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Situation Analysis:

Demand and Supply of Skilled Workforce in Textile Sector, Pakistan

NAVTTC

Implemented by

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Islamabad, Pakistan
March, 2019

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EXECUTIVE SUMMARY

The conducting of situational analysis of skilled workforce including assessing the existing pattern of employment, analysing gaps between demand and supply of skilled workforce and determining of future skill requirement in textile sector of Punjab and Sindh as two largest provinces of Pakistan is main objective of study. The study will help the TVET officials to design market-based training module and manual according to the needs of workforce required in textile sector based on recruitment preferences and demand in the sector.

The collection of primary data from various sample respondents using a pre-designed questionnaire is basis of analysis in this study. The registered units of textile sector are the main target population in survey of collection data. A total of 1096 respondents were randomly selected and interviewed from these registered units of Punjab and Sindh in Pakistan.

The analysis is structured according to three major indictors:

1. Existing workforce actually employed in the textile sector from any source
2. Current status and gap in demand and supply of skilled workforce trained through formal education and
3. Future skilled workforce requirement to be trained through formal education by trades in the textile sector.

Under the existing pattern of skilled workforce employed

The result obtained from conducted survey points out that on average, Punjab shares 80% and Sindh 20% respectively of total skilled workforce engaged in textile sector of Pakistan. The skilled workforce comprises of those who learn the skills on the job (work-based learners) or a similar informal sector who do not obtain any formal education in both the provinces. The share of TVET Graduates (includes B-Tech, Diploma, Certificate, Short Course) in the existing skilled workforce of the textile sector in Punjab and Sindh is 9% and 12% respectively. The remaining (92%) skilled workforce in Punjab comes from non-formal training courses from which 83% skilled workforce flows from work-based learners and only 9% are from the informal sector. Likewise, the remaining 88% skilled workforce in Sindh is from non-formal training courses out of which 38% are from work based learner and 50% are from informal sector.

In the Punjab province, male existing skilled workforce in TVET Graduates, work based learner and informal sector forms 8%, 86% and 6% respectively of total skilled workforce

against 22%, 22% and 56% share of female existing skilled workforce in the same trades of order. Similarly, male contribution in the existing skilled workforce of Sindh province is 17%, 54% and 29% in TVET Graduates, work based learner and informal sector respectively against minute 2%, 10% and high 88% share of female existing skilled workforce in same trades of order. It further analyses that the highest skilled workforce 43% engaged in sub sector is found in finishing of textile followed by 35.1% in weaving of textile fabrics, 11.5% in made-up textile articles except apparel, 4.7% in knitted crocheted fabrics and 4.4% in spring of textile fabrics respectively. The least skilled workforce is found in weaving apparel with only 3% followed by 4 % in other textiles N.E.C. Out of such existing skilled workforce, the males make up 93% against only 7% female skilled worlforce.in the Punjab province compared to situation of female skilled workforce in Sindh Province with 30% females against existence of 70% males working in the textile sector. So far as various trades are concerned, the highest female skilled workforce with 54.6% is found in trade of sewing machine operator followed by machine operator with 22.2% and threading with 14.2% respectively whereas negligible amount of workforce exists in trades such as supervisor, computer operator, quality control etc in the Punjab province. The trade of sewing machine operator in Sindh province leads in female skilled workforce with 43.8% followed by 38.7% and 5.4% in machine operator and supervisor respectively while other trades represent the least workforce.

About the current work deficiency

The mixed results have been observed in Punjab and Sindh provinces. The Punjab province shows highest availability of skilled workforce with 75% and shortage of skilled workforce with 25%. It means that availability of skilled workforce is more than the demand which is due to migration of workers from other provinces to seek work in Punjab. The results are not different in Sindh as it has also experienced more demand of skilled workforce with 60% than shortage with 40% in the textile sector. It indicates that economic activities are expanding for female skilled workforce in the province. Regarding provincial Gap analysis, there is a significant gap in demand and supply where demand of formally skilled workers is higher than the supply, except DAE chemical where its supply is almost equal to the demand. It may be due to the reason that there is an imbalance of the availability of skilled workforce trained through formal education and those who are abundantly available from informal sector. In Sindh province, significant deficiency of skilled workforce exists in some trades including machine operator, DAE electronics, garment stitching and DAE mechanical textile designing, boiler operator while it has surplus workforce in few trades like computer operator, knitting machine operator, DAE electronics, R& A.C & DIT. However, sewing machine operator is only the trade that shows no gap between demand and supply of skilled workforce. In contrast to above, trade-wise deficiencies of skilled workers in the textile sector have been reported in general in both the provinces. However, there is an imbalance of the availability of skilled workforce trained through formal education and those who are abundantly available and employed from informal sector.

The future demand of the TVET Graduates against the supply

The skilled workers having lower qualification such as Diploma or certificate or obtained training through short courses have high future demand in the textile sector compared to B-Tech and DAE. The reason of high demand of skilled workers having low qualification in such levels attributes to their satisfaction at low wage rate and easily adjustment in the textile sector. It has also been found that supply of skilled workforce in certificate holders and short-courses is more than demand. It is due to the reason that training centres in the private sector are functional but their quality of training is under debatable. It means that the textile sector normally employs skilled workers from informal sector or train them on the job. In relation to gender-wise assessment of demand of TVET skilled workforce, the male skilled workforce in all levels including diploma, short courses, certificate, DAE others and B.Tech are in more demand than the demand of female skilled workforce in certificate level, DAE and diploma. It means that female skilled workers are required for more sophisticated work than for spade/ heavy work.

The future demand in top 10 trades based on demand of number of skilled workers, was identified by the respondents along with required number of trained workers in textile sector. A total of almost 11300 trained skill workers would be required under various trades in the textile sector of both provinces in Pakistan. The machine operator is one of the trades where about 61400 skilled workers are required more than other trades in both the provinces. It is followed by garment stitcher with requirement of about 15500 number of skilled workers, computer operator (7200), DAE mechanical, electrician and fitter (almost each 5500 Nos). The demand of skilled workers in remaining trades is below 5,000 Nos that needs to be developed for creating more demand according to the requirement of textile sector.

The respondents in general shows high degree of satisfaction about the performance of TVET skilled workforce at work besides having awareness about TVET and TVETA.. Currently, no market place exists in both the provinces where the trained skilled workforce is available with the exception of few resource employment centres established by the government that are thinly spread and located in the main urban areas.

Following recommendations are framed for application in the textile sector:

1. The Government needs to establish resource employment centres for registration of all formally qualified skilled workers in textile sector because currently, no mechanism exists to link the TVET trained workforce with textile units in cities and towns for easy access of the skilled youth for employability at the time of completion of skilled training.
2. There is need to arrange and conduct awareness raising sessions to bring both textile units and trained skilled workforce aimed at enhancing their understanding and linkages for ensuring smooth flow of trained workforce from institutes to the textile sector.
3. The skills training course curricula for the textile sector need to bring in line with actual demand for bridging present and future gaps in skilled workforce.

BACKGROUND

Timely and relevant skill market information has been gaining importance in the growing economies for effective participation/ employability of youth in the economic development. Particularly as the countries of the region move to increase their productivity and competitiveness and monitor the social and economic impact of globalization, skill market information (country's demand and supply of skilled working class) become increasingly important. Developed countries regularly monitor labour market information systems and take timely measures to match the supply of skilled workers with current and projected skill needs.

Recognizing the critical role of skills development in achieving sustained economic and social development, maintaining global competitiveness and responding timely to changes in technology and work patterns, the Government of Pakistan has committed to an ambitious TVET Reform Support Programme (TRSP). The TRSP is being implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH since April 2011, co-funded by the European Union, the Federal Republic of Germany and the Royal Embassy of Norway. The Programme partners include the National Vocational and Technical Training Commission (NAVTTC), the Technical and Vocational Training Authorities (TEVTAs) in provinces and regions, and many other stakeholders.

