Skills Gap Analysis
of Khyber Pakhtunkhwa

National Vocational & Technical Training Commission (NAVTTC)
5th Floor, Evacuee Trust Complex
Sector F-5/1, Islamabad
Tel: +92 51 904404
Fax: +92 51 904404
Email: info@navttc.org

Responsible:
Dr. Nasir Khan, Executive Director, National Vocational & Technical Training Commission (NAVTTC) HQs., Islamabad.
Raja Saad Khan, National Deputy & Team Leader Policy and Governance, TVET Sector Support Programme.

Authors:
Mr. Abdul Hafeez Abbasi, Director (NSIS), National Vocational & Technical Training Commission (NAVTTC) HQs., Islamabad.
Mr. Atif Mahmood, Labour Market Analyst, NSIS Cell, TVET Sector Support Programme

Analysis:
Sayed Asghar Shah, Technical Advisor, Data Analysis, NSIS Cell, TVET Sector Support Programme

Edited by:
Sonia Emaan, Technical Advisor Communication, TVET Sector Support Programme

Layout and Design:
Niaz Mohammad, Junior Communication Officer, TVET Sector Support Programme

Photo Credits:
TVET Sector Support Programme

This Study has been conducted by the National Skills Information System in NAVTTC and has been supported with the technical assistance of TVET Sector Support Programme, which is funded by the European Union, the Embassy of the Kingdom of the Netherlands, Federal Republic of Germany and the Royal Norwegian Embassy. The Programme has been commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) and is being implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in close collaboration with National Vocational and Technical Training Commission as well as provincial technical and vocational training authorities and private sector organizations. The views expressed in this publication are those of author and do not necessarily representative of the position of the GIZ and NAVTTC.

Islamabad, Pakistan
September, 2019

Skills Gap Analysis
of
Khyber Pakhtunkhwa
2019

National Skills Information System (NSIS)
National Vocational & Technical Training Commission (NAVTTC)
Government of Pakistan

Table of Contents

Acronyms Used

B. Tech	Bachelors in Technology
BE&OE	Bureau of Emigration & Overseas Employment
BTE	Board of Technical Education
CBT	Competency Based Training
CPEC	China Pakistan Economic Corridor
CS-PRO	Census and Survey Processing System
DAE	Diploma of Associate Engineering
D.I Khan	Dera Ismail Khan
GCC	Gulf Cooperation Council
ILO	International Labour Organization
KPK	Khyber Pakhtunkhwa
NAVTTC	National Vocational & Technical Training Commission
NSIS	National Skills Information System
NSS	National Skills Strategy
NVQF	National Vocational Qualification Framework
PBOS	Pakistan Bureau of Statistics
PVTC	Punjab Vocational Training Council
QABs	Qualification Awarding Bodies
RPL	Recognition of Prior Learning
STATA	Software for Statistics and Data Science
TEVTA	Technical Education and Vocational Training Authority
SSP	Sector Support Programme
TTB	Trade Testing Board
TVET	Technical Education & Vocational Training

Foreword

National Vocational and Technical Training Commission (NAVTTC) has developed National Skills Strategy 2009-2013 making a paradigm shift from curricula-based education to competency-based training. One of the main focuses, among others; is provision of relevant skills for industrial and economic development, improvement of access and employability and assurance of quality through an integrated approach.

Employability and productivity of the workforce is crucially linked with their level of Technical Education and Vocational Training (TEVT) competencies. The demand for trained and skilled workforce increases with every step towards promotion of industrialization and modernization of production processes. Swift technological changes and ever-increasing global competition under a new world of work has also made knowledgeable, skilled and adaptable workforce indispensable for a country which aims to compete in the global economy and targets prosperity for its people. Indeed, these developments require a TEVT system that is fully responsive to the challenges of a rapidly globalizing economy.

Economic development of a nation hinges on the right mix of policies for optimal use of available resources combined with valuable human resources. Economic growth leads to poverty reduction and generation of resources to sustain development through properly skilled human resource. In order to secure results of economic growth in terms of high-skilled human resource, first-hand information about characteristics of the existing labour force such as their distribution by region and gender, age composition, skill level, productivity etc. are essential for informed and evidence based decision making.

"Producing Skill Workforce in Potential Economic Sector in Khyber Pakhtunkhwa" is a comprehensive report, which indicates skilled workforce supply and demand mismatch. This is contributing towards reducing unemployment rate on one side and skilled workforce shortage on the other side, in addition to lowering productivity of industrial sector.

Preparation and publication of this report would not have been possible without the support of Bureau of Statistics and TEVTA Khyber Pakhtunkhwa. The inputs of employers, chamber of commerce and industries and field staff who braved all sorts of problems to collect the data and valuable support of NAVTTC-NSIS Team are commendable.

I hope this report will be useful for policymakers, researchers and other TVET stakeholders in formulation and implementation of policies and programmes that would help in creating decent employment and enhancing productivity of the industrial sector in Pakistan.

Dr. Nasir Khan
Executive Director, NAVTTC

Message from the Chairman

The National Vocational & Technical Education Commission (NAVTEC) is the apex body of Pakistan. To fulfill the vision of a developed, industrialized, just and prosperous country through rapid and sustainable development, the present Government is paying special attention to skill development for enhancing greater employability of youth and industrial productivity. National "Skills for All" Strategy, 2019 sets the direction in this regard. The strategy aims in providing relevant and market-driven skills to enhance employability, improve quality of TVET and reduce mismatch between demand and supply of skilled youth.

An in-depth and accurate analysis of the job market trend is always the first step in introducing the right policies, strategies and programmes for skills development. Being cognizant, NAVTTC established National Skills Information System (NSIS) with the purpose to collect, analyze and disseminate labour market information to relevant stakeholders. The "Producing Skill Workforce in Potential Economic Sector in Khyber Pakhtunkhwa, Report 2019" provides important information about the job trends in the province and highlights the mismatch in demand and supply of skilled workforce. The analysis and recommendations provided in this report would help in taking corrective actions and evidence-based decision making for skills development initiatives, setting priority and future investment in the sector.

I want to acknowledge and appreciate work of NSIS team and amount of time dedicated to preparation of this report. I am also thankful to TVET Sector Support Programme (SSP) which support us diligently in this endeavor.

Syed Javed Hassan
Chairman NAVTTC

Executive Summary

Inadequate skilled workforce has remained a major challenge for economic development of Khyber Pakhtunkhwa over the past few decades, especially in manufacturing, hospitality, construction, mining and services sectors. The onset of major projects under China Pakistan Economic Corridor (CPEC) in the province has caused further imbalances in the demand and supply of skilled labour. The increasing gaps between demand and supply of skilled labour have adversely affected the efficiency of the industry leading to reduced production and non-adjustment of surplus labour available in the market. Consequently, the economic growth could not pick the pace required to match the market trends of the arising labour situation. The challenge of reducing the skills development gaps and providing decent employment opportunities at national and provincial levels can only be addressed with the judicious use of the existing potential in the skills development sector through upgrading the Technical Education & Vocational Training (TVET) programmes aligned with the industry standards.

The main objective of the 'Skills Gap Analysis KPK' is assessing the labour market demand for skilled work force based on an analysis of skill supply-and-demand gaps, supply-and-demand mismatch, the skilled workforce demand for CPEC and skill deficiencies in labour market of KPK. The demand side questionnaire addressing key areas of concern was designed and implemented with the support of Provincial Departments, such as Provincial office of Pakistan Bureau of Statistics (PBS), Mining Department, Provincial TEVTA and Chamber of Commerce & Trade and Trade Associations. The purpose was to ensure due linkages between government departments responsible for various policies affecting the job market and statistical agencies for institutional collaboration for collecting information on skills market.

The data indicates that number of working vocational institutions is 650 accounting for 95% of TVET institutions in comparison with a meagre number of 36 technical institutions that constitute only 5% of such institutions. Moreover, the strength of per annum skilled workforce in KPK provided by the technical institutions stands at 14,560 individuals while that supplied by vocational institutions is more than triple of that number, with 45,690 individuals.

The most deficient in skilled workforce is the manufacturing sector exhibiting the supply gap of 80,172 while the least demand is reported in energy & power sector accounting for a total 2,440. Skilled workforce gaps in services, construction and hos-

pitality sectors stand at 59,462, 46,619 and 44,619, respectively. This increasing gap in demand and supply of workforce is due to the rising need for skilled workforce due to CPEC projects.

The supply of skilled workforce on technical side based on DAE civil (6,500) and DAE Electrical (3,900) is more than the available demand of 3,000. There are less than 1,000 skilled workers available in the market that calls for creating awareness on the need for investing skills development in these sectors. The resulting adjustment of surplus skilled workforce could create better and well distributed employment opportunities hence utilizing the available skill-sets for economic growth of the country. The tailoring & dressmaking, beautician and AutoCAD on vocational side have the capacity of producing 3,000 skilled workers each, against a demand of less than 200.

The findings of the report will help the policy makers and implementers at provincial level, training institutions and other stakeholders in more informed and targeted decision-making with regard to formulation and implementation of demand-driven training systems aimed at reducing demand-and-supply skills gap in the Province.

Background

Evidence-based employment policy-making requires identifying and quantifying the best practices and inefficiencies in the job market, such as underutilization of skilled workforce and lack of decent job opportunities. This is the first step in designing employment policies aimed at enhancing the well-being of workers while also aiding economic growth. Such comprehensive view of the world of work calls for collection, organization and analysis of necessary labour market information. In this context, the information on skills demand can serve as a tool for monitoring and assessment of many issues related to functioning of labour markets.

Right assessment of skills gap in the labour market assists policy makers in formulating relevant policies and programmes that enhance the quality and diversity of skills supplied to job market, thus resulting in improved business climate. Regular assessment and anticipation of the skills gap can enable policy makers to improve the skills development sector and to produce a skilled workforce which meets the requirements of the industry. This is essential for improving the productivity and competitiveness of the country's skilled workforce, which can help attract investment and foster higher economic gains. The skills mismatch in the labour market is the result of lack of standardization and coordination among the training providers/TVET authorities and employers.

To address the issues of labour market mismatch, the Government of Pakistan initiated reforms in skills development sector under TVET Sector Support Programme which was started in 2011. The aim of these reforms is to introduce demand driven skills for sustainable economic and social development. The programme is co-funded by the European Union and the Federal Republic of Germany and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH1. The programme partners include the National Vocational and Technical Training Commission (NAVTTC), the provincial and regional Technical Education and Vocational Training Authorities (TEVTAs), Punjab Vocational Training Council (PVTC) and many other stakeholders.

1 Project document TVET SSP

The Ministry of Federal Education and Professional Training has formulated the National TVET Policy and National 'Skills for All' Strategy in consultation with various stakeholders, both from the public and private sector. the TVET policy and the strategy places emphasis on increasing training opportunities for the youth and re-skilling existing workforce in high-demand skills and trades. In this direction, the Programme supported the establishment of National Skills Information System (NSIS) to provide policy makers, employers, training institutions and learners current and accurate information on job market and employability skills. The strategy also facilitates career guidance and placement services for TVET job-seekers and employers. The main objectives of the NSIS Cell are to:

- Provide reliable national skills information for development of the workforce in more employable skills;
- Provide timely and accurate information for demand and supply analysis to TVET planners, training institutes, industry, academia, students and public in general; and
- Establish and facilitate career/vocational guidance and placement services for TVET graduates and potential employers.

