitive skills (team work, professionalism).

4.2.3. Increasing Male Enrollment

We seek to combine stipends with interventions for job placement and market linkage, described below, to increase enrollment among males. These interventions will complement skills training and are expected to increase enrollment by changing their expectations about obtaining better employment after training. For rural males, we will provide skills training within villages to reduce access costs for trainees.

4.2.4. Lowering Access Costs for Women

We seek to combine stipends with skills training based in neighbourhoods and the provision of secure group transport to increase women's access to training. These interventions can have a large impact on women's enrollment in Punjab (See Ali Cheema and others 2015).

4.3. Strand III: Strengthening Linkages of Training with Jobs and Markets

4.3.1. Strengthening Linkages with Jobs

We will test the following four models of job linkages that have shown promise in the international and Pakistani context: (i) skills training based at employers; (ii) dedicated cluster-based training; (iii) complementing in-class training with on-the-job training and (iv) establishing a dedicated employment registry with an effective mechanism for transmitting information on job openings and worker characteristics between employers and jobseekers. We will seek to calibrate these models and will scale-up those which are rigorously measured to provide better outcomes.

4.3.2. Market Linkages for Women

We will seek to use the proposed innovation grant window to provide incentives to skills training providers to develop innovative models that help integrate trained women engaged in self-employment into the relevant value-chains. Again, we will scale-up those models which are rigorously measured to provide better outcomes.

4.3.3. Active Labour Market Policies for Women

As discussed in the last section, the shortage of local employment opportunities for women and an employer bias against employing them are two important factors reducing their labour force participation. Therefore, there is a strong case for complementing investment in skills training with active labour market programs that create local jobs for women in Preventive Health, Livestock and Education that are priority sectors for the Government.

4.3.4. Exploiting Complementarities

We will seek to exploit complementarities between skills training, asset transfer programs, enterprise financing programs and interventions that promote reduction in fertility among young adults. Experience from Bangladesh shows that combining asset transfer programs with skills

training has extremely high returns¹⁵ (See Oriana Bandiera and others 2013). The decline in fertility along with increase in human capital (via education and skills) are key factors affecting labour force participation of young women. Exploiting these complementarities has great potential to increase the returns to skills training for the labour market¹⁶ (See Oriana Bandiera and others 2014).

4.4. Greater Public Sector Efficiency

The Skills Sector Plan prioritizes the achievement of greater efficiencies within the public sector. Two overarching goals have been identified in this regard:

- Improving the efficiency and outputs of TEVTA, PVTC, and PSDF by filling vacant posts, rationalization, and improvement in student teacher ratios
- Using the entire public sector capacity, including skill development initiatives under other Administrative Departments

The achievement of these goals will entail a number of actions by regular TVET institutions as well as other Administrative Departments as described below.

4.4.1. Increasing Efficiency of Regular TVET Institutions

Specific actions to enhance the efficiency and outputs of regular public sector TVET institutions are:

Punjab Technical Education and Vocational Training Authority

- a) Improving TEVTA's efficiency and effectiveness will require a gradual but focused human resource restructuring of TEVTA and reversing the balance of staff/personnel more in favour of trainers rather than administrative staff. This shift will bring about a significant jump in number of trainers without any additional cost to the Government. The World Bank has agreed to support the strengthening of TEVTA to make it a more demand driven, efficient and effective skills training provider. It will support a functional review of TEVTA to develop and implement a medium-term institutional development plan.

¹⁵ Oriana Bandeira and others (2013) find that sizeable transfers of assets and skills enable the poorest women in Bangladesh to sustainably move out of agricultural labour and into running small businesses, and this structural change leads to a 38% increase in their income. Jonathan Argent and others (2014) show similar findings for Rwanda.

¹⁶ Oriana Bandeira and others (2014) provide evidence of significant returns associated with programs that combine skills training and information on health and family planning for young women in Uganda.

- b) TEVTA's weaker institutes, but those that have large infrastructure, need to be better utilized. This may require creating local partnerships for those institutes, either with private sector training providers or with PVTC, to better utilize the space. A simple analysis of enrollment against facilities available can be done to identify quick wins in this regard.
- c) The better performing institutes of TEVTA need to be further strengthened. Out of the block development funding allocated to TEVTA, a scheme for providing competitive grants will be initiated. The scheme will fund institutes on initiatives that will increase quality and capacity without any infrastructural investments, where institutes can bid for grants.
- d) TEVTA will seek to hand over the running of under-performing institutes to good private sector entities using Public Private Partnership Models.