In the current phase 2(2017-2021) the Programme has been focussing on utilization of information and statistics in decision making in Pakistan. To do so, it is planned to further involve enterprises in TVET planning and delivery, enhance capacities among TVET stakeholders and support the extension of the competency-based training approach. Furthermore, the programme focuses on labour market information for the employability of Pakistani`s youth.

With the understanding that mismatch in the skilled workforce supply and demand is the main cause of unemployment of TVET graduates in the country, NSIS Cell has initiated research on understanding the changing employment patterns and their interaction with the technical & vocational education and training sector. This is an important initiative to get a complete picture of skilled workforce supply to labour market and skills demand and to feed labour market data from both supply and demand side in the system.

The supply side data i.e. data from TVET institutes and provincial/regional TVET governing bodies (e.g. TEVTAs) was added through the supply side census last year. The demand side data i.e. data from the employers and industry about skilled workforce a survey is on-going in

all potential sectors province-wise against the following indicators:

- existing skilled workforce with employers
- current skilled workforce deficiencies
- future skilled workforce needs

This report is part of the above survey. The collected information primarily focused on situational analysis to understand the status of existing skilled workforces in the Textile sector, current deficiencies in formal education skilled workforce and finally skilled workforce requirement for future in the Textile sector.

OBJECTIVES OF THE STUDY

The objective of survey is to enhance knowledge on labour market trends, skill profiles, identify skill shortages, skill training needs, skills exceeding demand, and preference/capacities of the employers. It would help to assess the needs of the local market for demanding skills and help in selecting and designing skill specific curricula. The objective of survey can be summarized as follow.

Collection of data to determine gap between demand and supply of skilled workforce in Textile sector

- Assessment of quality skills in labour market
- Design market-based training needs for Textile sector
- Recruitment preference and process in Textile industries

APPROACH AND METHODOLOGY

The data was collected from primary sources interviewing a stratified random sample of respondents in the Textile sector. The registered units of Textile sector are the main target population in this survey. The survey covered Punjab and Sindh provinces.

Sampling Frame

The registered units (having at least 5 permanent skilled workers) of Textile sector are taken as target population of the survey. The list of Textile industries exists with NSIS cell has been used as sampling frame.

In view of the fact that the above sampling frame does not support representativeness of population characteristics as the sub-population vary considerably in their characteristics, stratification technique was used. The population was first stratified in relatively homogenous subgroups and a random sample was drawn from the list of each sub-group.

To minimize sampling error from the diverse population, a sample of sufficiently large size was randomly taken. The sample sizes taken for the survey ensures 95% confidence level/ statistical significance.

The required sample size was calculated using the following standard formula.

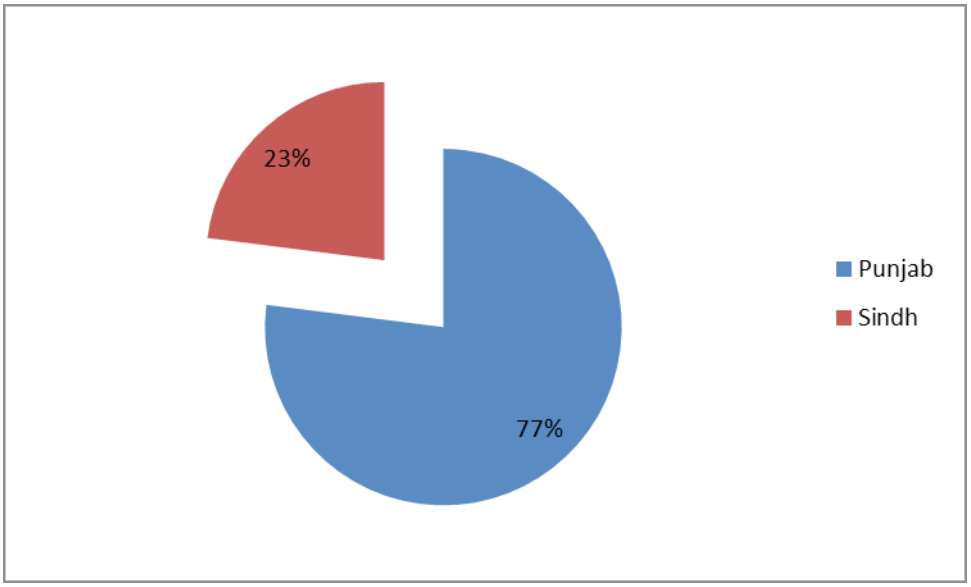
$$n = \frac{t^2 \times p(1 - p)}{d^2}$$

n = required sample size
t = value for selected alpha level of 0.025 in each tail = 1.96
p = proportion;
d = acceptable margin of error for proportion (0.05 standard practice)

The sample size by population unit is given table 1. The sample drawn for each province was proportionate to the population (list of available registered firms). Province-wise coverage for the survey is given in also given in figure-1. The sample drawn from Punjab was highest (77%) because of large proportion of registered firms in the province. The remaining sample covered was 23% from Sindh province. Table 1: Province-wise sample drawn for survey

S. N	Province	Sample
1	Punjab	842
2	Sindh	250
Grand Total		**1092**

Figure 1: Provincial Coverage (%)



Data collection and analysis

Primary data was collected from sample respondents using a pre-designed questionnaire. Draft questionnaire was shared with sector skills council for any modification based on their requirement and was revised based on feedback and needs. A team of 20 local enumerators province-wise was selected and trained based on GIZ criteria. The enumerators trained for the survey included 14 from Punjab and 6 from Sindh. A one-day training was provided to all the 20 enumerators in Islamabad on sampling techniques and data collection using the questionnaire. Field testing of the questionnaire was done by the enumerators after the training. The survey in all provinces was simultaneously initiated.

The NSIS cell used its independent monitoring team in data collection process to ensure data quality through random based spot checking and data editing of all questionnaires.

A team of data entry operators was engaged with appropriate qualification and experience to feed the data. Data cleaning and analysis was done using Statistical Package for Social Science (SPSS).

REVIEW OF LITERATURE

Youth potential in Pakistan and the role of TVET

Pakistan ranks 6th largest country with huge demographic dividend. Geographically, Pakistan has 770,80 Km2 (297,638 sq. miles) total land. According to the population census 2017, Pakistan population stands close to 200 million. The country experienced 57% increase in population over the last 19 years. This is an alarming situation for the country. However, about one third of the population is a working class and TVET sector development can benefit from this growing youth population if wisely planned. Currently, the proportion of youth population in between 15-29 years is around 28% (of which Male youth is 51%and female youth is 49%) which is expanding at an annual growth rate of 1.8%1. This provides huge youth bulge whose potential can be harnessed for their employability through TVET.

World economies harness the potential of TVET as it offers the very shortest way forward to ensure productive utilization of youth population. While Pakistan also in a struggle to utilize the youth in TVET and a number of initiatives have been undertaken such as Sector Skills Council, NAVTTC Board of Governors, Task Forces etc, yet a significant skill gap is being faced which is widening despite blossomed growth of the Technical and Vocational Education and Training (TVET) in the country. Such a widening gap is significantly contributing towards rising unemployment in various sectors of the economy. Mismatch of demand and supply in the industry sector is attributed to the non-availability of the potential quality skilled workers with required skills and training. Currently, less than 2% of youth population has acquired technical skill through the TVET system which indicates that the competency of such workforce is insufficient to meet local and international demand. In contrast, almost 315,000 places are available in the formal Technical Education and Vocational Training (TVET) sector for estimated 950,000 new labour market entrants each year2.