It is essential to have a complete overview of skilled workforce supply and skills that are demanded by the industry. The mismatch in the demand and supply is one of the biggest causes of unemployment of the TVET graduates as well as lack of competitiveness of the industrial sector in Pakistan. To ensure provision of reliable information to stakeholders for addressing these and related issues, it is imperative to collect job-related data from the labour markets and enrolment/supply side from TVET institutions.

For this report, the supply side data has been collected from TVET institutions through Khyber Pakhtunkhwa TEVTA, KPK Trade Testing Board and KPK Board of Technical Education. On the other hand, the demand side data has been collected from the employers and industry operating in the Khyber Pakhtunkhwa Province.

OBJECTIVES OF THE STUDY AND ITS LIMITATIONS

The overarching objective of this report is to assess the skills demand of labour market in Khyber Pakhtunkhwa Province. The specific objectives of the report are to:

1. Anticipate the workforce demand of the provincial job market;
2. Calculate the supply of skilled workforce produced annually under formal learning pathways;
3. Assess skills gap and mismatch for different occupations in the province; and
4. Provide policy recommendations for reducing the skill gaps in the province.

The following were some of the limitations encountered during this study:

1. Identification of data sources and collection of information on a large number of industrial units operating in the informal sector was a big challenge during

the survey.

2. There is no authentic information available about the total number of industrial units in any of the sectors surveyed.
3. During the survey, it was observed that industry has a different understanding about occupation titles and does not necessarily use universally known terms and jargon for the same. Their categorization necessitated extra effort during data cleaning and processing.
4. The process of collection of supply-side information about private sector TVET institutions was constricting as there is no existing mechanism or data source currently available in the province.

APPROACH AND METHODOLOGY

After identifying the data sources in consultation with the stakeholders, services of trained personnel were utilized for data collection through an agreed questionnaire. The sample size for data collection is reflected in the graph shown in Figure 1.

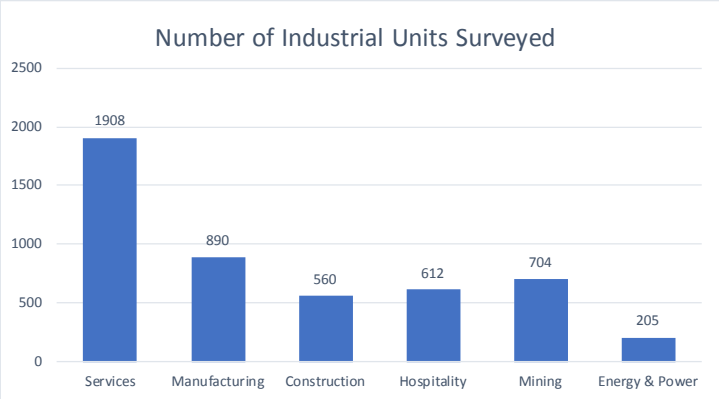


Figure 1: Number of industrial units surveyed for collection of demand-side data

Various steps were taken to ensure the quality of the data collection, e.g., rigorous training of the enumerators was conducted before the initiation of the survey; random physical checks were carried out during data collection; data cleaning and editing. CS-PRO software was used for data entry and analyses were made using STATA software.

Results and Analysis

FORMAL AND INFORMAL LABOUR MARKETS

Informal labour market has the major share in the province constituting around 65% of the total, while the rest (35%) is the share of formal labour market (Figure 2). Significant share of informal labour market suggests that most of the industrial enterprises fall into informal sector despite the fact that it provides a substantial number of employment opportunities to semi-skilled and skilled workforce in the province. Further analysis of the available data reveals that the nature of employment in the province is either based on self-employment or on-account workers, who typically work in formal or informal enterprises and are engaged in production of goods for household use, for example workers employed in agriculture sector.

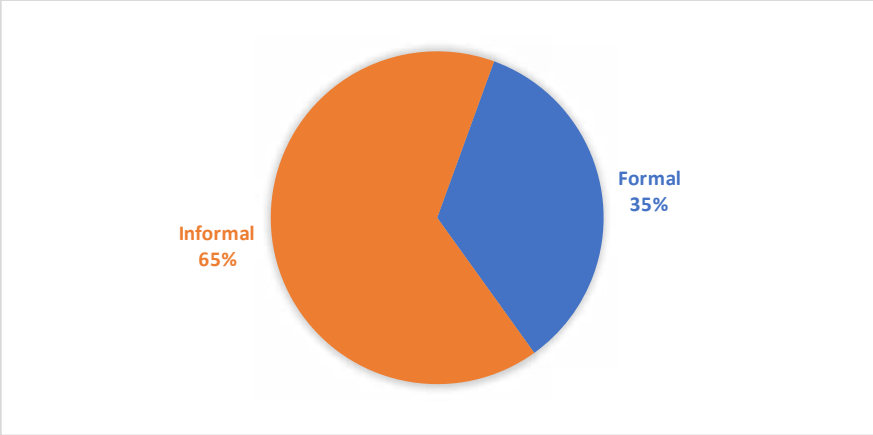


Figure 2: Coverage formal & informal labour market

What is Informal Labour Market?

An informal labour market is the nominal market in which job seekers and employers offering informal jobs meet one another. Informal jobs, according to International Labour Organization (ILO), includes employees holding informal jobs, e.g., entrepreneurs and own-account workers employed in their own informal enterprises; members of informal producers' cooperatives; contributing family workers in formal or informal sector enterprises; and own-account workers engaged in production of goods for own end-use by their households. Conversely, the formal labour market is made of the remaining jobs in the economy, which are called formal jobs.

SECTOR-WISE COVERAGE OF THE SURVEY

As seen from the data presented in the graph (Figure 3), the survey covered all the key economic sectors of the provincial economy. Most respondents belonged to services sector (39.1%). The number was followed by respondents from manufacturing (18.2%), mining (14.4%), hospitality (12.5%), construction (11.5%) and energy & power sectors (4.2%).

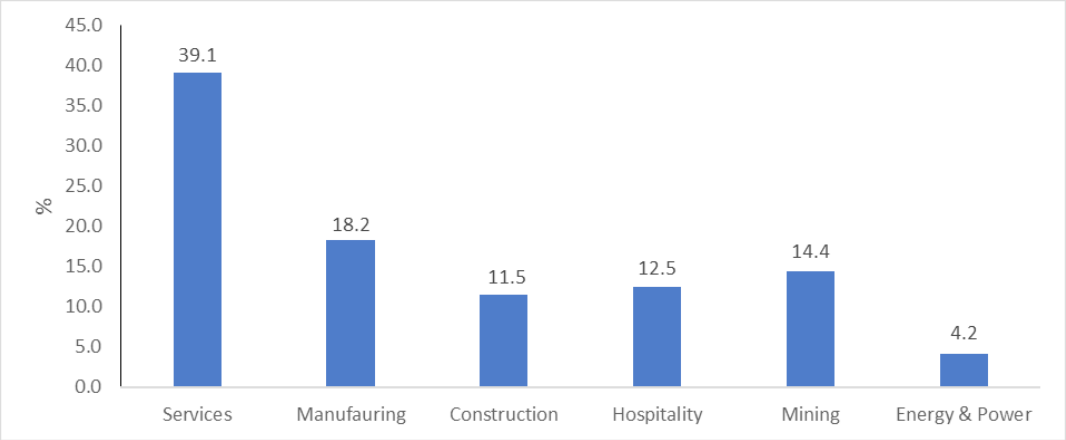


Figure 3: Sector-wise survey coverage

DISTRICT-WISE COVERAGE OF THE SURVEY

The largest number of industries surveyed for data collection belongs to Peshawar, Nowshera, Mardan and Swabi with an accumulated share of 54.8%, making these four districts the prime source of employment and economic activities in the province. Whereas, Lakki Marwat, Mohmand and Tank offered the least shared of industries surveyed owing to the fact that most of the economic activities in these areas are carried out in either in agriculture fields or in informal settings for which data collection was a serious challenge (Figure 4).

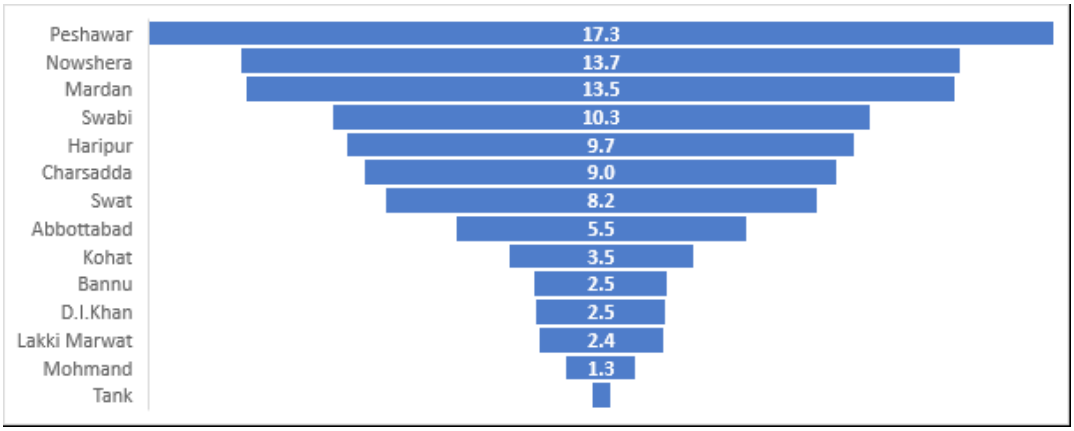


Figure 4: District-wise coverage (%)

PATTERN OF EXISTING SKILLED WORKFORCE

The graph in Figure 5 depicts that the largest segment of skilled workforce employed by industry was trained through work-based learning system which accounts for 66%. Those trained in informal sector account for 26% of the total workforce of the province. The share of formal TVET system is only 8% which is unexpectedly low. There can be multiple reasons for low share of skilled workforce in existing provincial workforce, such as inadequate supply of skilled workforce, mismatch of training programmes with market demands and a substantial number[2] of workers proceeding abroad for employment.