Punjab Vocational Training Council

- a) The overall strategy places a significant reliance on PVTC for contributing a major share in the number of skills graduates. This will require significant investments both in infrastructure and operations of PVTC over the next 4 years. In addition to making these investment some efficiency enhancing measures can also add to PVTCs current capacity:
- b) A higher share of zakat funds will be given to PVTC. Moreover, a broader awareness will be created about PVTC supporting a majority of 'zakat mustheikeen'. PVTC will also be allowed to collect zakat charity directly from public like other social (private and public) entities do. The accounting policies in place at PVTC are transparent and robust enough to start its own zakat fund and then transparently use these funds to pay for additional students. PVTC has already allocated funds for CAPEX on new institutes, and if this zakat fund is initiated, it will provide operational costs to manage these institutions. This capacity enhancement can be managed fairly quickly.
- c) PVTC currently uses standard costing per student per month to allocate operating costs. The 54 trades that are offered by PVTC vary in terms of costs of delivery due to the nature of the courses as some require a lot of material and equipment while others are more theoretical. A more specific costing of the courses can create fiscal space within the existing budget to enhance the number of students trained.
- d) PVTC and TEVTA should jointly assess possible partnerships where TEVTA institutes can be used by PVTC to enhance enrollment and capacity of training.

Punjab Skills Development Fund

- a) PSDF has already been allocated its budget for trainings. However, PSDF may undergo an analysis of the costs of training a student, under the funds, and separate the overheads

and operational costs. This analysis will help reduce training costs and provide extra fiscal space.

- b) PSDF will develop the institutional capacity to implement the performance-based financing mechanisms for support to private sector institutions.

4.4.2. Utilizing entire Public Sector Capacity (Administrative Departments)

Leveraging and enhancing the training capacity at other Administrative Departments would be fundamental for achieving the quantitative targets of the Skills Development Sector Plan. Specific targets have been prescribed for the departments involved. In addition, the role of these Departments is important not only in terms of the sheer numbers of trained workers produced, but also due to the importance of the skills imparted through the initiatives involved within the overall skill-mix of the trained workforce. Specific overview and strategies for the departments involved are discussed below:

Agriculture Department

Agriculture is central to economic growth and development in Punjab as its contribution to the national agricultural economy is overwhelming. The agriculture sector, including livestock, contributes 27 % to Punjab's GDP and employs 40 % of its labour force.¹⁷ Agriculture's overall contribution to the economy is even larger because of downstream services activities such as transport and processing, among others. Accordingly, agriculture has a pivotal role in Punjab for economic growth and development and more skilled trainers will directly contribute towards a flourishing economy and labour force, and the Agriculture Department intends to increase the skilled labour force by 30,638 by the year 2018.

Investing in agricultural extension and training by upgrading the training programs along the lines of technical and vocational training is needed for commercial farming. Furthermore, training farmers and marketers to meet the Stringent Sanitary & Phytosanitary (SPS) standards imposed by importing countries is also required. Moreover, improvements in specialized extension service staffed by subject matter specialists for precision agriculture and high-value crops such as horticulture and floriculture are required. The service may also include information dissemination on weather forecasts for agriculture, Global GAP or good agriculture practices, latest innovations in conservation agriculture, plant propagation and crop improvement, post-harvest management, and market information on crop prices etc. This will foster upgradation of the training programs along the lines of TVETs needed for commercial farming.

Health Department

Health is a policy objective in itself, independent of growth implications. However, strong health service delivery also matters to growth, in at least two ways: first, a healthier workforce requires less time off, and is hence more productive; second, the healthcare system provides family

¹⁷ Khalid Ikram (2013), "Provincial Economic Development: Performance, Challenges, and Way Forward". Mimeo.

planning services, and if this lowers the population growth rate, the pressure on the overall economic growth rate will reduce. The Health Department has a potential of enhancing its targets by at least double the amounts of the current figure to 62,072 skilled trainers if trainings for Curative Health Workers (Paramedics), i.e. Lab Technicians (Ultrasound, X-Ray), Radiographers are included, in addition to Lady Health Workers, Lady Health Supervisors, CMWs and Nursing staff.

Higher Education Department

Infrastructure exists in all commerce colleges and institutes for the purpose of launching short training programs to equip the untrained and unemployed prospective candidates with working skills and latest technology. These training programs will be arranged at college and institute level, and specialized courses will be offered which will be demand-driven. No further financial implication will be borne by the institutes as the same will be financed by the GoPb in form of stipends for trainees and remuneration for the teachers and administration staff. As a result of this initiative of GoPb, the unemployed will get skills and consequently they will become a part of the active workforce and contributors to the GDP of the economy. The establishment of the new trading, manufacturing and service units in public, private and private-public sectors are opening up doors for the commerce graduates at attractive salary packages. The Higher Education Department intends to provide an output of 298,814 trainees by the end of 2018.