TVET in the construction sector has been unable to get maximum benefits from the huge demand. Little attention has been given to produce skilled workforce in the construction sector and majority of these workers come from the informal sector and work-based learners. Skills training course curricula in the construction sector is also not commensurate with actual demand due to which construction industry meet the demand of skilled workforce from the informal sector.

1 Comparative Analysis of TVET Sector in Pakistan, GIZ (February 2017)
2 ibid

TVET Institutional Environment in Pakistan and challenges

Over the past one decade, the government of Pakistan has given special focus on skill development programme. TVET has been re-structured at Federal level by establishing a National Vocational & Technical Training Commission (NAVTTC), while at the provincial level there are Technical Education & Vocational Training Authorities (TVETAs). These are being run under certain Acts and policies providing legal cover and strategic direction. Technical, Vocational Education and Training (TVET) is being dealt by associating it with the education at secondary as well as at higher levels, which in turn produces semi-skilled, skilled and highly skilled human resource. There are a number of administrative agencies responsible for looking after the TVET's affair at various levels. Respective Provincial Education Departments administer the affairs concerning Vocational Institutes whereas the Labour Departments are responsible for Technical Training and apprenticeship centres. The TVET institutional system at the national and provincial level is briefly described below.

At the federal level, National Vocational and Technical Training Commission (NAVTTC) was established in 2005. NAVTTEC was mandated with "Skilling Pakistan", under National Skills Strategy document that aims to introduce demand driven technical trainings by replacing supply driven trainings. After 18th amendment the fate of NAVTEC was under question, but in view of Article 37(c),(f); FLL Part I, Entry 16, 57; FLL Part II, entry 6, 7, 12 & 17 makes Technical and Vocational Training an essentially Federal subject. Yet at the provincial level Technical Education and Vocational Training Authority (TEVTA) set-up to cater for and promote its vision under provincial set up to skill the people. In Punjab TEVTA was formed through an Ordinance (No XXIV of 1999) promulgated by Governor of the Punjab which has was replaced by TEVTA ACT (ACT X of 2010) Punjab. In Khyber Pakhtunkhwa the TEVTA was established under the TEVTA Ordinance No xxx111 of 2002 on February 09, 2002, whereas the Directorate General Technical Education and Manpower Training was declared as the Secretariat of TEVTA, Khyber Pakhtunkhwa. In Sindh TVETA Bill was passed by the Provincial Assembly on 29th March, 2010 and was declared as an Act on 14th April, 2010.

For the provincial level implementation of the above legislations/ acts, the Authorities such as the TEVTAs, and the Skill Development Councils (SDCs); both autonomous bodies are entrusted with planning and executing training programmes as well as carrying out tasks such as revision/development of curriculum, training of trainers. In addition, the Directorates of Technical Education (DTE), Provincial Directorates of Manpower Training and some other agencies for the public sector run their own vocational training programmes in the public sector. The National Training Board and the associated Trade Testing Boards are responsible for their own examinations and issuing of skill training certificates.

Thus, as whole the TVET sector is undergoing a restructuring process to position itself as a demand-driven training sector in line with the prevalent training systems elsewhere in the

world (NISTD 2009)3. It also aims, as expressed in the National Skill Development Strategy (NSS) 2009-2013, to introduce competency-based training to ensure that its training programmes produce quality productive skilled workers. A TVET reforms support programme (2011-2016)was also launched to provide technical, financial and infrastructural support the Government's initiative outlined in Skilling Pakistan to reform TVET sector of government of Pakistan. With particular focus on "Skilling Pakistan" a National Skill Strategy (NSS- 2009-2013) with the help of TVET reform support program was prepared. Under the Skilling Pakistan reforms some tangible efforts for making a world class TVET system have been executed.

But there have been few challenges faced by both federal government (NAVTTC) and provincial governments (TEVTAs) that require immediate solution for achieving the desired outcome. The major challenge is to meet the growing demand for skilled workers for the country's economic development and to export human resource elsewhere in the labour deficient countries. Another major challenge is the lack of emphasis on inclusiveness of the poor, female youth and disabled and their acquisition as skilled workers. Unfortunately, some traditional skills which are integral part of rural society are not well respected in our society (e.g., barber, carpenter, masonry, smith, pottery etc. are considered as low class in our social system). These skills continued to be traditional because there were no formal training program/ emphasis and no awareness interventions to improve these skills as part of the society. However, this perception is changing.

The poor are excluded from the formal training system, and even in the informal sector they are marginalized as training is dependent on social and community connections4. Thus, they remain much more likely to be uneducated, have much more difficulties in accessing formal skills training due to entry requirements related to qualifications and fees. Women's access to skills in the society is another issue. About 20.6% of the women in a household survey indicated some form of skills training, but only 18% had utilized the skills to generate income5.

More recently a National TVET Reform Policy (2018) has been approved to further strengthen the above reforms. However, beside policy instruments, there is a dire need of ensuring procedural measures that would ensure an effective implementation of the policies in line with the supply and demand requirements for achieving the overall associated objectives. There is also a need to establish the importance of quality and access of TVET services in a gender sensitive and pro-poor manner for achieving its associated objectives of employability, poverty reduction and economic growth.

State of Textile Sector

The textile sector plays key role in the exports of Pakistan. Pakistan ranks 8th in the exporting of textile products in Asia. Its contribution to the total GDP is 8.5%. The employment of

3 Research Study on Technical and Vocational Education in Pakistan at Secondary Level National Institute of Science and Technical Education in collaboration with UNESCO, Islamabad (2009)

4 'Is Skills Training a Good Investment for the Poor? Evidence from Pakistan' by Shehryar Janjua (2011) from the Mahboub ul Hag Human Development Centre

5 ibid

about 15 million is linked with textile industry that is 30% of the country work force of about 49 million. The annual volume of total world textile trade is US$18 trillion growing at 2.5 percent. Pakistan's share is less than one percent out of it. Since Pakistan laid stress on Agro-based industries, the development of the Manufacturing Sector was given the highest priority. The development of a Textile Industry making full use of its abundant resources of cotton has been a priority area towards industrialization as Pakistan was one of the leading producers of cotton in the world. Presently, there are 1,221 ginning units, 442 spinning units, 124 large spinning units and 425 small units which produce textile products.

The vital component of Pakistan economy is agriculture which contributes to 19.8% in GDP and provides employment to 42.3% of labour force. The important component of manufacturing sector is textile industry with a long production chain and inherent potential for value addition. The textile industry accounts for nearly one-fourth industrial value added, provides employment to 40% of industrial labour force and about 60% export earnings whereas it consumes about 40% of banking credit. The overall performance of agriculture and textile sectors particularly in recent years could be regarded as sub-optimal. The number of textile mills rose from 353 in 2000-2001 to 477 in 2012-13, but reduced to 423 by 2015-16. The number of working spindles/looms and spindle/loom hours worked and cloth/yarn output has remained either static or not increased significantly during last 10 years. The increasing per capita income in the country during last 5 years (23% increase) has led textile sector to focus more on domestic captive market, but its performance in export market despite recent GSP Plus status has been suboptimal6.