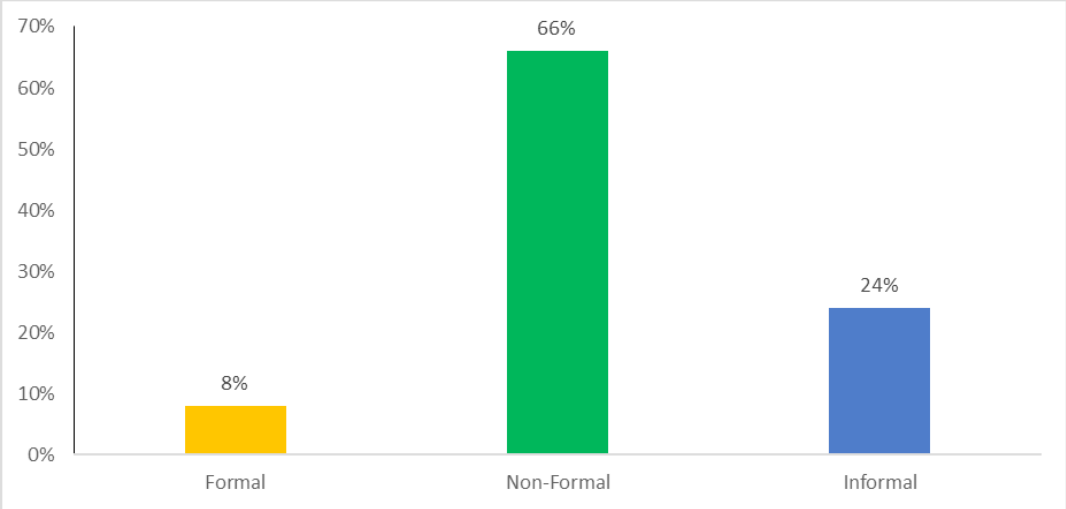


Figure 5: Pattern of Existing Skilled Workforce

GENDER PARTICIPATION IN LABOUR MARKET

The percentages in the graph shown in Figure 6 give a bleak picture of gender participation in the provincial labour market that is dominated by male gender with 95% share. The share of female participation in provincial labour market is only 5% which is comparatively lower than the overall national female participation rate which is 25.12%[3]. The low participation of women in the economy is a discouraging factor for sustainable economic growth and socio-economic development of the province. The underlying factor to this low participation is the engagement of women in household activities, agricultural activities sector and them having access to fewer numbers of opportunities in the job market, as indicated in the Figure 11. Encouraging women participation through social dialogue, extending career counselling services and creat-

2 In Year 2018, 113,191 skilled workers proceeded overseas for employment from KPK and FATA, Bureau of Emigration and Overseas Employment (BE&OE), Government of Pakistan.

3 Source: Labour Force Survey 2018, Pakistan Bureau of Statistics (PBS).

ing employment opportunities are some of the policy interventions which may need to be taken immediately for reducing unemployment and gender equality.

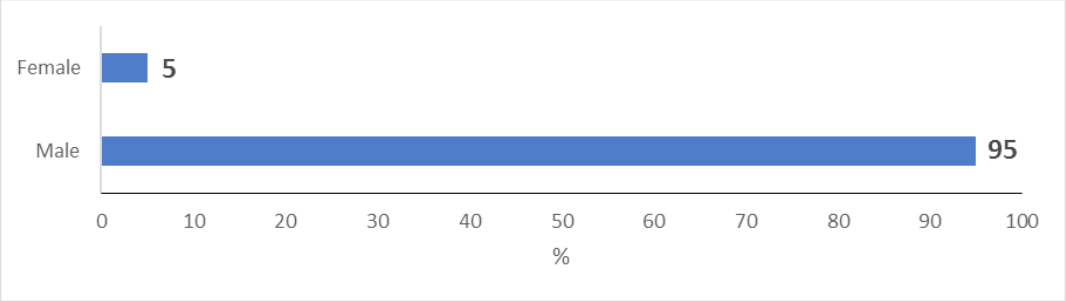


Figure 6: Gender-wise existing skilled workforce

SECTORAL DEMAND OF SKILLED MANPOWER

Figure 7 shows the prevailing skilled workforce demand in construction, energy & power, hospitality, manufacturing, mining and services sectors in Khyber Pakhtunkhwa. The demand of skilled workforce varies due to production capacity and employment elasticity for each sector. The graph indicates that manufacturing industries require the largest number of workers (80,172) to run production in different areas, e.g., handicrafts, cosmetics, plastic, pharmaceutical, textiles, woodwork, etc. while the energy & power sector need the least number (2,440) of skilled manpower. However, demand in services, construction and hospitality stands at 59,462, 46,619 and 44,619, respectively. Modest demand of 11,666 jobs has been reported in mining sector. Increasing demand of skilled workers in construction, hospitality and services sectors has been reported due to the requirements of manpower under various projects of China Pakistan Economic Corridor (CPEC).

The surging demand in manufacturing and hospitality sectors provides enough evidence for the policy makers and implementers to warrant increase in the supply of skilled workforce in these sectors to ensure maximum employability.

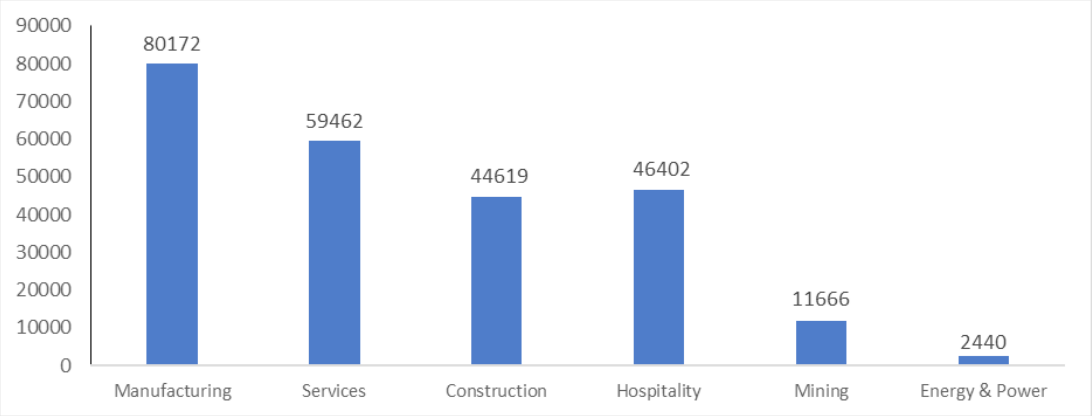


Figure 7: Sectoral Demand of Skilled Workforce

MATRIX 1: CONSTRUCTION SECTOR

Geographical area, cluster location	Sector/Sub-sector	Rationale	Trades/ Occupations	Employment Potential	Business Membership Organization	Training Institutions
Abbottabad Haripur Kohat Mardan Mohmand Nowshehra Peshawar Swabi Swat	Construction and Marble	The demand in construction sector has increased as a result of infrastructure related projects under CPEC, BRT and other housing projects in formal and informal sectors.	Mason	8,460	Contractor Association of KPK Association of Builders and Developers, Pakistan All Pakistan Contractors Association (APCA)	All TEVTA technical and vocational Institutions All private technical Institution
			Vertical Operator	8,418		
			Electrician	2,655		
			Plumber	1,292		
			Carpenter	1,080		
			Mixer Machine Operator	540		
Key potential	Construction projects related to CPEC and housing projects announced by the Government and private sector. Annual growth of 4.14%[4] in marble sector increased demand of skilled workers. Construction sector as second highest contributor to the GDP. Higher employment opportunities in overseas labour market.					
Key weakness/ Risk	Lack of linkage between employers and training providers Most of the training programmes being obsolete and lacking relevance to industry requirements					
NVQ Packages available	National Vocational Certificate in Mason Level 2-3 National Vocational Certificate Electrical Technology (Building Electrician)- Solar PV System Technician Level 1-4 National Vocational Certificate in Construction Technology (General Electrician) Level 2 National Vocational Certificate in Plumbing cum Solar Water Heating Technology Level 1-3 National Vocational Certificate in (Carpentry sector) Cabinet Maker Level 2-3 National Vocational Certificate in (Marble Sector) Marble Technician Level 2-4					

4 State Bank of Pakistan FY 2014-15

MATRIX 2: HOSPITALITY AND TOURISM SECTOR

Geographical area, cluster location	Sector/Sub-sector	Rationale	Trades/ Occupations	Employment Potential	Business Membership Organization	Training Institutions
Abbottabad Kurram Mansehra Peshawar Swat	Hospitality and Tourism	The hospitality and tourism sector is the third largest sector in terms of employment potential. It has a potential to contribute in the economic growth and improve the livelihood of the local community.	Chef	4,537	Khyber Pakhtunkhwa Chamber of Commerce, Peshawar KPK Women Chamber of Commerce Pakistan Hotel Association Travel Agent Association of Pakistan Frontier Hotels and Restaurant Association, Peshawar. Tourism Corporation Khyber Pakhtunkhwa (TCKP) Travel Agents Association of Pakistan Travel Agents Association of Peshawar	Pakistan Austrian Institute of Tourism and Hotel Management (PAITHOM) Swat, KPK. Haris Institute, Peshawar, KPK (Pvt). Skills Development Centre, Hospitality & Tourism Department (Batagram Haris institute of training Peshawar Cantt, PIA Center, Peshawar Cantt Pearl Continental Hotel, Peshawar Government College of Technology, Nowshera
			Cook	18,045		
			Restaurant Managers	12,888		
			Waiter	16,125		
			Receptionist	3,530		
			Plumber	454		
Key potential	Hospitality & tourism sector is growing rapidly in Khyber Pakhtunkhwa due to its natural landscape. Hospitality sector trades have high demand and are increasing with improvement of law and order situation in the province. Around two million tourists visited Khyber Pakhtunkhwa this year that created thousands of jobs for local community.					
Key weakness/ Risk	Lack of adequate number of training institutes offering hospitality sector trades Mismatch of skills imparted in training programmes					
NVQ Packages available	National Vocational Certificate Level 2 in Hospitality (Cook) National Vocational Certificate Level 3 in Hospitality (Chef de Partie) National Vocational Certificate Level 4 in Hospitality (Sous Chef) National Vocational Certificate Level 2 in Hospitality (Waiter) National Vocational Certificate Level 3 in Hospitality (Food and Beverage Captain)					

MATRIX 3: MANUFACTURING SECTOR

Geographical area, cluster location	Sector/Sub-sector	Rationale	Trades/ Occupations	Employment Potential	Business Membership Organization	Training Institutions
Charsada Haripur Kohat Mardan Nowshehra Peshawar Swabi Swat	Pharmaceuticals Cement Cotton & Textiles Ceramics Cigarette Matches Paper and paperboard Sugar Vegetable ghee Woolen	Manufacturing sector has recorded 17% contribution in provincial GDP and it is spread over different industries.	Machine Operator	24,453	Sarhad Chamber of Commerce and Industry, Peshawar Women Chamber of Commerce and Industry, Peshawar Tribal Chamber of Commerce and Industry, Peshawar Pakistan Pharmacists Association (PPA) Pharmacy Council of Pakistan Islamabad. Other relevant trade associations	All TVET institutions of the province.
			Industrial Electrician	9,416		
			Loom fixer/ Fitter	6,121		
			Shoemaker/ Leather Worker	2,396		
			Industrial Mechanic	2,007		
			Boiler Operator	1,710		
Key potential	Manufacturing sector in Khyber Pakhtunkhwa is growing at 2.3% of the provincial GDP. High demand in light engineering industries is anticipated due to onset of CPEC projects. Female participation can be increased in pharmaceutical sector.					
Key weakness/ Risk	Lack of adequate number of training institutes offering machine operator and boiler operator courses Mismatch of skills imparted in training programmes					
NVQ Packages available	National Vocational Certificate Industrial Electrician (IE) Level 1-3 National Vocational Certificate Level 2 in Footwear Manufacturing Technology (Shoe Laster) National Vocational Certificate in Mechanical Technology (Turner/Machinist/CNC/EDM) Level 2-4					