Livestock and Dairy Development Department

The Livestock Department intends to provide an output of 160,800 trainees by the end of 2018. This shall be achieved by bringing livestock farmers into formal sector through training them in collective services like common milk collections, chilling and pasteurizing milk, and by training livestock farmers in biogas techniques for better use of resources and economical operations. In this respect, a subsidy regime by the government will help farmers to adopt this methodology. Moreover, the Government of the Punjab will also improve the capacity of existing Livestock & Veterinary Research Institutes and establish District Livestock Development Centers to provide animal health and advisory services for livestock owners and business facilitation services.

Mines and Minerals Department

The Mines & Minerals Departments aims to train 4,720 over four years by strengthening the capacity of the existing institutions and establishing three more institutions. The department intends to liberalize its regulatory procedures and policies to attract both local and foreign investment in order to generate employment and economic activity. The designing and implementation of pro-investor policies will also create a strong demand for skilled labour and allow for the supply side to be scaled up to match the increasing demand for labour.

5. Proposed Institutional Reforms

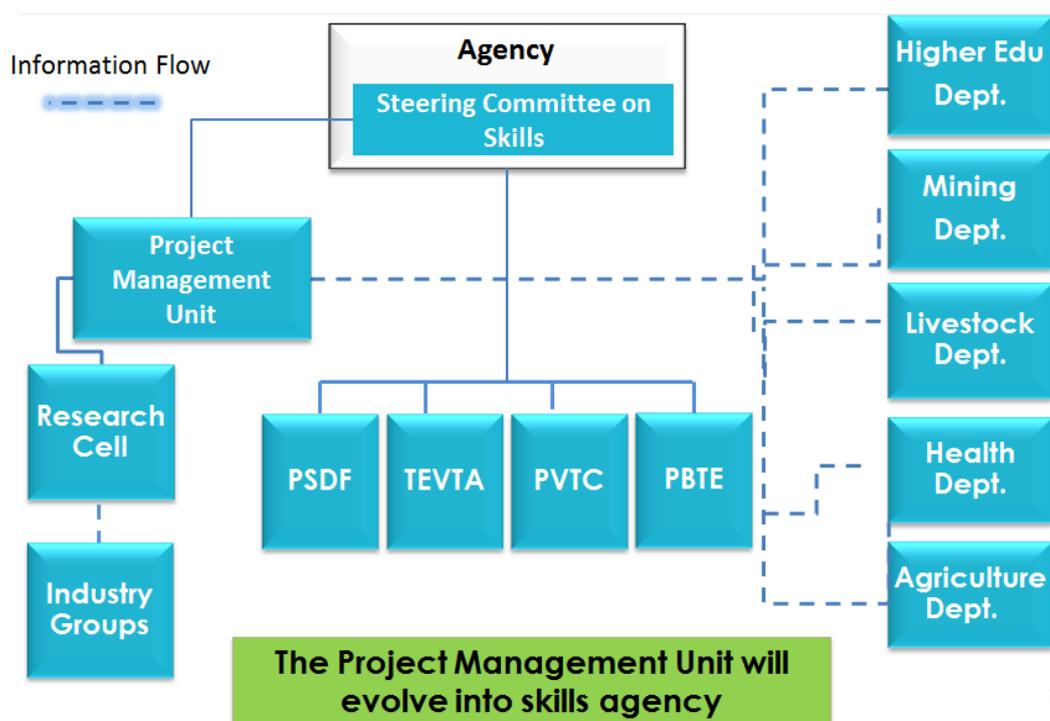
The current regulatory regime and the governance systems, vis-à-vis skills development, are in need for extensive reform before they can be expected to contribute to achieving the objectives and objectives stipulated above. With the governance structures currently in place, Administrative Departments control their respective training institutions with little to no coordination among them, which results in efficiency losses.

5.1. Focal Agency for Skills Development in Punjab

The Government will seek to create a unified focal agency for Skills development with significant representation from the private sector, skills experts and training providers as well as the relevant government Departments, which includes the Women Development Department and the Punjab Commission on the Status for Women. This structure of representation will help institutionalize an inclusive and demand-based approach for skills training. All public sector skills initiatives will report to this Agency. The main objectives of the Agency will be to create medium-term strategic and implementation plans for skills development in Punjab; put in place results and monitoring and evaluation frameworks for outcome-based delivery; create an institutional basis for performance and outcome-based financing and competitive tendering; introduce mechanisms that achieve critical coordination for implementation that involves the private and public sectors and external stakeholders; and set up an innovation grant facility for the purposes mentioned in the previous section.