The textile industry comprises of large-scale organized sector and a highly fragmented cottage / small-scale sector. The spinning industry is the main sector which operates in an organized manner with in-house weaving, dying and finishing facilities. Weaving consists of small and medium sized entities. The processing sector, comprising of dyeing, printing and finishing sub-sectors, only a part of this sector operates in an organized state, has the ability to process large quantities while the rest of the units operate as small and medium sized units. The printing segment dominates the overall processing industry whereas textile dyeing and fabric bleaching follows it. Of all the sectors within the textile industry, the garments manufacturing segment generates the highest employment. The knitwear industry mostly includes factories operating as integrated units (knitting + processing+ making up facilities). The clothing sectors both woven and knits are mainly clustering in Karachi– Lahore and Faisalabad because sufficient ladies labor is available there. Pakistan ranks 4th and 3rd in the world leading producers as well as consumer of cotton. The Textile and Clothing Industry has remained as main contributor to the economy for the last 50 years in terms of foreign currency earnings and jobs creation. The Textile and Clothing Industry will continue to serve as engine growth for future economy.

The Pakistan textile sector has been undergoing pathetic condition for the last three years as a result of which it has suffered economically in recent past. Many factors are threatening

6 Agriculture and Textile Sector: Challenges and Way Forward by Dr. Muhammad Jameel Khan
By Former Adviser, Planning Commission Islamabad Ex-Director, Punjab Economic Research Institute, Lahore

the growing textile industry that has impacted the textile exports of Pakistan. These factors include high cost of production, R&D Institutions, law and order situation and textile policies which severely damage Pakistan Textile Industry and its exports. This has led to import of raw cotton as the prime factor for raising the cost of production. Other harming causes are the rising fuel prices, high interest rate, load shedding of gas and electricity which contribute to sky-high manufacturing cost. In fact, scarcity of Research and Development institutions add fuel to fie in the dwindling industry. This paucity of research is due to unavailability of funds, government support and outdated machinery whose outcome is low quality of product. It is further analyzed that cost of manufacturing of textile industry has risen owing to devaluation of currency, yarn prices as well as interest rate. The complication has been compounded by terrorism, corruption, strikes, bomb blasts, target killing, kidnapping and extortion etc that brings severe law and order condition in Pakistan. The investors are frightened of losing business because of unstable political condition in the country7

The textile sector is a traditional based industry because 76.5% of the industry is private/ family owned enterprise. Moreover 72.5% of the industry consists of small scale manufacturing units. The textile sector employs about 45% of total labour force. The higher increase in demand of semi-skilled workers reflects preference of units for informal sources of supply of workers who are later on imparted on the job training to improve their level of skills. The performance of private TVET institutes is un-satisfactory in comparison with public TVET institutes, and requires pragmatic measures for improvement in the standard of training in private TVET institutes (Skills Trend in Textile Industry Pakistan by National Skills Information System (NSIS), National Vocational & Technical Training Commission (NAVTTC).

7 Exports Performance of Pakistan's Textile Industry by Kiran Azeem and Faiza Qamar, Fatina Jinnah University for Women, 2017

RESULTS INTERPRETATION

The information was collected from the list of registered firms in each province who are the main employers of the skilled workforce in the textile sector. Therefore, the information covers only skilled workforce which is actually utilized by or in demand in the formal textile sector (i.e., based on information collected from the registered firms). Informal sector (e.g., unregistered firms) which utilizes a large part of the skilled workforce in the textile has not been included in the analysis.

The analysis is structured according to three major indictors:

(1) Existing workforce actually employed in the textile sector from any source
(2) Current status and gap in demand and supply of skilled workforce trained through formal education and
(3) Future skilled workforce requirement to be trained through formal education by trades in the textile sector.

Existing Employment Pattern of Skilled Workforce in the Construction sector

The figure 1 provides data about availability of skilled workforce in textile sector of Punjab and Sindh provinces. The analysis indicates that Punjab leads the textile sector with 80% of skilled workforce engaged in various registered and unregistered trades. The share of skilled workforce in Sindh accounts for 20% of total skilled workforce employed in textile sector that is less than Punjab in comparison with availability of skilled workforce. The figure 1 (A) provides data relating to sub sector wise survey coverage in textile sector. The highest skilled workforce 43% engaged in sub sector is found in finishing of textile followed by 35.1% in weaving of textile fabrics, 11.5% in made-up textile articles and except apparel, 4.7% in knitted crocheted fabrics and 4.4% in spring of textile fabrics respectively. The least skilled workforce found in weaving apparel with only 3% followed by 4 % in other textiles N.E.C.

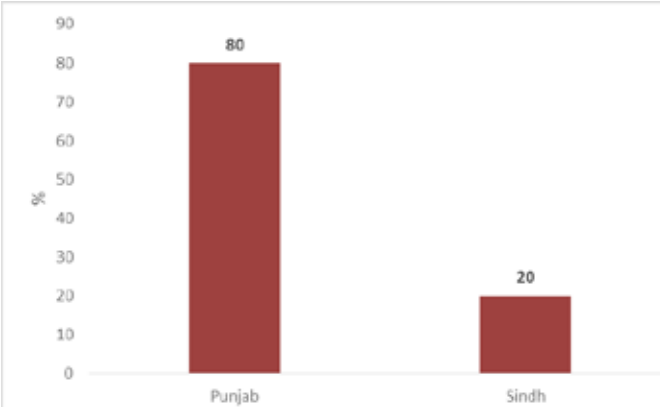


Figure 5.1: Provincial Coverage (%)

The Figure 1 (B) depicts data relating to trend of male and female skilled workforce in textile sector of Punjab and Sindh provinces. The males make up 93% of skilled workforce against only 7% female skilled workforce in the Punjab province. Comparatively, situation of female skilled workforce is better in Sindh Province where 30% females account for total skilled workforce against 70% males working in the sector. The policy makers need to devise policy of ensuring maximum participation of female skilled workforce in the sector through formal training from TEVT institutes.

The figure 1 (C) represents data about trade wise existing female skilled workforce in Punjab and Sindh provinces. The highest female skilled workforce with 54.6% is found in trade of Sewing Machine Operator followed by Machine Operator with 22.2% and Threading with 14.2% respectively whereas negligible amount of workforce exists in trades such as Supervisor, Computer Operator, Quality Control etc in the Punjab province. The trade of Sewing Machine Operator in Sindh province leads in female skilled workforce with 43.8% followed by 38.7% and 5.4% in Machine Operator and Supervisor respectively while other trades represent the most least workforce that demands immediate attention for ensuring maximum participation of female workforce in the textile sector.

Figure 1 (B)

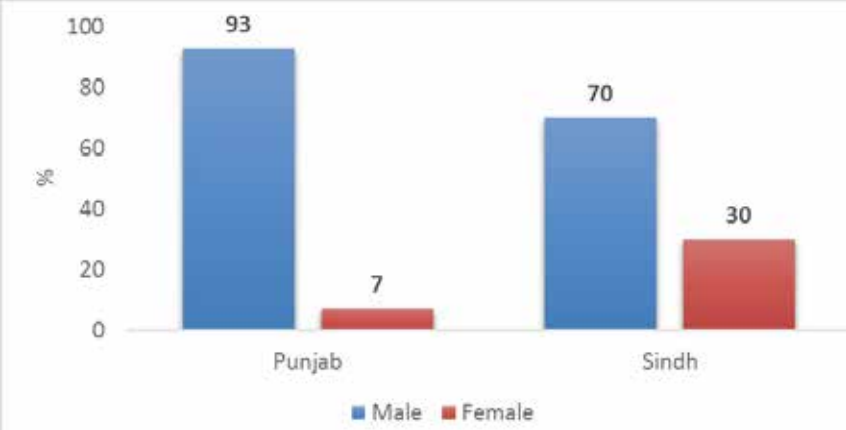
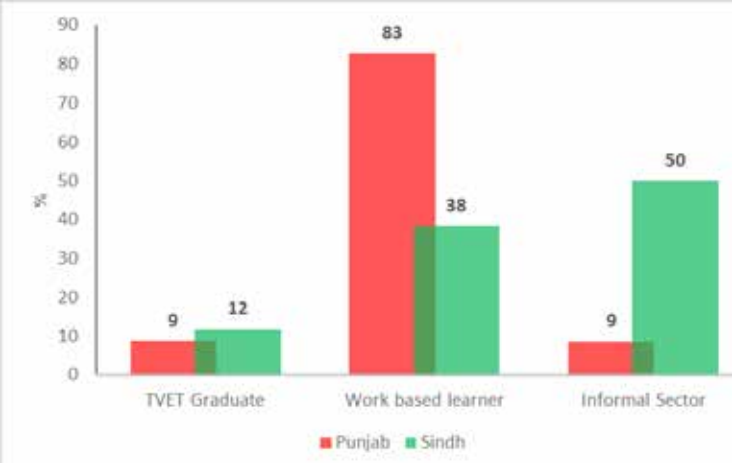