MATRIX 4: SERVICES SECTOR

Geographical area, cluster location	Sector/Sub-sector	Rationale	Trades/ Occupations	Employment Potential	Business Membership Organization	Training Institutions
All districts of Khyber Pakhtunkhwa	Automobile services Health Information Technology Mobile phone Personal Services Sales and Retail Transportation	Services sector is highly diversified and has a great potential for employment of skilled workers.	Mobile Repairing	4,134	Sarhad Chamber of Commerce and Industry, Peshawar Women Chamber of Commerce and Industry, Peshawar Tribal Chamber of Commerce and Industry, Peshawar Other relevant trade associations	Pakistan Gems & Jewelry Development Company, Peshawar All TEVTA institutes Private institutes
			Automobile Mechanic	3,981		
			Denting\ Painting	3,373		
			Steel Worker	2,626		
			Jewelry Maker	2,314		
			Welder	2,210		
Key potential	Annual growth of services sector is around 5.47 percent[5]. It has diversified industries and the demand for skilled workers is at growth trajectory.					
Key weakness/ Risk	Mismatch of skills imparted in training programmes. Insufficient number of training institutes for Jewelry Making training.					
NVQ Packages available	National Vocational Certificate in Mobile Repairing Level 1-4 National Vocational Certificate in Automobile Technology (Automobile Mechanic) Level 2-4 National Vocational Certificate Level 2 in (Gems and Jewelry Sector) - Fashion Jewelry Maker - (Beads and Wires) National Vocational Certificate level 2 in (Gems and Jewelry Sector) - Gemstone Carving/Faceting National Vocational Certificate level 3 in Gems and Jewelry Sector – Gemology National Vocational Certificate in Welding Level 2-4					

5 Economic Survey of Pakistan FY 2016-17

HIGHLY DEMANDED TRAINING PROGRAMMES

The comparison between supply and demand of different level of courses (Figure 8) indicates a clear mismatch in demand and supply of some of the training programmes currently being offered at various TVET institutes. For example, the demand for diploma level courses, which have duration of one to two years, is 27% but the supply is only 4%. The aggregate supply and demand of Certificate, Diploma of Associate Engineering (DAE) and Bachelors in Technology (B. Tech) level programmes are in line with the job market. Surprisingly, the demand for short courses is 24% in contrast to oversupply of 45%. This means the provincial labour market merits higher level of skills that cannot be acquired through short courses. This can also be seen from the breakdown for the sector and level-wise breakdown of skills demand shown in Figure 9.

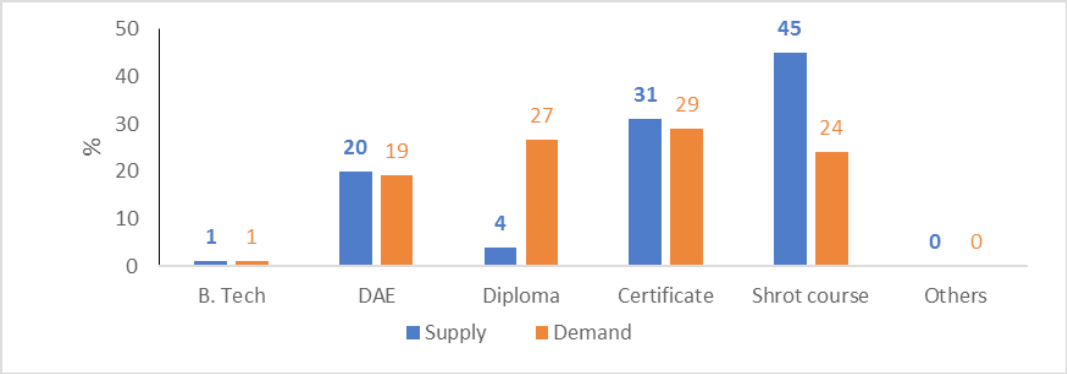


Figure 8: Level-wise skilled workforce supply & demand

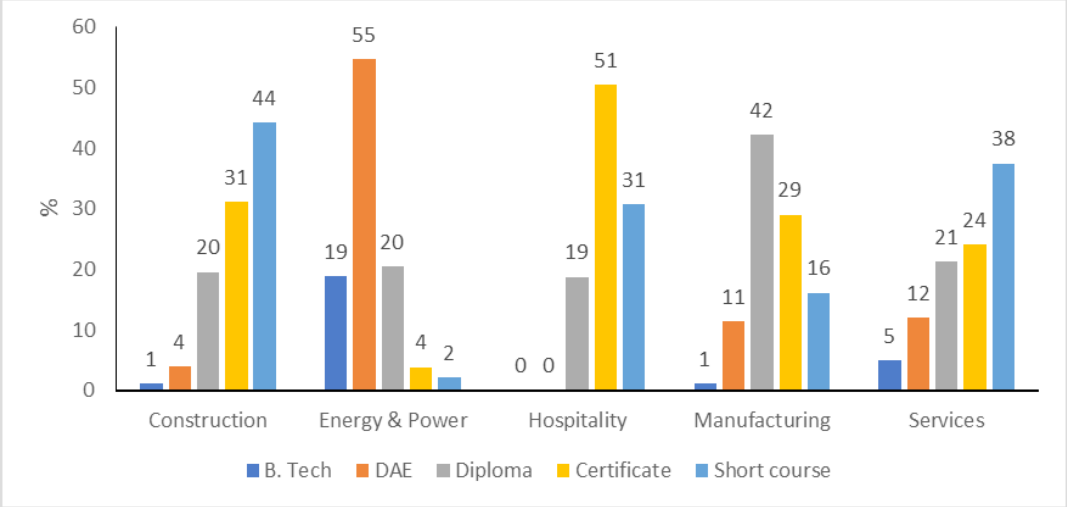


Figure 9: Sector & level-wise skilled workforce demand

HIGHLY DEMANDED OCCUPATIONS

The graph in Figure 10 shows ten highly demanded occupations in Khyber Pakhtunkhwa with their existing demand as per available data. The highly demanded trades in the province, include waiter, cook, machine operators, restaurant managers, mechanical technicians, masons, vertical machine operators, marble cutters, fitters and welders. These trades vary in terms of skills level and can be categorized into different levels, such as highly skilled, skilled and semi-skilled, based on the complexity of skill sets. Moreover, with inception of National Vocational Qualifications Framework (NVQF), a new hierarchy of levels (from 01 to 08) has been introduced for different trades that represents the complexity of skills. This new categorization would benefit the learners in further progression in their careers and would also create ease for the employers in identifying the workers with right skills set. To address the requirements of the employers, further analysis would be required in collaboration with industry experts to precisely define the skill sets required for each trade or occupation to design the demand driven skill development programmes.

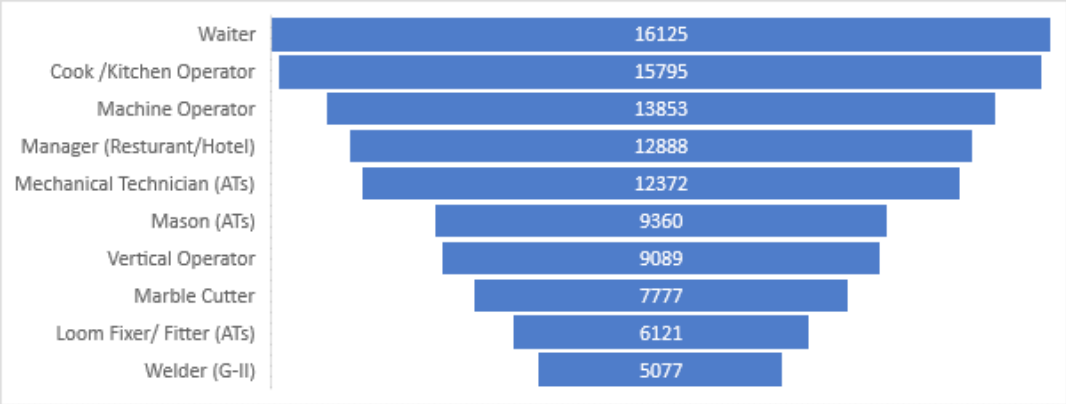


Figure 10: Highly demanded occupations in Khyber Pakhtunkhwa

Figure 11 identifies the top ten demand driven trades for women along with the number of jobs available. Since the agriculture sector has not been covered in the survey, the survey reports only the traditional female specific occupations for example; beautician, receptionist, fashion designing and cook. The low participation of female workers in the provincial labour market can be attributed to the smaller number of job opportunities available in the market and their participation in household economy.

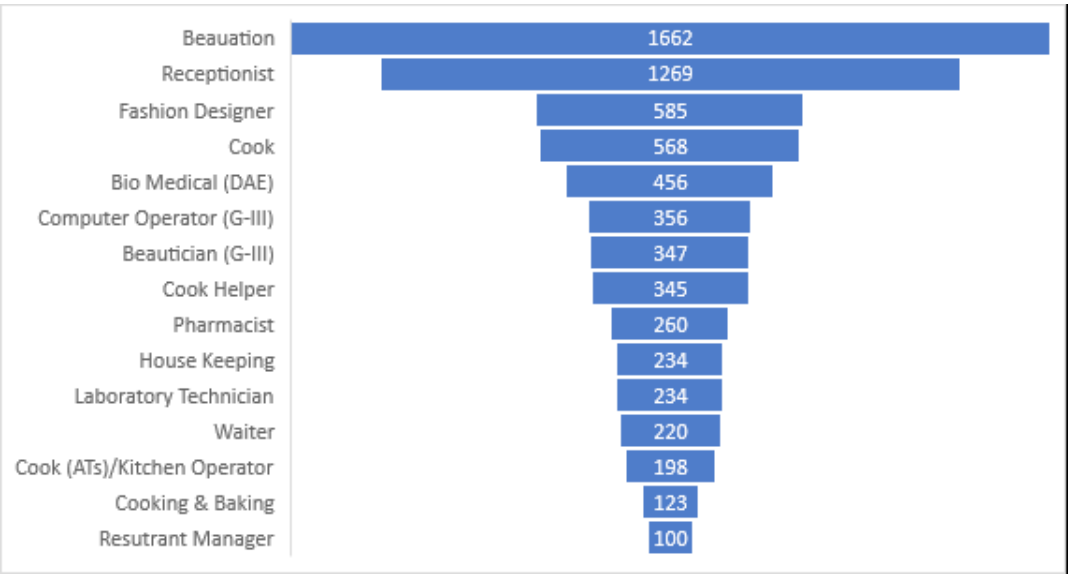


Figure 11: Highly demanded female occupations in Khyber Pakhtunkhwa

DISTRICT-WISE SKILLED WORKFORCE SUPPLY AND DEMAND

The district-wise assessment of the data (Figure 12) indicates that higher level of demand for skilled workforce exists in Peshawar, Swat, Swabi, Mansehra and Hariput where the average mismatch of supply and demand of skilled workforce varies between 10,000 to 30,000 jobs. However, lower demand of skilled workforce has been reported in D.I. Khan, Kohat, Karak and Lakki Marwat, mainly because of the reduced number of industrial units operating in these districts. To maintain steady economic growth, the government must ensure the adequate supply of skilled workforce with right skills sets for which wider consultation need to be made with all the stakeholders in the province. To increase the supply of skilled workforce, KPK TEVTA may consider exploring the possibility of introducing the apprenticeship system in demand driven trades.