Steering Committee and Project Management Unit (PMU): Before this focal agency before operational, the Government will create a high-powered Steering Committee on Skills and a Program Management Unit (PMU), with substantial private sector representation. It shall directly liaise with PBTE, PSDF, PVTC, and TEVTA through a Program Management Unit (PMU), comprising of a Research Cell and Industry Groups. The PMU shall serve as the secretariat for the Steering Committee on Skills, provide project development support, produce/commission and disseminate quality evidence on skills, monitor and evaluate skills development plans. The PMU is also expected to perform program management, information collection from the participating entities, stocktaking of progress towards envisaged targets, and recommending midcourse corrections. The PMU shall evolve into an autonomous skills agency for Punjab, and in collaboration with NAVTTC. (See Figure 19 below for details.)

Figure 19. Proposed Institutional Structure for Implementation



5.2. Additional proposed Institutional Reforms

5.2.1. Strengthening Evidence-based Policymaking

The Government will create a research and evaluation mechanism that supports this focal skills agency by generating a steady stream of data and evidence on skills gaps and the labour market that is accurate and policy-relevant. In addition, it will put in place mechanisms to track skills graduates and evaluate the impact of interventions using international best-practice methodology.

Role of the new Research cell: The Research Cell will lead this effort of evidence-based policymaking and will be responsible for undertaking regular Skills Demands Assessments. It will conduct data collection and analysis for these assessments to facilitate skills gap analysis which will inform curricula/standards and the demand from industry/employers. The Federal Government's NAVTTC is also planning to work in this area through an Industry Skills Council, with which our Cell will closely coordinate.

5.2.2. Developing an implementation and results framework

One important and urgent task for this Steering Committee and PMU is to develop a strong implementation and results framework, to move from a 'strategy-on-paper' to actual implementation with an appropriate balance between interventions targeting all objectives of the Skills Development Sector Plan. This Framework will list all interventions that are included in

the Skills Development Sector Plan, including clear actions and targets for each year of implementation, the responsible implementing entity, and a clear description of the expected results in 2018. This Framework will be a key document used by the implementing partners, including the Steering Committee on Skills and the Skills PMU, to monitor results. It will be updated regularly. The Framework will also serve as a monitoring tool for the Steering Committee and PMU.

5.2.3. Reforming the Testing and Certification Regime

The Government will seek to restructure the existing testing and certification regime by creating a single assessment authority that works under the National Vocational and Technical Qualifications Framework (NVQ) being developed by NAVTTC. We will create a unit within the focal Skills Agency that engages with NAVTTC to build a competency-based system for skills and training and engages the private sector in this process. We will seek to unbundle TEVTA's regulatory role. While there is an important need to create an effective testing and certification regime, putting in place outcome-based funding that rewards skills providers based on their ability to impact jobs and income has a better chance of ensuring quality in the short-term.

5.2.4. Lowering the cost for private-sector engagement

We will rationalize the existing regulatory and registration mechanisms to enhance the supply of private sector training. In addition, we will develop a results-based framework for private-public partnerships.

6. Quantitative Targets for Skills Training for Government Agencies and Departments

The Skills Development Sector Plan 2018 sets itself the target of providing quality skills training to 2 million individuals till 2018 (See Table 1).

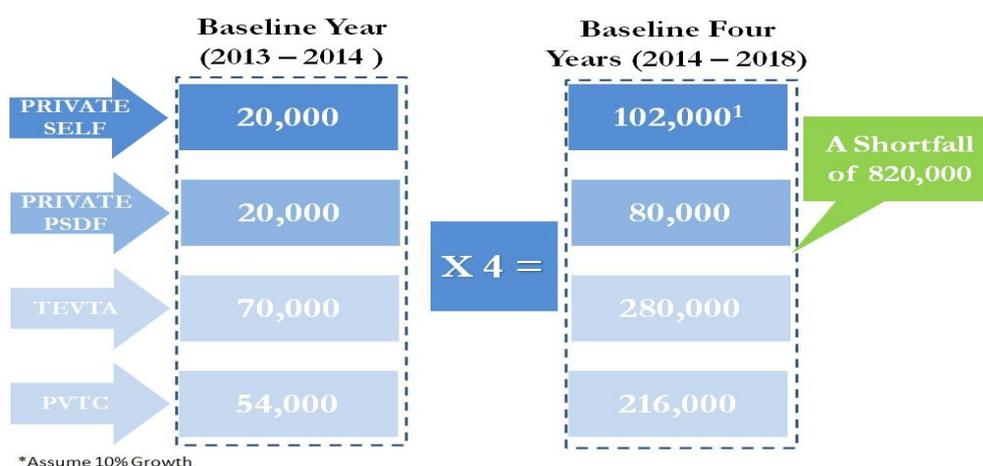
Table 1. Breakdown of the Two Million Target for 2018