Figure 1 (C)

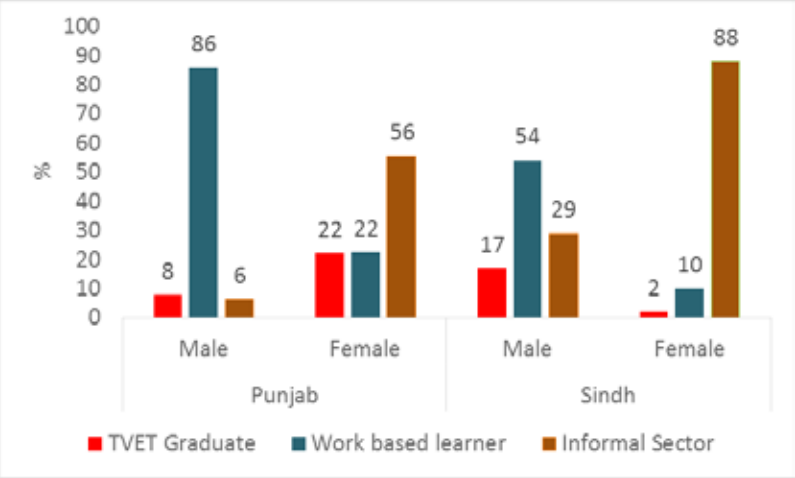
Figure 3 provides data about the existing pattern of employment of the skilled workforce by source. The results obtained through survey indicate that skilled workforce in the textile sector comprises of those who learn the skills on the job (work-based learners) or a similar informal sector who do not obtain any formal education in both the provinces. The share of TVET Graduates (includes B-Tech, Diploma, Certificate, Short Course) in the existing skilled workforce of the textile sector in Punjab and Sindh is 9% and 12% respectively. The remaining (92%) skilled workforce in Punjab comes from non-formal training courses from which 83% skilled workforce flows from work-based learners and only 9% are from the informal sector. Likewise, the remaining 88% skilled workforce in Sindh is from non-formal training courses out of which 38% are from work based learner and 50% are from informal sector.

In the Punjab province, male dominates existing skilled workforce in TVET Graduates, work based learner and informal sector that forms 8%, 86% and 6% respectively of total skilled workforce against 22%, 22% and 56% share of female existing skilled workforce in the same trades of order. Similarly, male contribution in the existing skilled workforce of Sindh province is 17%, 54% and 29% in TVET Graduates, work based learner and informal sector respectively against meagre 2%, 10% and high 88% share of female existing skilled workforce in same trades of order. (Figure 3)

Figure 3: Source of Existing Skilled Workforce



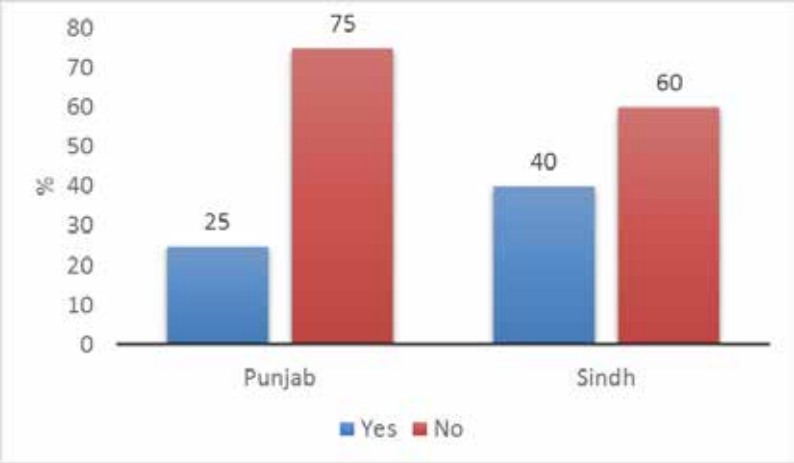
Level and Gender Wise Existing Skilled Workforce



Current Skilled Workforce Deficiency

Figure 10 below presents current deficiency of skilled workforce in the textile sector of both Punjab and Sindh provinces. The mixed results have been observed in both provinces. The Punjab province shows highest availability of skilled workforce with 75% and shortage of skilled workforce with 25%. It means that availability of skilled workforce is more than the demand which is due to migration of workers from other provinces to seek work in Punjab. The Sindh has also experienced more demand of skilled workforce with 60% than the shortage with 40% in the textile sector. It indicates that economic activities are expanding for female skilled workforce in the province.

Figure 10: Skilled workforce Deficiency



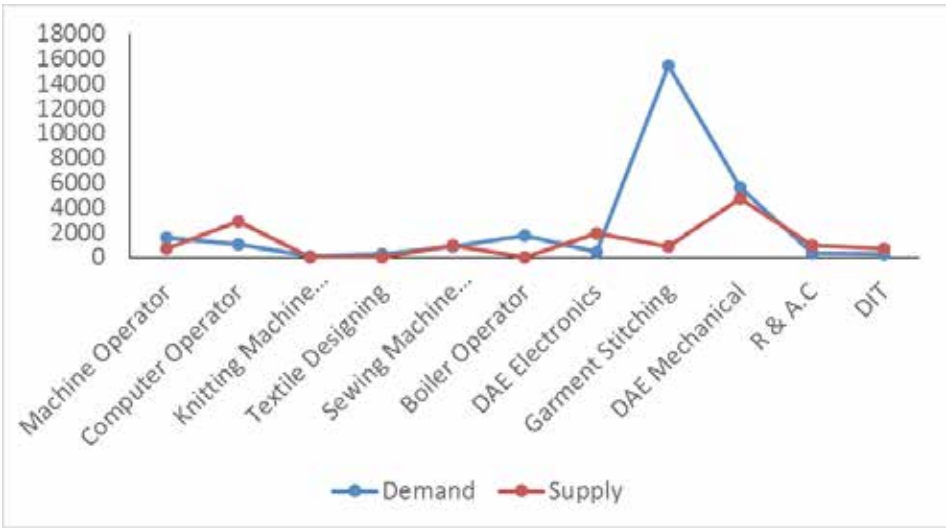
Further analysis was made to examine trade-wise deficiencies in demand and supply of skilled workers in the textile sector of both Punjab and Sindh provinces (see Figure 15 to Figure 16) and Annex 1). In general, the respondents reported that they face deficiency of skilled workforce which means that demand for skilled workforce in most trades for the textile sector exists but it is higher than current supply of skilled workforce.

The data displayed in the graphs are further interpreted province wise to get separate result regarding actual gaps in demand and supply of skilled workers. The results obtained through analysis indicate a significant gap in demand and supply where demand of formally skilled workers is higher than the supply, except DAE Chemical where its supply is almost equal to the demand. It may be due to the reason that there is an imbalance of the availability of skilled workforce trained through formal education and those who are abundantly available from informal sector (Figure 11).