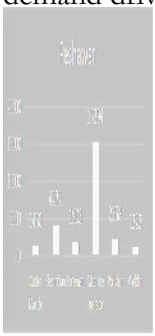
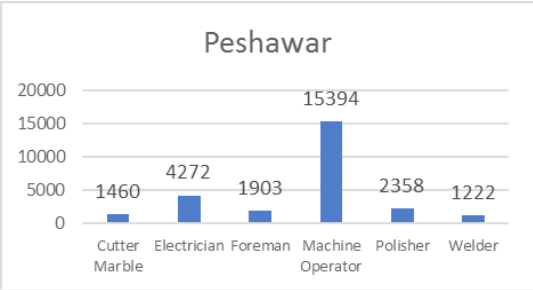
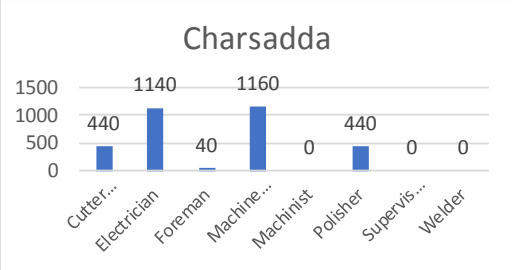


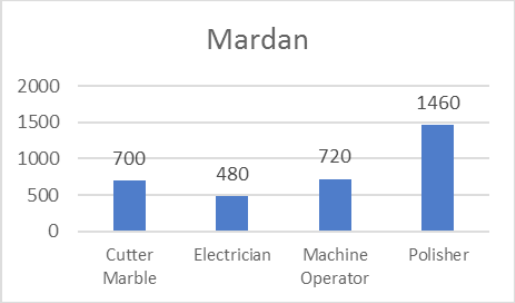
Figure 12: District-wise skilled workforce supply & demand

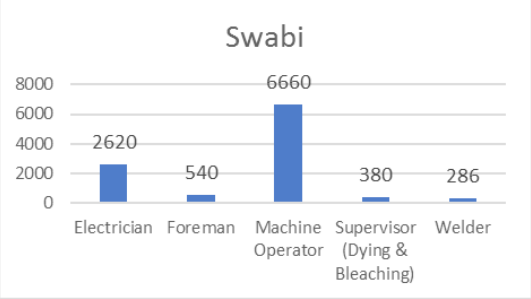
DISTRICT-WISE HIGHLY DEMANDED TRADES

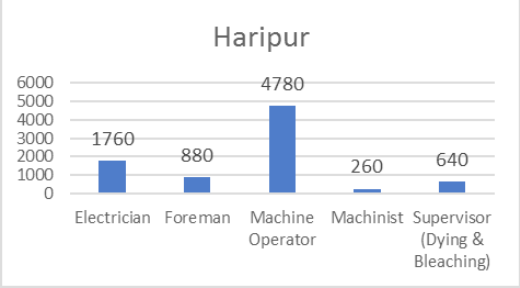
District-wise highly demanded trades are shown in the following graphs for Peshawar, Swabi, Haripur, Nowshera, Charsadda, Mardan, Swat and Mohmand areas of KPK.

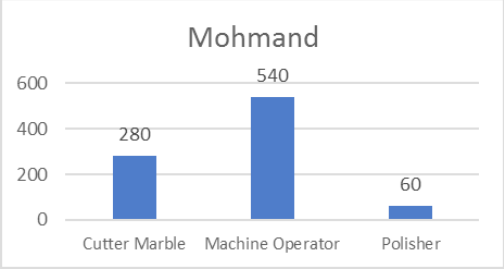


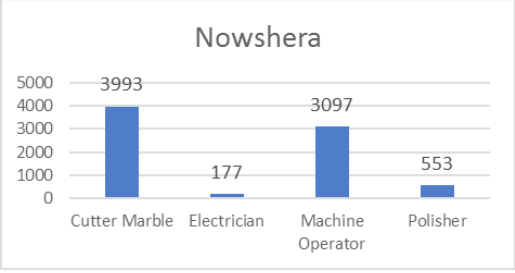


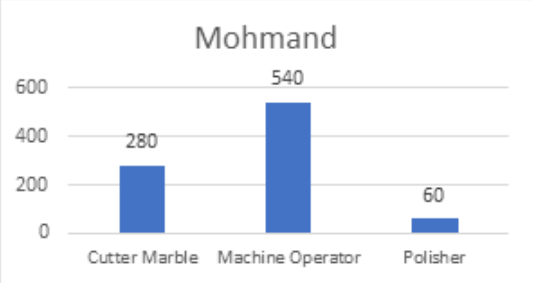












SUPPLY VS. DEMAND OF SKILLED WORKFORCE

The comparison between supply and demand of diploma and certificates level courses has been presented in the graph (Figure 13). The data indicates that the job market has over abundance of some of the courses. For example, the supply of DAE civil is 6,500 in response to the demand of only 3,000 jobs available in the labour market. Similarly, the supply of tailoring trade is 5,000 but the employment opportunities available in the job market are only 1,500. This shows a clear mismatch and over

saturation of workforce. The supply of DAE Electrical (3,900), Rural Poultry (3,400), Beautician (3,200), AutoCAD (2,900), Leather Work (2,700) and Basic Computer (2,400) is more than the available demand of 200 to 100 which means the existing skills development interventions are creating surplus skilled manpower.

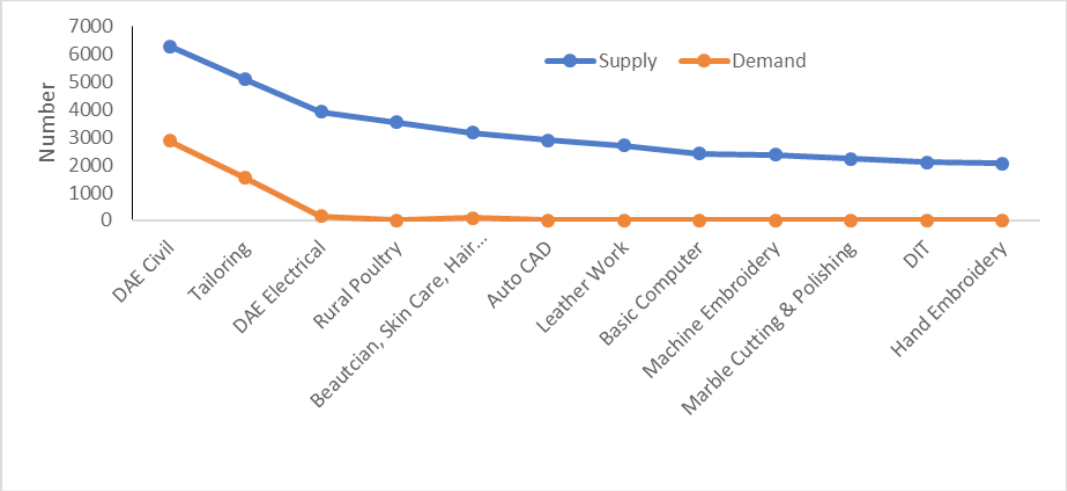


Figure 13: High Supply Vs. Low Demand

The graph in Figure 14 shows the gap between demand and supply in some trades based on the survey data. The supply of skilled workers for jobs like waiter, cook, machine operator, restaurant manager and mason is inadequate to meet the demand of 16,000, 15,700, 14,000 and 12,800, respectively. Similarly, the supply of mason, vertical machine operator, marble cutter, fitter and polisher to the labour market is far below the existing demand. This mismatch needs to be addressed at policy level by introducing training courses based on the job market demand. Moreover, awareness campaigns need to be launched at community level to encourage the potential TVET learners to get enrolled in the courses where demand is higher improving their chances of employability. Such awareness campaigns by the TVET institutes can impact on the grass root level while directly targeting towards the youth of the particular regions. Secondly, the mechanism of career guidance should also be strengthened with the capacity enhancement and provision of accurate, authentic and precise information about the job market.

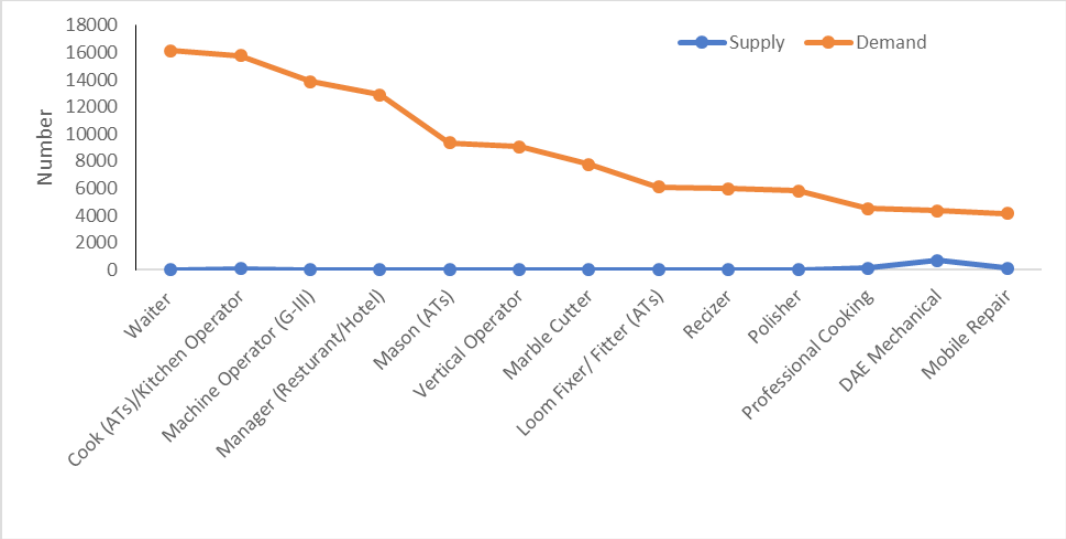


Figure 14: High Demand Vs. Low supply

OVERSEAS EMPLOYMENT TREND FROM KHYBER PAKHTUNKHWA

Khyber Pakhtunkhwa has the second largest share in Pakistan's overseas employment according to Bureau of Emigration & Overseas Employment (BE&OE). Since 2016, the country has witnessed a declining trend in overseas employment which has also affected Khyber Pakhtunkhwa as shown in the graph (Figure 15). This declining trend in immigration of skilled workers has mainly been observed in GCC countries. According to the policy analysts, this is due to the structural transformation of gulf economies, e.g., focusing more on manufacturing and services industry and relying less on oil. Furthermore, the slow-down of economic growth and 'Saudization' drive in Saudi Arabia are also contributing factors of diminishing numbers of immigrant workers to GCC countries.

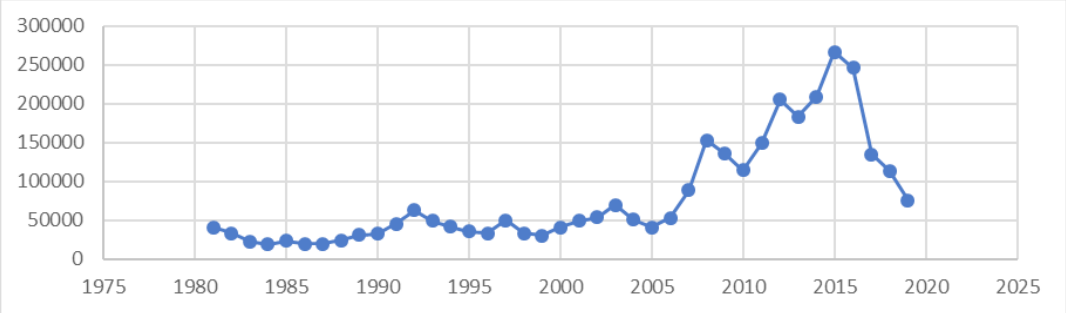


Figure 15: Trend of Overseas Employment from Khyber Pakhtunkhwa

DISTRICT-WISE OVERSEAS EMPLOYMENT

Trend of district-wise overseas employment from Khyber Pakhtunkhwa (Figure 16) shows that the highest numbers of skilled workers who prefer immigration for employment belong to Lower Dir, Swat, Mardan, Peshawar, Swabi, Kohat, Bannu and Abbottabad. The trend, on one hand, helps in understanding the shortage of skilled workforce in local labour market and, on the other, it explains the lowest share of existing workforce in the province trained in formal TVET sector.