Sector / Source of Skills Training	Number of Skills Graduates by 2018
TVET and Private Sector Trainings	1,586,128
Administrative Departments Trainings	557,044
Total	2.143 million

6.1. Targets for Regular TVET institutions

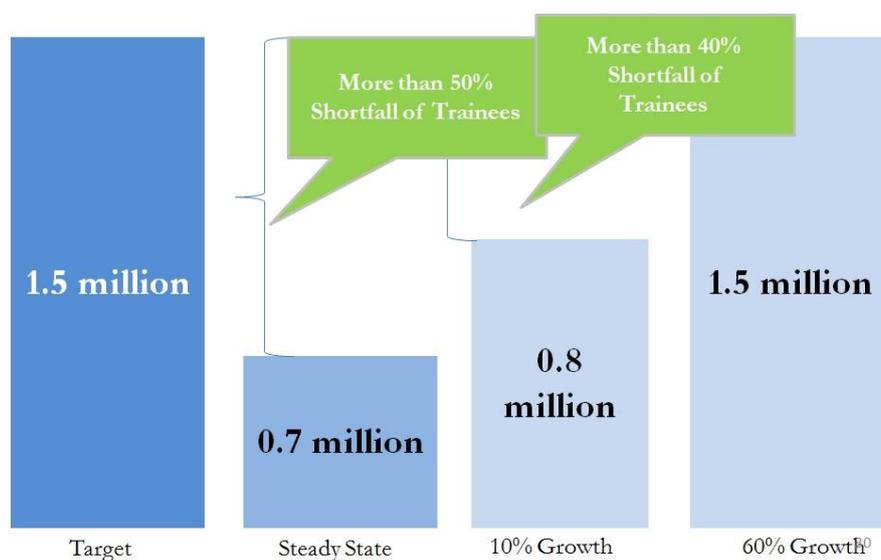
Required additions in capacity of TVET and private sector institutions: In contrast to the annual demand of around 500,000 from the TVET and private sectors, current capacity yields 164,000 trained individuals. Assuming a 10% annual growth rate for private/self trainings, the total number of individuals trained, through regular TVETs, at the end of four years is estimated at 102,000 for private/self trainings, 80,000 for private PSDF trainings, 280,000 for TEVTA trainings, and 216,000 for PVTTC trainings, resulting in an overall and consolidated total of 678,000 individuals, which gives rise to a shortfall of 820,000 from the target of training two million individuals (See Figure 20 below).

Figure 20. Shortfall in Capacity of Regular TVET & Private Sector



In order to meet the target of training two million individuals by 2018, the public and private sector TVETs will collectively contribute 1,586,128 individuals at the end of the four year period in question, as summarized in Figure 21, Table 2, and Table 3 below.

Figure 21. Annual Capacity Building of Regular TVET & Private Sector Targets



Specific targets for Regular TVET Sector and private institutions are given below (Table 2 and Table 3).

Table 2. Breakdown of Regular TVET Institutions' Targets for TEVTA, PVTC and PSDF by 2018

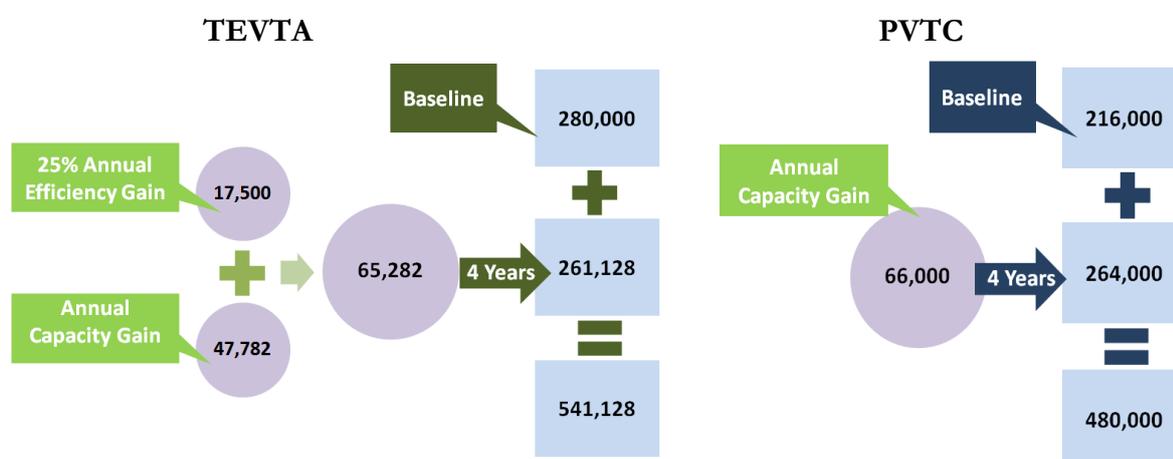
Year	TEVTA	PVTC	PSDF	Total Number of Skills Graduates
2014 – 2015	109,032	80,000	50,000	239,032
2015 – 2016	119,032	106,666	50,000	275,698
2016 – 2017	129,032	146,667	60,000	335,699
2017 – 2018	184,032	146,667	65,000	395,699
Total Number of Skills Graduates by 2018	541,128	480,000	225,000	1,246,128