Figure 11 Punjab Skills Gap Analysis:

In Sindh province, significant deficiency of skilled workforce exists in some trades including machine operator, DAE electronics, garment stitching and DAE mechanical textile designing, boiler operator while it has surplus workforce in few trades like computer operator, knitting machine operator, DAE electronics, R& A.C & DIT. However, sewing machine operator is only the trade that shows no gap between demand and supply of skilled workforce (Figure 12).

Figure 12: Sindh Skills Gap Analysis



Supply & Demand Gaps Analysis (Table in Annex-A)

The data presented in the table below (Annex-A) provides information about skill gap analysis in different trades of textile sector in both Punjab and Sindh provinces. The gap between supply (65,148 Nos) and demand (122,806 Nos) of all trades is 57,658 Nos (around 57% less supply against the demand of labor market) skilled workforce that means demand of skilled workforce is more than the supply of skilled workforce. R & AC is the only trade in which skill gap between supply and demand is recorded as the highest with 9,374 Nos (96%) that

means supply of skilled workforce is more than demand. It is followed by DAE Electrical with 7,325 Nos (52%), welder with 5,540 Nos (96%), DIT with 4,178 Nos (93%), Auctocad with 4,083 Nos (99%), DAE mechanical with 366 Nos (26%) and HVAC with 1,685 Nos (56%) which indicate that supply is more than demand in these trades. These trades show more efficiency than those having more demand than supply. Such trades need to maintain the existing demand side gap for productivity.

The gap between demand and supply of Machine Operator is the highest with 59,790 Nos (98%) skilled workers which means demand is more than supply in this trade. It is followed by trades garment stitcher with 15,076 Nos (86%), fiter with 4,951 Nos (95%), Computer Operator with 3,386 Nos (31%), Accountant with 2,071 Nos (35%) and DAE textile with 1,897 Nos (58%). The supply of skilled workforce in trades such as folder, bolier operator, kharadia, textile winder, knitting machine operator, steam operator, dying man, overlock master, oil man, press fitter, serializing machine, pattern, CCTV operator, bobbin fixer, helper fitter, spanning, boiler DAE and jet operator is zero against 100% demand of skilled workforce. The rising demand of skilled workforce in these trades requires to be abridged through decreasing demand and increasing supply by reducing the skill gaps.

Future Demand of Skilled Workforce in the Construction Sector

Analysis was carried out to assess the future demand of skilled workforce against the supply in the textile sector of Punjab and Sindh provinces (Figure 5). The results thus obtained reveal that skilled workers having lower qualification such as Diploma or certificate or obtained training through short courses have high future demand in the textile sector compared to B-Tech and DAE. The reason of high demand of skilled workers having low qualification in such levels attributes to their satisfaction at low wage rate and easily adjustment in the textile sector. It has also been found that supply of skilled workforce in certificate holders and short-courses is more than demand. It is due to the reason that training centres in the private sector are functional but their quality of training is under debatable. It can be concluded that the textile sector normally employs skilled workers from informal sector or train them on the job.

Figure 5: Level wise supply & demand gaps

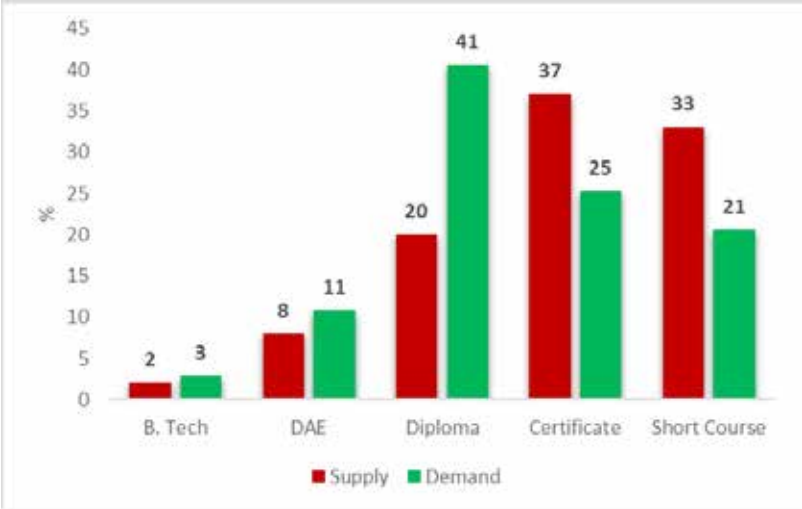


Figure 6 shows data regarding assessment of demand of TVET skilled workforce by Gender. The male skilled workforce in all levels including diploma (38%), short courses (19%), certificate (18%), DAE (8%), others (6%) and B.Tech (3%). are in more demand than the demand of female skilled workforce in certificate level with 8%, DAE with 3% and diploma with 2%. This display of data reflects that female skilled workers are required for more sophisticated work than for spade/ heavy work.

Demand of skilled workforce was analysed in Punjab and Sindh provinces as shown in Figure 7. The demand of male skilled workforce in Punjab is 89% (88,512 Nos) against limited female skilled workforce 3% (2,660 Nos). It means demand of male skilled workforce is higher than female skilled workforce that needs to adopt rational approach for engaging more women skilled workforce in the textile sector. The situation of both male and female skilled workforces in Sindh is not encouraging in comparison with demand analysis of gender skilled workforce in Punjab. The demand of male skilled workforce is 18% (18300 Nos) against female skilled workforce 14% (14180 Nos)

The data shown in the figure 12 indicates employers' level of satisfaction regarding engagement of skilled workforce in various trades of textile sector for Punjab and Sindh provinces. In Punjab, 50% respondents showed satisfaction over work of skilled workforce, 30% remained unsatisfied and 20% did not respond. In Sindh, 46% respondents were satisfied with work of skilled workforce, 50% were not satisfied and only 4% remained unresponsive.