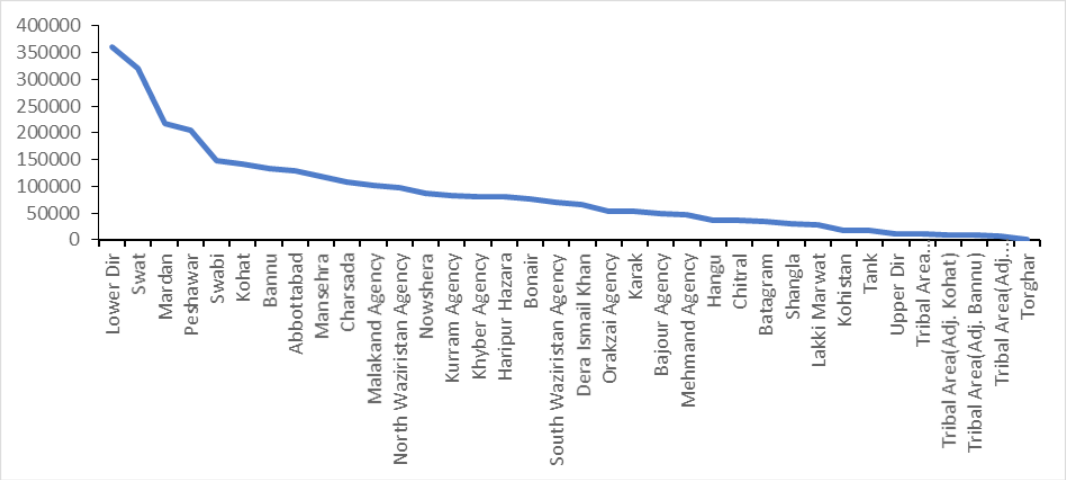


Figure 16: District-wise Overseas Employment from Khyber Pakhtunkhwa

Recommendations

1. The existing annual enrolment capacity of Khyber Pakhtunkhwa' TVET's sector is approximately 56,000 which is lower than the anticipated demand of 203,253 skilled workers. Major gaps in supply and demand of skilled workforce have been identified in manufacturing, construction and hospitality sectors. The supply side of the TVET can be enhanced through following interventions:
   a) Presently, 66% of the skilled workforce is being trained through non-formal/ work-based mechanism which can be formalized by introducing apprenticeship system.
   b) Many workers acquire skills through informal system by means of ustad-shagird system (self-acquired skills passed on from an experienced person to a novice) or through self-learning. Their skills can be assessed and certified using Recognition of Prior Learning (RPL) to make them part of formal TVET.
   c) Substantial employment potential is found in hospitality and marble sectors that is often tapped through informal systems. To make the best use of the same, there is a need to establish training institutions in the following districts:

Sectors	Districts in which training facilities need to be established	Trades to be offered
Hospitality	Peshawar, Mansehra, Swat, Abbottabad, Kurram	Professional Chef, Cook, Waiter, Restaurant Managers and Receptionists.
Marble	Peshawar, Mohmand, Charsada, Swat and Kohat	Vertical operator, Polisher and Resizer

2. Competency Based Training (CBT) courses for the following high-demand trades should be introduced to meet the requirement of the industry:
   i) Cook
   ii) Fitter
   iii) Machine operator
   iv) Marble cutter
   v) Mason
   vi) Marble Polisher
   vii) Restaurant manager
   viii) Vertical cutter
   ix) Vertical machine operator
   x) Waiter

3. Female participation in labour market should be improved. A start would be to offer them courses in demand driven trades other than those traditionally considered female oriented trades. In this regard, hospitality and IT sectors must be explored for skills development of women.
4. Career counselling services should be extended to school and college levels to encourage women to acquire vocational skills and become part of the job market. Moreover, employers should be encouraged to have more inclusive hiring policies and make the work environment more welcoming towards female recruits.
5. Traditional curricula must be phased out or consolidated with the CBT Qualifications designed in consultation with the employers and industry experts to bring academia more in line with the HR needs of the industry and to improve employability of the pass-outs.
6. Research sections in TEVTA and QAB (TTB and BTE) must be strengthened and linked with the NSIS to make their labour market information and findings available for relevant policy-making and planning. Also, the job placement centres must be activated and linked with the NSIS to ensure better chances of placement of the certificate holders.
7. An in-depth analysis of the gulf job market focusing on the future workforce demand must be conducted to orient development of skilled workforce accordingly. Moreover, new prospects for overseas employment should be explored, e.g., the European labour market etc, and relevant provisions for training and education may be created.
8. Entrepreneurial trainings should be incorporated in the TVET courses to encourage self-employment and job creation.
9. A smart mechanism for collecting feedback from the employers may be devised, where their feedback on matters, such as curricula contents, training and assessment methods, and employability of the trainees, could easily be given and accessed by stakeholders.

Table 1: Supply Demand Matrixx

Trade	Supply	Demand	Gaps
AC Technician	0	352	-352
Accounting & Book Keeping	0	117	-117
Aluminum & Steel Fabricator	70	90	-20
Auto Mechanic (Clutch plate)	0	26	-26
Auto (Head Mechanic)	0	130	-130
Auto (Radiator Mechanic)	0	208	-208
Auto (Silencer)	0	26	-26
Auto (Tyre Mechanic)	0	23	-23
Auto (Wheel Alignment Mechanic)	0	158	-158
Auto CAD	2904	0	2,904
Auto Denter helper	0	52	-52
Auto Decoration	0	338	-338
Auto Denter (ATs)	0	440	-440
Auto Denting & Painting	0	3607	-3,607
Auto Electrician & (G-II)	31	339	-308
Auto Helper	0	3181	-3,181
Auto Mechanic & (G-II)	2586	4313	-1727
B. Tech Chemical	0	1661	-1,661
B. Tech Civil	0	675	-675
B. Tech Construction and Highway	0	180	-180
B. Tech Electrical	0	2050	-2,050
B. Tech Electronics and Communication	0	57	-57
B. Tech Mechanical	0	425	-425
Bakery & Pastry	24	0	24
Basic Computer	2410	0	2,410
Battery repairing	0	28	-28
BBQ Chef	0	1845	-1,845
Beautician, Skin Care, Hair Styling and Cutting & (G-III)	3164	455	2,709
Blaster Machine	0	34	-34
Body Maker	0	104	-104
Body mechanic	0	208	-208
Boiler Mechanic (ATs)	0	1899	-1,899

Trade	Supply	Demand	Gaps
Boiler Operator (ATs)	0	389	-389
Building Electrician	22	486	-464
Building electrician-solar PV system	73	0	73
Bulldozer Operator	0	1125	-1,125
Capsule Filling Machine operator	0	313	-313
Carpenter & (G-II)	1300	3994	_2694
Caster (Jewelry) (ATs)	0	336	-336
Chapal Maker	0	468	-468
Chemical Technician	0	20	-20
Civil Drafting with Auto CAD	119	0	119
Civil Draftsman	50	0	50
Clinical Assistant	0	45	-45
Cloth Plats	0	52	-52
CNC Operator	138	0	138
CNG Mechanic	0	132	-132
Coating Machine	0	193	-193
Composing	0	104	-104
Compressor Mechanic (ATs)	0	60	-60
Computer and Electronics (G-III)	0	19	-19
Computer Application & Office Professional	277	0	277
Computer Hardware	0	910	-910
Computer Operator	530	20	510
Computer Operator (G-III)	0	956	-956
Computer Repair	0	182	-182
Cook (ATs)/Kitchen Operator, Cook Helper, Cooking & Baking	128	18045	-17,917
Corrugated Slitter Operator	0	134	-134
Crane Operator (ATs)	0	855	-855
Cutting, Sewing & Hand Embroidery	0	296	-296
DAE Auto & Diesel	41	443	-402
DAE Bio Medical	0	40	-40
DAE Chemical	87	0	87
DAE Civil	6302	2880	3,422
DAE Computer Hardware	41	0	41

Trade	Supply	Demand	Gaps
DAE Computer Software	0	494	-494
DAE Dress Designing & Making	31	380	-349
DAE Electrical	3919	157	3,762
DAE Electronics	262	0	262
DAE Mechanical	699	4352	-3,653
DAE Metallurgy & Welding	0	20	-20
DAE Mining	15	3143	-3,128
DAE Petroleum	317	0	317
DAE Printing & Graphic Arts	0	574	-574
DAE RAC	51	0	51
DAE Telecom	111	0	111
Decoration	0	90	-90
Dental Technician	38	254	-216
Design & Patternmaker (Shoe) (ATs)	0	712	-712
Designer Embroidery	0	361	-361
Die Cutter	0	167	-167
Die Fitter (ATs)	0	20	-20
DIT	2090	0	2,090
Domestic Tailoring (G-III)	0	40	-40
Draftsman Mechanical	25	0	25
Drawing & Designing	30	0	30
Dress Making & Fashion Designing	263	1225	-962
Drilling Machine Operator (ATs)	0	30	-30
Driving (H.T.V)	50	20	30
Driving (L.T.V)	50	135	-85
Dry Cleaner (ATs)	0	270	-270
Dumper Operator	0	810	-810
Dyer	0	3786	-3,786
Dying and Bleaching (G-II)	0	60	-60
Electric helper	0	52	-52
Electrical Supervisor	55	314	-259
Electrician, General, Domestic, Industrial, (G-II & G-III)	1136	6794	-5,658
Electronic	44	52	-8

Trade	Supply	Demand	Gaps
Electrical Home Appliances, UPS & Generator Repair	0	203	-203
Excavator Operator	0	1530	-1,530
Fabrication & Welding Technology	0	55	-55
Fashion Design & Dress Making/ Tailoring	1296	130	1,166
Financial Management	0	180	-180
Finishing Technology (G-II)	0	3530	-3,530
Firefighter (ATs)	0	240	-240
Fitter General (G-II)	0	338	-338
Food & Beverages Production	0	1133	-1,133
Foreman	0	3677	-3,677
Front Office / Receptionist	40	0	40
Front Office/ Restaurant Manager	25	0	25
Furniture Designer (ATs)	0	860	-860
Gemstones Cutting and Polishing	46	0	46
Gemstone Carving	38	0	38
General Electrician	418	0	418
General Mechanic, (G-III), Generator Mechanic x2	573	810	-273
Gliding sheet	0	26	-26
Graphic Designing & Computer Application	25	0	25
Hand & Machine Embroidery	235	160	75
Hand Embroidery	2062	0	2,062
Hand Looming	0	450	-450
Hard/Software Mobile	0	26	-26
Hardware & Network Technician (Networking)	50	0	50
Heavy Machinery (Dozier, Shawal, Grader etc.) Operator	398	0	398
Home Appliance Repair & Maintenance	93	0	93
House Keeping	0	2500	-2,500
HVCR	281	0	281
Industrial Electrician	1673	320	1353
Injection Molder (ATs)	0	530	-530
Jeweler	0	2314	-2,314
Kashigari	0	349	-349
Kharadi	0	1688	-1,688