Table 3. Summary of Regular TVET & Private Sector Targets by 2018

Source of Skills Training	Number of Skills Graduates by 2018
TEVTA	541,128
PVTC	480,000
PSDF	225,000
Capacity Enhancement (Donor Funded) ¹⁸	200,000
Private Self (Affiliated Private Colleges)	140,000
Total Number of Skills Graduates	1,586,128

The required gains in annual capacity of TEVTA and PVTC are expected to accrue through both added investment as well as increased efficiencies.

Figure 22. Envisaged Capacity Gains for TEVTA and PVTC



Securing additional trainers: The availability of qualified trainers is an essential input to achieving the targets envisaged under this sector plan. As described earlier, there is a shortfall of at least 3,900 qualified trainers for the achievement of the targets. The most efficient way to enhance the quality and quantity of trainers is to increase the quota of DAE students in local engineering universities. As the need is urgent, all those students who qualify for special reserved seats for DAE graduates at engineering universities may be required to spend mandatory time either training other trainers or teaching a fixed number of DAE courses. Further, skilled

¹⁸ Based on the interventions through DFID, WB & GIZ as well as PPP Projects

practitioners from the private sector enterprises such as large textile houses will also be used as trainers through the PSDF window.

6.2. Targets for Administrative Departments

In addition to the above, the Government of Punjab further plans to augment the output from TVET sector entities and private sector institutions with workers trained by other administrative departments. The sector plan also includes specific targets for relevant administrative departments in this regard.

Table 4. Skills Trainings Targets for Administrative Department by 2018

Source of Skills Training	Number of Skills Graduates by 2018
Higher Education Department	298,814
Livestock and Dairy Development Department	160,800
Health Department	62,072
Agriculture Department	30,638
Mines & Minerals Department	4,720
Total Number of Skills Graduates	557,044

6.3. Consolidated Targets for Regular TVET institutions and Administrative Departments

Table 5. Consolidated Targets for Regular TVET institutions and Administrative Departments by 2018

Source of Skills Training	Number of Skills Graduates by 2018
1. Regular TVET and Private Sector Trainings	
TEVTA	541,128
PVTC	480,000
PSDF	225,000
Capacity Enhancement (Donor-Funded) ¹⁹	200,000
Private Sector Self (Affiliated colleges)	140,000
Total for regular TVET and Private Sector Trainings	1,586,128
2. Administrative Departments Trainings	
Higher Education Department	298,814
Livestock and Dairy Development Department	160,800
Health Department	62,072
Agriculture Department	30,638
Mines & Minerals Department	4,720
Total for Administrative Departments	557,044
3. Total Number of Skills Graduates	2.143 million

¹⁹ Based on the interventions through DFID, WB & GIZ as well as PPP Projects

7. REFERENCES

Ali Cheema, Asim Khwaja, Farooq Naseer, Jacob Shapiro, Arqam Lodhi, Sahaab Sheikh, Sameem Siddiqui, Gabriel Tourek (2012a). “Punjab Economic Opportunities Program Household and Community Surveys: Baseline Report for Skills.” Center for Economic Research in Pakistan. Available at: <<http://psdf.org.pk/wp-content/uploads/2014/10/Household-Survey-Report.pdf>>

Ali Cheema, Asim Khwaja, Farooq Naseer, Jacob Shapiro, Sahaab Sheikh, Sameem Siddiqui, Gabriel Tourek and Mathilde Emeriau (2012b). “Punjab Economic Opportunities Program Employers Survey: Baseline Report on Employers.” Center for Economic Research in Pakistan. Available at: <<http://psdf.org.pk/wp-content/uploads/2014/10/Employer-Survey-Report1.pdf>>

Ali Cheema, Asim Khwaja, Farooq Naseer, Jacob Shapiro, Arqam Lodhi, Sahaab Sheikh, Sameem Siddiqui, Gabriel Tourek, Minahil Niazi and Anam Shoaib (2012c). “Punjab Economic Opportunities Program: The Skills for Employability Evaluation Report.” Center for Economic Research in Pakistan.