Figure 6: Gender and Level wise Skills demand

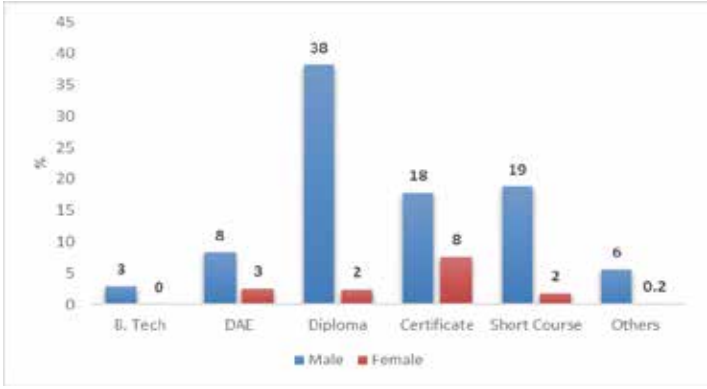


Figure 7: Province & Gender wise demand

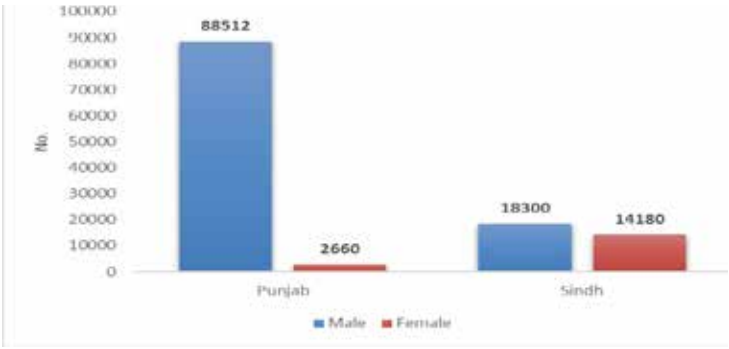
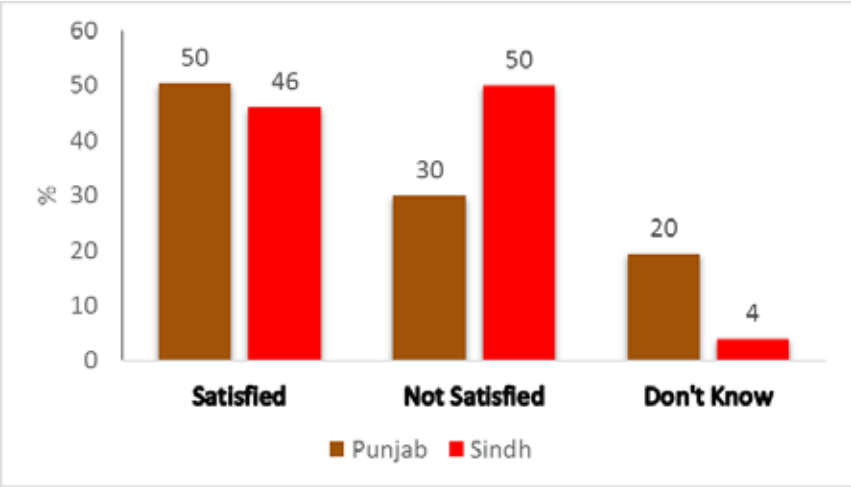


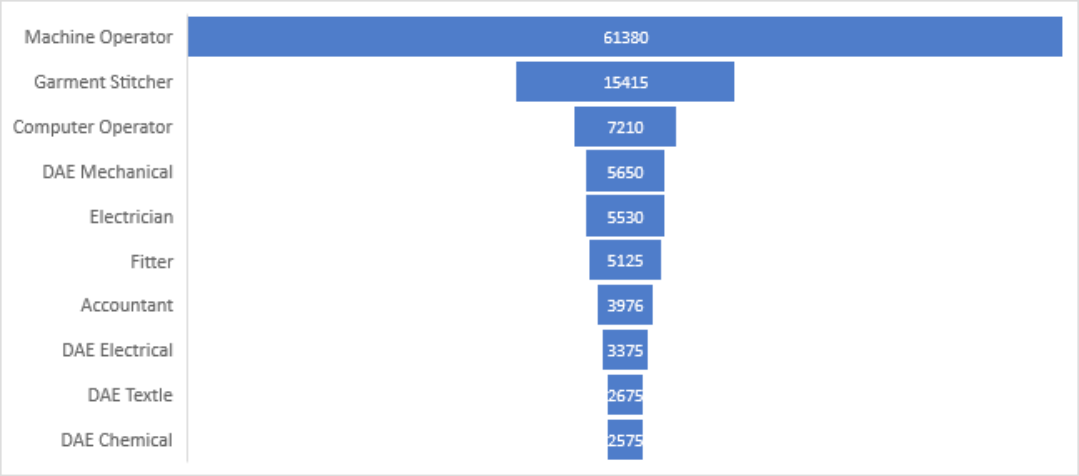
Figure 8: Employers Level of Satisfaction



Demand of Top 10 trades

Figure 9 provides list of top 10 trades based on demand of number of skilled workers in textile sector. Among these trades, Machine Operator is required more than 61,000 skilled worker in Punjab and Sindh provinces followed by Garment Stitcher (about 14,000), Computer Operator (7200), DAE Mechanical, Electrician and Fitter (almost each 5,500). The demand of skilled workers in remaining trades is 3,000 or below.

Figure 9: Top 10 leading Trades in construction sector (Number)



Respondents Knowledge about TVET and relevant institutional arrangements

The respondents were also probed about their knowledge of TVET and relevant institutional arrangement. The data displayed in the figures 13 &14 represents information about prior knowledge of respondents regarding TVET & PVCT in Punajb and Sindh provinces. The results obtained are encouraging that the majority of registered firms in textile sector in both provinces are aware of Technical Vocational and Training (TVET) and also have prior knowledge about the existence of TEVTA and PVCT. In both the provinces almost 71% respondents have prior knowledge regarding TVET institutes while about 29% do not have

such information. Similarly, almost 77% respondents in both the provinces know information about TEVTA & PVCT while remaining almost 23% respondents don't have such information (see Figure 13 &14)

Figure 13: Knowledge about TVET

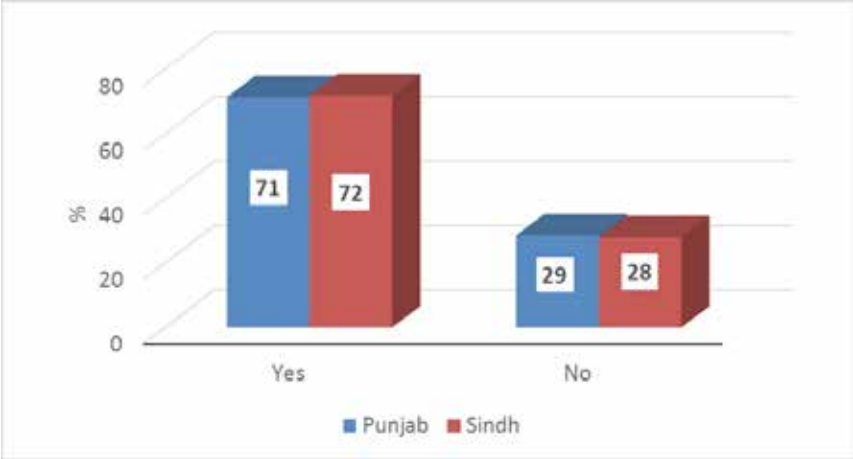
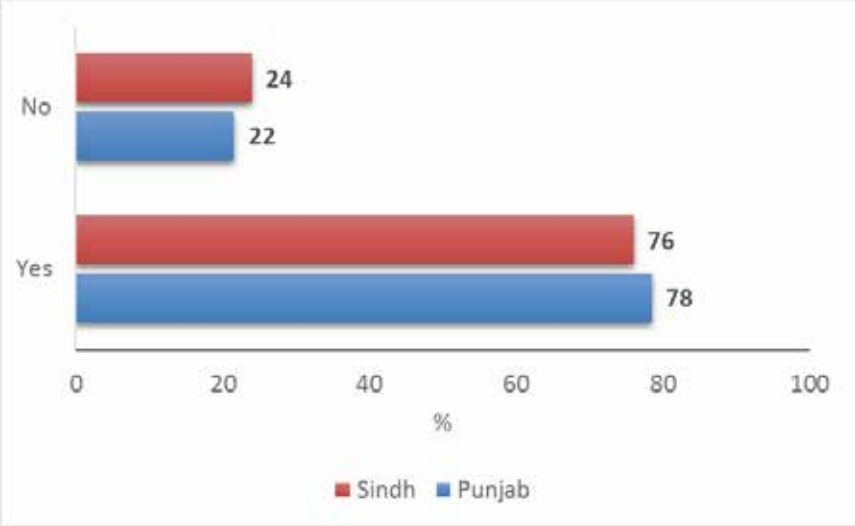


Figure 14: Knowledge about TEVTA/PVTC



SUMMARY OF CONCLUSION AND RECOMMENDATIONS

TVET provides opportunities of employment for youth in the textile sector. The substantial money has been spent by the Government for building skilled workforce for the youth on sustainable basis aimed at raising their income level for contribution to the provincial and national economy. It is further revealed through secondary sources that currently less than 2% of youth population (of 4 million who reach working age) has acquired technical skill through the TVET system which is insufficient to meet local and international demand of skilled workforce.