Trade	Supply	Demand	Gaps
Kiln Operator (ATs)	0	60	-60
Laboratory Technician	19	270	-251
Lamination Operator	0	113	-113
Lather Machine Operator	0	39	-39
Leather Garments Pattern Maker	25	0	25
Leather Work	2716	0	2,716
Loader Operator	0	315	-315
Loom Fixer/ Fitter (ATs)	0	6121	-6,121
Machine Embroidery	2364	0	2,364
Machine Operator & (G-III)	0	15203	-15,203
Machine Shop (G-III)	0	220	-220
Machinist (G-II)	468	1183	-715
Cloth Making	0	104	-104
Manager (Restaurant/Hotel)	0	12888	-12,888
Marble Cutter	0	7777	-7,777
Marble Cutting & Polishing	2234	0	2,234
Marble Setter (ATs)	0	585	-585
Marketing & Sales	0	897	-897
Mason & Tile fixer, Plaster	237	0	237
Mason (ATs)	0	9360	-9,360
Material Technician	0	135	-135
Mechanic (Electrical Instrument) (ATs)	0	320	-320
Mechanic & Electrician	0	26	-26
Micro Hydal Project Machine Operator	50	0	50
Mill Wright (G-II)	0	73	-73
Mixer Machine Operator	0	990	-990
Mobile Hardware	0	234	-234
Mobile Repair	113	4134	-4,021
Motor Winding	50	37	13
Motorcycle Mechanic	25	312	-287
Office Automation	131	0	131
P.S.V (LTV)	47	0	47
Packing Operator	0	1458	-1,458
Painter	0	1300	-1,300

Trade	Supply	Demand	Gaps
Painter (G-III)	0	2420	-2,420
Parts maker	0	52	-52
Pharmacist	0	1127	-1,127
Pharmacy Assistant	21	0	21
Piko maker	0	52	-52
Plant Operator (ATs)	0	394	-394
Plastic Process Technician (ATs)	0	20	-20
Plumber & (G-II)	1817	4443	-2626
Plumbing cum solar water heating	198	0	198
Polisher	0	5812	-5,812
Post Matric	329	0	329
Press Operator (ATs)	0	220	-220
Product Designing & CAM Operator	45	0	45
Production Management	0	100	-100
Professional Chef	140	2692	-2,552
Professional Cooking	123	4519	-4,396
Programmable Logical Controller (PLC)	95	0	95
Quality Control	0	637	-637
Quantity Surveyor	76	810	-734
Receptionist	73	3530	-3,457
Resizer	0	5997	-5,997
Refrigeration & Air Conditioning	787	780	7
Rewinding	0	52	-52
Roller Operator	0	1980	-1,980
Rural Poultry	3544	0	3,544
Safety Officer	41	1180	-1,139
Security Guard	144	2330	-2,186
Sewing & Stitching	0	45	-45
Shoes making	0	2396	-2,396
Shuttering Carpenter / Scaffolding Operator	64	0	64
Solar, Wind & UPS System Assembly	402	0	402
Spider Fitter	0	52	-52

Trade	Supply	Demand	Gaps
Steel Fabricator	2	156	-154
Steel maker	0	52	-52
Steel Works	0	2626	-2,626
Stewards/ Stewardesses/ Waiters (ATs)	0	630	-630
Supervisor (Dying & Bleaching) (ATs)	0	4095	-4,095
Surveyor Civil	389	2875	-2,486
Sweeper	0	135	-135
Syrup Filling Operator	0	194	-194
Tailoring & (G-III)	5097	2028	3,069
Tailoring & Hand embroidery	582	0	582
Tailoring & Machine embroidery	44	0	44
Tailoring & Machine Knitting	31	0	31
Technician Coating Plant (ATs)	0	351	-351
Telephone Technician (ATs)	0	100	-100
Tim Smith	0	38	-38
Time Keeper (ATs)	0	39	-39
Tractor & Trolly Drivers (ATs)	0	495	-495
Tractor Driver & Mechanic	49	0	49
Turner & (G-III)	0	462	-462
Vertical Operator	0	9089	-9,089
Waiter	0	16125	-16,125
Weaving Machine Operator	0	195	-195
Welder & (G-II)	659	3345	-2,686
Winder (Spinning) (ATs)	0	79	-79
Wireman	0	691	-691
Wood Carving	50	0	50
Wood Work & (G-II)	46	2172	-2256
X-Ray Assistant	17	234	-217

TABLE 2: DISTRICT AND TRADE-WISE DEMAND

Trade	Abbottabad	Charsadda	D.I. Khan	Haripur	Karak	Kohat	Lakki Marwat	Mardan	Mohmand	Nowshera	Peshawar	Swabi	Swat	Grand Total
AC Technician	0	0	0	0	0	0	0	0	0	0	52	0	0	52
Accounting & Book Keeping	0	0	0	0	0	0	60	0	0	0	0	0	0	60
Auto Mechanic & (G-II)	0	0	640	0	0	0	0	320	0	106	3143	0	104	4313
Auto & Diesel (DAE)	0	0	40	0	0	0	0	0	0	76	106	0	0	222
Auto Decoration	0	0	0	0	0	0	0	0	0	0	338	0	0	338
Auto Electrician & (G-II)	0	0	80	0	0	0	0	0	0	0	260	0	0	340
Auto Mechanic Diesel	190	0	0	0	0	0	0	0	0	0	312	0	0	502
Battery	0	0	0	0	0	0	0	0	0	0	0	0	26	26
Beautician	0	0	0	0	0	0	0	0	0	0	95	0	0	95
Bio Medical (DAE)	0	0	0	40	0	0	0	0	0	0	0	0	0	40
Blaster Machine	0	0	0	0	0	0	0	0	0	0	0	0	40	40
Body Maker	0	0	0	0	0	0	0	0	0	0	0	0	104	104
Body mechanic	0	0	0	0	0	0	0	0	0	0	208	0	0	208
Boiler Mechanic (ATs)	20	0	0	1120	0	0	0	0	0	0	679	80	0	1899
Boiler Operator (ATs)	0	0	0	0	0	0	0	0	0	0	157	180	0	337
Book Keeping	0	0	0	40	0	0	0	0	0	0	17	0	0	57
Bowmaker	0	0	0	0	0	0	0	0	0	0	52	0	0	52
Bottou maker	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Bottou, Fivish maker	0	0	0	0	0	0	0	0	0	0	78	0	0	78
Bottou,Fivish Solepu	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Bottou,fivish,Solepa maker	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Bottou,fivish,Stiticher	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Bottou,Solepu	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Box Maker	0	0	0	0	0	0	0	0	0	78	0	0	0	78
Building Electrician	0	0	0	0	0	0	0	0	0	0	200	0	0	200
Capsule Filling Machine	0	0	0	0	0	0	0	0	0	94	199	0	20	313
Carpenter & (G-II)	40	100	300	220	0	0	0	120	0	0	2675	464	20	3939
Caster (Jewelry) (ATs)	0	0	0	0	0	0	0	0	0	0	336	0	0	336
Chapal Maker	0	0	0	0	0	0	0	0	0	0	0	0	60	60
Chemical (B. Tech Pass)	0	0	0	0	0	0	20	0	0	0	201	1420	20	1661
Chemical Maker	0	0	0	0	0	0	0	0	0	20	0	0	0	20
Cloth Plats	0	0	0	0	0	0	0	0	0	0	52	0	0	52

Trade	Abbottabad	Charsadda	D.I. Khan	Haripur	Karak	Kohat	Lakki Marwat	Mardan	Mohmand	Nowshera	Peshawar	Swabi	Swat	Grand Total
Clutch plate mechanic	0	0	0	0	0	0	0	0	0	0	26	0	0	26
CNG Mechanic	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Coating Machine	0	0	0	0	0	0	0	0	0	34	39	80	40	193
Composing	0	0	0	0	0	0	0	0	0	0	104	0	0	104
Compressor Mechanic (ATs)	0	0	0	0	0	0	0	0	0	0	0	0	60	60
Computer and Electronics (G-III)	0	0	0	0	0	0	0	0	0	0	19	0	0	19
Computer Operator (G-III)	0	0	0	0	0	0	0	0	0	0	76	0	80	156
Computer Repair	45	0	0	0	0	0	0	0	0	0	52	130	0	227
Construction and Highway (B. Tech Pass)	0	0	0	0	0	0	0	0	0	0	0	180	0	180
Control Room Operator (ATs)	0	0	0	0	0	0	0	0	0	0	20	0	0	20
Cook	155	0	0	0	0	0	0	0	0	0	0	0	0	155
Cook (ATs)/Kitchen Operator	34	0	0	0	0	0	0	0	0	0	195	0	0	229
Corrugated Slotter Operator	0	0	0	0	0	0	0	0	0	0	34	0	0	34
Crane Operator (ATs)	0	0	0	0	0	0	0	0	0	160	0	0	0	160
Cutter Marble	220	440	0	200	0	140	0	700	280	3993	1460	20	324	7777
Cutting Cloth	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Cutting, Sewing & Hand Embroidery	40	0	0	0	0	0	0	0	0	0	90	140	0	270
Danter	0	0	0	0	0	0	0	0	0	0	130	0	0	130
Denter helper	0	0	0	0	0	0	0	0	0	0	52	0	0	52
Denting & Painting	0	0	40	0	0	104	0	220	0	123	5512	0	156	6155
Décor	0	0	0	0	0	0	0	0	0	0	52	0	0	52
Dental Surgery Assistant	0	0	0	0	0	0	0	0	0	0	54	0	0	54
Denter (ATs)	0	0	80	0	0	0	0	0	0	0	360	0	0	440
Design & Patternmaker (Shoe) (ATs)	0	40	0	0	0	0	0	0	0	0	574	0	20	634
Designer Embroidery	0	0	0	0	0	0	0	0	0	0	201	0	160	361
Designing	0	0	0	0	0	0	0	0	0	0	78	0	0	78
Die Cutter	0	0	0	0	0	0	0	20	0	71	36	0	40	167
Die Fitter (ATs)	0	0	0	0	0	0	0	0	0	0	0	0	20	20
Domestic Tailoring (G-III)	0	0	0	0	0	0	0	0	0	0	0	40	0	40
Doormaker	0	0	0	0	0	0	0	0	0	0	130	0	0	130
Dress Designing & Making (DAE)	0	0	0	0	0	0	0	380	0	0	0	0	0	380
Dress Making & Fashion Designing	0	0	0	0	0	0	0	1000	0	0	225	0	0	1225
Drilling Machine Operator (ATs)	0	0	0	0	0	0	0	0	0	0	30	0	0	30
Driving	0	0	0	20	0	0	0	0	0	0	0	0	0	20