Ali Cheema, Asim Khwaja, Farooq Naseer, Jacob Shapiro, Arqam Lodhi, Sahaab Sheikh and Sameem Siddiqui (2013a). “Punjab Economic Opportunities Program: *SFM*-Village Based Training Evaluation Report.” Center for Economic Research in Pakistan.

Ali Cheema, Asim Khwaja, Farooq Naseer, Jacob Shapiro, Arqam Lodhi, Sahaab Sheikh and Sameem Siddiqui (2013b). “Punjab Economic Opportunities Program: *SFJ*-Stipend Evaluation Report.” Center for Economic Research in Pakistan.

Ali Cheema, Zulfiqar Hameed and Bisma Haseeb Khan (2014). “Lack of Opportunities Makes the Criminal: Crime and Labour Markets in Pakistan.” Institute of Development and Economic Alternatives, mimeo.

Ali Cheema, Asim Khwaja, Farooq Naseer, Jacob Shapiro, Kunal Mangal, Sahaab Sheikh, Sameem Siddiqui and Anam Shoaib (2015). “Punjab Economic Opportunities Program: Skills for Market 2013-14 Uptake Report.” Center for Economic Research in Pakistan.

Andreas Blom, David Fretwell and Yasin Janjua (2009). “The Challenge for Technical and Vocational Education and Training (TVET): Creating Human Capital to Support Economic and Social Development in Pakistan”. World Bank Policy Note.

ASER Pakistan (2014), “Annual Status of Education Report Pakistan”. South Asian Forum for Education Development (SAFED) and Idara-e-Taleem-o-Aagahi (ITA). Available at: <<http://www.aserpakistan.org/index.php?func=report>>

Claudia Goldin (1995). “The U-Shaped Female Labor Force Function in Economic Development and Economic History,” in Schultz, T. Paul (eds.), “Investment in Women’s Human Capital and Economic Development”: 61-90. University of Chicago Press. Available at:

<<http://scholar.harvard.edu/goldin/publications/u-shaped-female-labor-force-function-economic-development-and-economic-history>>

David Card, Pablo Ibararán, Ferdinando Regalia, David Rosas-Shady and Yuri Soares (2011). “The labour market impacts of youth training in the Dominican Republic.” *Journal of Labour Economics*, 29(2): 267-300. Available at: <<http://davidcard.berkeley.edu/papers/labor-impact-youth.pdf>>

David Robalino and Yoonyoung Cho (2012). “Labour Market Policies Under a Youth Bulge: How to Benefit from Demographic Dividend in Pakistan.” World Bank. Available at: <<http://hdl.handle.net/10986/17874>>

Ernesto Sánchez-Triana, Dan Biller, Ijaz Nabi, Leonard Ortolano, Ghazal Dezfuli, Javaid Afzal and Santiago Enriquez (2014), “Revitalizing Industrial Growth in Pakistan: Trade, Infrastructure and Environmental Performance”, World Bank. Available at: <<http://hdl.handle.net/10986/19022>>

Government of Punjab (2015). “Punjab Skills Development Sector Plan 2018.”

Ijaz Nabi (2013). “Two Social Protection Programs in Pakistan”. *Labore Journal of Economics*, 18 : SE (September 2013). Available at: <<http://121.52.153.179/JOURNAL/LJE%20vol%2018%20se/13%20Ijaz%20Nabi.pdf>>

James Heckman, Jora Stixurd and Sergio Urza (2006). “The Effect of Cognitive and Non-Cognitive Abilities on Labour Market Outcomes and Social Behavior.” *Journal of Labour Economics* 24(3). Available at: <<http://www.nber.org/papers/w12006>>

Joan Hicks, Michael Kremer, Isaac Mbiti and Edward Miguel (2011). “Vocational Education Voucher Delivery and Labour Market Returns: A Randomized Evaluation among Kenyan Youth.” Report for Spanish Impact Evaluation Fund (SIEF). World Bank. Available at: <http://siteresources.worldbank.org/INT/HDOFFICE/Resources/VocEd_SIEF_Report_2011-04-07_final.pdf>

Jean Fares and Olga Susana Puerto (2009). “Towards Comprehensive Training.” Social Protection Discussion Paper No. 0924. World Bank. Available at: <<http://siteresources.worldbank.org/SOCIALPROTECTION/Resources/SP-Discussion-papers/Labor-Market-DP/0924.pdf>>