The results deduced out of conducted study concluded that the demand of skilled work-force has exceeded supply of skilled workforce in the textile sector of the Punjab and Sindh provinces of Pakistan. Some gaps between demand and supply of skilled workforce were met from the work-based learners or hiring from the informal sector. On the other hand, the share of TVET graduates is too small to meet the emerging demand of skilled workforce. The contribution of males in existing skilled workforce is more than the female skilled work-force that necessitates ensuring of maximum participation of female workforce in the sector. The skilled workers having lower qualification such as Diploma or certificate or obtained training through short courses have high future demand in the textile sector compared to B-Tech and DAE. The reason of high demand of skilled workers having low qualification in such levels attributes to their satisfaction at low wage rate and easily adjustment in the textile sector. It has also been found that supply of skilled workforce in certificate holders and short-courses is more than demand. It is due to the reason that training centres in the private sector are functional but their quality of training is under debatable. The respondents in general shows high degree of satisfaction about the performance of TVET skilled workforce at work besides having awareness about TVET and TVETA. employers level of satisfaction regarding engagement of skilled workforce in various trades of textile sector for both the provinces.

It is further concluded that currently, no market place exists in both the provinces where the trained skilled workforce is available (with the exception of few resource employment centres established by the government that are thinly spread and located in the main urban areas).

Following recommendations are provided which can apply to all sectors including the textile sector:

1. The Government needs to establish resource employment centres for registration of all formally qualified skilled workers in textile sector because currently, no mechanism exists to link the TVET trained workforce with textile units in cities and towns for easy access of the skilled youth for employability at time of completion of skilled training.
2. There is need to arrange and conduct awareness raising sessions to bring both textile units and trained skilled workforce aimed at enhancing understanding and linkages between both of them for ensuring smooth flow of trained workforce from institutes to the textile sector.

The skills training course curricula for the textile sector need to bring in line with actual demand for bridging present and future gaps in skilled workforce.

Annex 1

Trade	Supply	Demand	Gaps
Machine Operator	1590	61380	(59,790)
Garment Stitcher	1244	16320	(15,076)
Computer Operator	3824	7210	(3,386)
DAE Mechanical	9316	5650	3,666
Electrician	5268	5530	(262)
Fitter	174	5125	(4,951)
Accountant	1905	3976	(2,071)
DAE Electrical	10700	3375	7,325
DAE Textile	778	2675	(1,897)
DAE Chemical	1771	2575	(804)
Folders	0	900	(900)
Boiler Operator	0	800	(800)
Kharadia	0	675	(675)
HVAC	2335	650	1,685
Mechanical Technician	250	625	(375)
DAE Textile Designing	27	505	(478)
DAE RAC	307	500	(193)
Painter	218	456	(238)
Electronics	252	450	(198)
Textile Winder	0	439	(439)
R & A.C	9774	400	9,374
Thermal Operator	0	400	(400)
DIT	4478	300	4,178
Cutting Operator	287	250	37
Welder	5790	250	5,540
Machine Fitter	70	200	(130)
Motor winder	683	175	508
Helper fitter	0	150	(150)
Jet Operator	0	125	(125)
Knitting Machine Operator	0	100	(100)
Steam Operator	0	100	(100)

Trade	Supply	Demand	Gaps
Bobbin Fixer	0	75	(75)
Dying man	0	50	(50)
Overlock Master	0	50	(50)
Oil Man	0	50	(50)
Press Fitter	0	50	(50)
Serializing machine	0	50	(50)
Pattern	0	40	(40)
C.C. TV operator	0	27	(27)
Boiler DAE	0	74	(74)
Die Master	0	25	(25)
Spanning	0	25	(25)
Auto Cad	4107	24	4,083
Grand Total	65148	122806	-57658

Annex 2

Trade	B. tech	DAE	Diploma	Certificate	Short Course	Others	Total
Machine Operator	0	0	50	253	4675	325	5303
Sewing Machine	0	0	0	750	500	0	1250
Electrician	0	0	340	168	390	0	898
Computer operator	0	0	325	176	179	0	680
Machine fitter	0	0	276	100	0	75	451
General Fitter	0	0	125	250	25	50	450
Cutting man	0	0	25	125	50	125	325
Accountant	0	0	0	0	0	320	320
DAE Textile	0	300	0	0	0	0	300
Designer	0	0	250	25	25	0	300
Boiler	0	134	127	25	0	0	286
Jet Operator	0	0	175	0	0	0	175
Thermal Operator	0	0	175	0	0	0	175
Clipper	0	0	0	150	0	0	150
Serializing Machine	0	0	150	0	0	0	150
Weaver	0	50	0	100	0	0	150
Ped Steam operator	0	0	100	25	0	0	125
Dying Man	0	0	25	0	34	50	109
Machine checke	0	0	100	0	0	0	100
Helper	0	0	0	0	25	50	75
Supervisor	0	0	0	75	0	0	75
Cheeker	0	0	0	0	50	0	50
Knitting Machine Operator	0	0	0	50	0	0	50
Manager Planning	25	25	0	0	0	0	50
Plumber	0	0	0	50	0	0	50
Dying Master	0	0	0	0	0	25	25
Folders	0	0	0	0	25	0	25
Kharadia	0	0	0	0	25	0	25
Pattern Maker	0	0	0	25	0	0	25
Wander	0	0	0	25	0	0	25
Grand Total	25	509	2243	2372	6003	1020	**12172**

Annex 3: Questionnaire

Skills Workforce Demand Side Questionnaires

This information supplied on this format will kept strictly confidential and will be used for research & Planning of National Skills Information System, NAVTTC, Government of Pakistan

Name of organization: _____
Dated: _____ for the Year: _____ Organization Contact No: _____
Email: _____ _____ Address of the establishment _____
Name of focal person: _____ Contact no: _____
Sector: _____ Sub-Sector: _____

1. Existing Skilled Workers (Only skilled workers)

S.N	Trade Name	No. of workers		Source Codes									
				Male					Female				
		Male	Female	1	2	3	77	Specify in case of other	1	2	3	77	Specify in case of other
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													

11													
12													

Code: 1- TVET Graduate, 2- Work based learner, 3- Informal sector, 77- Others (Specify)

2. Skills deficiencies

2.1: Do you face local skilled workforce deficiencies? 1= Yes 2= No (Go to Q.3)

2.2: In case of Yes (Trade and level wise Number)

S. No.	**Trade name**	**Level (use codes)**							**Number**
		1	**2**	**3**	**4**	**5**	**77**	**Specify in case of other**	
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

Codes:1: B.Tech, 2: DAE, 3= Diploma, 4= Certificate, 5= short course, 6= others (Specify)

3. Future Skills requirement

S.N	Trade Name	Source Codes												Number/Annum	
		Male						Female							
		1	2	3	4	5	77	1	2	3	4	5	77	Male	Female
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															

11															
12															

Codes:1: B. Tech, 2: DAE, 3= Diploma, 4= Certificate, 5= short course, 6= others (Specify)

3.1: What is your level of satisfaction from the TVET graduate? 1= Satisfied, 2= Not Satisfied, 3=Don't Know
Q3.2: Are you agree with the statement that Skilled Workforce Supply meet your requirement?
1 = Yes 2 = No
Q3.3: If "No", what are the reasons? _____
Q3.4: Do you know about TVET (Technical education & Vocational Training)?
1 = Yes 2 = No
Q3.5: Do you know about TEVTA/PVTC?
1 = Yes 2 = No
Q3.6: What is your Suggestion improvement?_ _____
_____
_____ _____

Name of Enumerator: _____Signature: _____

Name of Data entry operator: _____ Status: _____ _____ (Enter/Rejected)

TVET Sector Support Programme

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