Trade	Abbottabad	Charsadda	D.I. Khan	Haripur	Karak	Kohat	Lakki Marwat	Mardan	Mohmand	Nowshera	Peshawar	Swabi	Swat	Grand Total
Dyer	0	1620	0	0	0	0	0	0	0	0	1328	0	743	3691
Dying and Bleaching (G-II)	0	0	0	0	0	0	0	0	0	0	0	0	60	60
Electrician, (G-II) & (G-III)	80	1140	40	1760	0	118	60	480	0	177	6813	0	460	11128
Electric helper	0	0	0	0	0	0	0	0	0	0	52	0	0	52
Electrical	0	0	0	0	0	78	0	0	0	0	78	0	0	156
Electrical (B. Tech Pass)	0	0	0	1000	0	0	0	0	0	0	750	300	0	2050
Electrical (DAE)	0	0	0	0	0	0	0	0	0	57	0	0	0	57
Electrical Technician (ATs)	0	0	120	0	0	0	0	0	0	0	38	0	0	158
Electronic	0	0	0	0	0	0	0	0	0	0	52	0	0	52
Electronics and Communication (B.Tech Hons.)	0	0	0	0	0	0	0	0	0	0	17	0	0	17
Electrical Home Appliances, UPS & Generator Repair	0	0	0	20	0	0	0	0	0	0	17	0	0	37
Engine Cleaner	0	0	0	0	0	0	0	0	0	0	78	0	0	78
Engine Cluths	0	0	0	0	0	0	0	0	0	0	78	0	0	78
Fabrication & Welding Technology	0	0	0	40	0	0	0	0	0	0	15	0	0	55
Fashion Designer	0	0	0	0	0	0	0	0	0	0	85	0	0	85
Finishing Man	0	1840	0	0	0	0	0	460	0	0	1210	0	0	3510
Finishing Technology (G-II)	0	0	0	0	0	0	0	0	0	0	20	0	0	20
Firefighter (ATs)	0	0	0	0	0	0	0	0	0	0	0	140	0	140
Fitter General (G-II)	0	0	0	0	0	120	0	0	0	100	118	0	0	338
Food & Beverages Production	0	0	0	620	0	0	0	0	0	0	513	0	0	1133
Foreman	80	40	0	880	0	60	0	20	0	34	1903	540	120	3677
Furniture	0	0	0	0	0	0	0	0	0	0	208	0	52	260
Furniture Designer (ATs)	0	0	0	0	0	0	0	560	0	0	40	0	0	600
Generator	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Glandered Mechanic	0	0	0	0	0	0	0	0	0	95	0	0	40	135
Gliding sheet	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Hand & Machine Embroidery	0	0	0	160	0	0	0	0	0	0	0	0	0	160
Hand Lemming	0	0	0	0	0	0	0	0	0	0	0	0	450	450
Hard/Software Mobile	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Hardware	0	0	0	0	78	0	0	0	0	0	650	0	52	780
Hardware & Software mechanic	0	0	0	0	0	0	0	0	0	0	130	0	0	130
Hardware Mobile	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Head Mechanic	0	0	0	0	0	0	0	0	0	0	130	0	0	130
Helper	60	40	0	2080	0	0	0	80	0	0	6457	4360	104	13181

Trade	Abbottabad	Charsadda	D.I. Khan	Haripur	Karak	Kohat	Lakki Marwat	Mardan	Mohmand	Nowshera	Peshawar	Swabi	Swat	Grand Total
Industrial Electrician	0	0	0	0	0	0	0	0	0	0	20	0	0	20
Injection Molder (ATs)	0	0	0	20	0	0	0	0	0	0	510	0	0	530
Jeweler	0	0	0	0	0	0	0	0	0	0	2314	0	0	2314
Kashigari	0	300	0	0	0	0	0	0	0	0	30	0	19	349
Kharadi	0	0	0	200	0	0	0	700	0	0	658	0	130	1688
Kiln Operator (ATs)	0	0	0	0	0	0	0	0	0	0	60	0	0	60
Laboratory Technician	34	0	0	40	0	0	0	0	0	0	30	0	0	104
Lamination Operator	0	0	0	0	0	0	0	0	0	0	113	0	0	113
Lather Machine Operator	0	0	0	0	0	0	0	0	0	0	39	0	0	39
Loom Fixer/ Fitter (ATs)	0	2680	0	0	0	0	0	0	0	57	2984	0	400	6121
Machine Man (ATs)	0	0	240	0	0	0	0	0	0	0	934	0	0	1174
Machine Operator & (G-III)	300	1160	0	4780	0	0	60	720	540	3097	15570	6660	1142	34029
Machine Shop (G-III)	0	0	0	0	0	0	0	40	40	0	20	120	0	220
Machinist (G-II)	100	0	60	20	0	0	0	0	0	0	135	0	100	415
Maker	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Cloth Making	0	0	0	0	0	0	0	0	0	0	78	0	0	78
Man Fivish bottou,upper	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Manager	40	0	0	160	0	0	0	0	0	0	835	20	0	1055
Marketing & Sales	0	0	0	0	0	0	0	0	0	0	897	0	0	897
Mechanic	0	0	0	400	52	598	0	1060	0	0	8828	472	858	12268
Mechanic (Electrical Instrument) (ATs)	0	0	0	0	0	0	0	0	0	260	20	0	40	320
Mechanic & Electrician	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Mechanical (B.Tech Pass)	20	0	40	380	0	0	40	40	0	0	1112	2720	0	4352
Mechanical (DAE)	0	0	60	0	0	0	0	0	0	186	179	0	0	425
Mechanical Technician (ATs)	0	0	40	0	0	0	0	0	0	38	78	0	0	156
Mechanist (G-II)	140	0	0	240	0	0	0	0	0	0	260	0	0	640
Metallurgy & Welding (DAE)	0	0	0	0	0	0	0	0	0	0	20	0	0	20
Mill Wright (G-II)	0	0	0	20	0	0	0	0	0	0	53	0	0	73
Mobile Hardware	0	0	0	0	0	0	0	0	0	0	208	0	0	208
Mobile Repair	0	0	0	0	0	182	0	0	0	0	3458	0	494	4134
Motor Winding (G-II)	0	0	0	20	0	0	0	0	0	0	17	0	0	37
Motorcycle Mechanic	0	0	0	0	0	0	0	0	0	0	312	0	0	312
Packing Operator	0	0	0	0	0	0	0	0	0	60	1398	0	0	1458
Painter & (G-III)	20	0	160	0	0	26	0	280	0	211	2161	500	156	3514

Trade	Abbottabad	Charsadda	D.I. Khan	Haripur	Karak	Kohat	Lakki Marwat	Mardan	Mohmand	Nowshera	Peshawar	Swabi	Swat	Grand Total
Painting Khirad	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Parts maker	0	0	0	0	0	0	0	0	0	0	52	0	0	52
Pharmacist	0	0	0	300	0	0	0	0	0	60	687	40	40	1127
Piko maker	0	0	0	0	0	0	0	0	0	0	52	0	0	52
Plant Operator (ATs)	0	0	0	80	0	0	0	0	0	0	314	0	0	394
Plastic Process Technician (ATs)	0	0	0	0	0	0	0	0	0	0	20	0	0	20
Plumber & (G-II)	0	0	0	60	0	60	0	20	0	0	320	0	20	480
Polisher	420	440	160	220	0	40	0	1460	60	553	2358	40	61	5812
Press Operator (ATs)	0	0	0	0	0	0	0	0	0	0	20	200	0	220
Printer Repair	0	0	0	0	0	0	0	0	0	0	52	0	0	52
Printing & Graphic Arts (DAE)	0	0	0	20	0	0	0	0	0	0	174	380	0	574
Production Management	0	0	0	40	0	0	0	0	0	0	60	0	0	100
Quality Control	20	20	0	140	0	0	0	0	0	0	457	0	0	637
Radiator Mechanic	0	0	0	0	0	0	0	0	0	0	52	0	0	52
Receptionist (ATs)/Hotel Associate	20	0	0	0	0	0	0	0	0	0	15	0	0	35
Resizer	0	540	0	0	0	100	0	0	480	3079	1503	20	275	5997
Radiator	0	0	0	0	0	0	0	0	0	0	52	0	26	78
radiator Mechanic	0	0	0	0	0	0	0	0	0	0	78	0	0	78
RAC	0	0	0	0	0	0	0	0	0	0	390	0	0	390
Repairing	0	0	0	0	0	0	0	0	0	0	390	0	0	390
Rewinding	0	0	0	0	0	0	0	0	0	0	52	0	0	52
Safety Officer	0	80	0	0	0	0	0	0	0	0	0	1100	0	1180
Shoe-making	0	1320	0	0	0	0	0	440	0	0	636	0	0	2396
Silencer Workman	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Software Engineer	0	0	0	0	0	0	0	0	0	0	494	0	0	494
Spider fitter	0	0	0	0	0	0	0	0	0	0	52	0	0	52
Steel Fabricator	0	0	0	0	104	0	0	0	0	0	52	0	0	156
Steel maker	0	0	0	0	0	0	0	0	0	0	52	0	0	52
Steel Works	0	0	0	0	988	0	0	0	0	0	624	0	1014	2626
Supervisor (Dying & Bleaching) (ATs)	100	0	0	640	0	0	0	0	0	0	859	380	0	1979
Surveyor	0	0	0	0	0	0	0	0	0	40	0	0	0	40
Syrup Filling Operator	0	0	0	0	0	0	0	0	0	15	179	0	0	194
Tailor & (G-III)	0	0	0	0	0	0	0	60	0	0	1708	260	0	2028
Taktakay Operator	0	0	0	0	0	0	0	0	0	0	0	0	40	40

Trade	Abbottabad	Charsadda	D.I. Khan	Haripur	Karak	Kohat	Lakki Marwat	Mardan	Mohmand	Nowshera	Peshawar	Swabi	Swat	Grand Total
Technician Coating Plant (ATs)	0	0	0	260	0	0	0	0	0	0	91	0	0	351
Telephone Technician (ATs)	0	0	0	0	0	0	100	0	0	0	0	0	0	100
Tim Smith	0	0	0	0	0	0	0	0	0	0	38	0	0	38
Time Keeper (ATs)	0	0	0	0	0	20	0	0	0	0	19	0	0	39
Trunk House	0	0	0	0	0	0	0	0	0	0	78	0	130	208
Turner	24	0	0	0	0	208	0	0	0	0	194	60	0	486
Tyre Mechanic	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Vertical Operator	0	1740	0	0	0	0	0	0	1300	2340	3456	0	253	9089
Wafer	0	0	0	0	0	0	0	0	0	0	30	0	0	30
Weaving Machine Operator	0	0	0	0	0	0	0	0	0	0	45	120	0	165
Wheel-Alignment	0	0	0	0	0	0	0	0	0	0	26	0	0	26
Welder & (G-II)	166	0	0	1640	416	130	0	440	0	780	2659	1126	156	7513
Wheel Alignment Mechanic	0	0	0	0	0	0	0	80	0	0	0	0	0	80
Wheel aliment	0	0	0	0	0	0	0	0	0	0	52	0	0	52
Winder (Spinning) (ATs)	0	0	0	0	0	0	0	0	0	0	19	60	0	79
Wireman	0	0	120	0	0	0	0	0	0	55	516	0	0	691
Wood Work & (G-II)	89	0	0	20	0	0	0	40	0	0	89	0	312	550
Worker	0	0	0	60	0	0	0	1300	0	0	296	0	0	1656
Grand Total	**2457**	**13540**	**2220**	**17960**	**1638**	**1984**	**340**	**11040**	**2700**	**16049**	**102624**	**22352**	**9041**	**203945**