Joel Marsden, and Peter Dickinson (2013). “International Evidence Review on Co-funding for Training.” Department for Business Innovation and Skills, Research Paper No. 116. Available at: <<https://www.gov.uk/government/publications/co-funding-for-training-international-evidence>>

Jonathan Argent, Britta Augsburg and Imran Rasul (2014) “Livestock Asset Transfers With and Without Training: Evidence from Rwanda,” *Journal of Economic Behavior and Organization*, Volume 108: 19-39. Available at: <<http://www.sciencedirect.com/science/article/pii/S0167268114002091>>

Jose Lopez-Calix (2013). “Pakistan: Path to Rapid Growth and Job Creation”. World Bank. Available at: <<http://hdl.handle.net/10986/17857>>

Kristin Mammen and Christina Paxson (2000). “Women’s Work and Economic Development.” *Journal of Economic Perspectives*, 14(4): 141-164. Available at: <<https://www.aeaweb.org/articles.php?doi=10.1257/jep.14.4.141>>

Natalie Chun and Makiko Watanabe (2012). “Can Skill Diversification Improve Welfare in Rural Areas? Evidence from Bhutan.” *Journal of Development Effectiveness*, 2012(1). Available at: <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1878207>

Oriana Bandiera, Niklas Buehren, Robin Burgess, M. Goldstein, Selim Gulesci, Imran Rasul and Munshi Sulaiman (2013). “Can Basic Entrepreneurship Transform the Economic Lives of the Poor?” International Growth Centre Working Paper. Available at: <<http://www.theigc.org/project/basic-entrepreneurship-a-big-new-idea-in-development/>>

Oriana Bandiera, Niklas Buehren, Robin Burgess, Markus Goldstein, Selim Gulesci, Imran Rasul and Munshi Sulaiman (2014). “Women’s Empowerment in Action: Evidence from a Randomized Control Trial in Africa.” STICRED Working Paper. Available at: <<http://www.ucl.ac.uk/~uctpimr/research/ELA.pdf>>

Orazio Attanasio, Adriana Kugler and Costas Meghir (2011). “Subsidizing vocational training for disadvantaged youth in Colombia: Evidence from a randomized trial.” *American Economic Journal: Applied Economics*, 3(3): 188-220. Available at: <<https://www.aeaweb.org/articles.php?doi=10.1257/app.3.3.188>>

Reema Nayar, Pablo Gottret, Pradeep Mitra, Gordon Betcherman, Yue Man Lee, Indhira Santos, Mahesh Dahal and Maheshwor Shrestha (2012). “More and Better Jobs in South Asia”. World Bank. Available at: <<http://hdl.handle.net/10986/2391>>

Rita Almeida, Jere Behrman and David Robalino (2012). “The Right Skills for the Job? Rethinking Training Policies for Workers.” World Bank. Available at: <<http://hdl.handle.net/10986/13075>>

Tahir Andrabi, Jishnu Das and Asim Khwaja (2013). “Students Today, Teachers Tomorrow: Do Public Investments Alleviate Constraints on the Provision of Private Education?” *Journal of Public Economics*, Vol. 100(1): 1-14. Available at: <<http://economics-files.pomona.edu/Andrabi/Research/StudentsToday.pdf>>

Tahir Andrabi, Asim Khawaja, Jishnu Das, Tristan Zajonc, Tara Vishwanath and LEAPS TEAM (2007), “Learning and Educational Achievements in Punjab Schools (LEAPS): Insights to Inform the Education Policy Debate.” Available at: <<http://www.leapsproject.org/site/>>

Theresa Chaudhry and Chris Woodruff (2013), “Incentive and Productivity: Work Groups vs. production lines,” International Growth Centre working paper. Available at: <<http://www.theigc.org/project/incentives-and-productivity-work-groups-vs-production-lines>>

World Bank (2012). “World Development Report 2013: Jobs.” Washington, D.C. Available at: <<http://go.worldbank.org/J45XE332F0>>

World Bank (2014a). “The Skills Towards Employment and Productivity (STEP) Skills Measurement Program”, Pakistan module. Unpublished report.

World Bank (2014b). “Punjab Skills and Training”, Policy Note for the Government of Punjab. Unpublished draft.

Yasin Janjua, Kamran Sadiq, Aamir Rana and Wajeeha Bajwa (2010). “Developing Market-Led Skills and Enterprise Development Programs for Pakistan Poverty Alleviation Fund”. Mimeo.

Zeba Sathar, Rabbi Royan and John Bongaarts, eds. (2013). “Capturing the Demographic Dividend in Pakistan”. Population Council Book Series: 1 (1). Available at: <[http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)2326-4624](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)2326-4624)>