Sector Study on

Demand Driven Competency Based Training in Potential Sectors of

of

Khyber Pakhtunkhwa

Implemented by

Published by
Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH

Registered offices
Bonn and Eschborn, Germany

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March, 2017

This document has been produced by the TVET Reform Support Programme, which is funded by the European Union and the Federal Republic of Germany. 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 the National Vocational and Technical Training Commission (NAVTTC) as well as provincial Technical Education and Vocational Training Authorities (TEVTAs) and private sector organizations. The analysis, results and recommendations of this study represent the opinion of the authors and does not necessarily reflect the position of GIZ.

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Table of Contents

Glossary of Acronyms

BIA	Business and Industry Association
CPEC	China Pakistan Economic Corridor
ERKF	Economic Revitalization of Khyber Pakhtunkhwa and FATA
FATA	Federal Administered Tribal Area
GDP	Gross Domestic Product
KP	Khyber Pakhtunkhwa
KPBOIT	Khyber Pakhtunkhwa Board of Investment and Trade
KPEZDMC	Khyber Pakhtunkhwa Economic Zones Development and Management Company
KPTC	Khyber Pakhtunkhwa Tourism Corporation
LFS	Labour force Survey
MDG	Millennium Development Goals
NVQF	National Vocational Qualifications Framework
PEDO	Pakhtunkhwa Energy Development Organization
PVT	Private Limited Company
RSP	Rural Support Programme
SMEDA	Small and Medium Enterprises Development Authority
TEVTA	Technical Education and Vocational Training Authority
TRSP	TVET Reform Support Programme
TTC	Technical Training Center
TVET	Technical and Vocational Education and Training

Executive Summary

The economy of Khyber Pakhtunkhwa (KP) is the 3rd largest in the country. KP's share of Pakistan's total GDP has historically comprised of 10.5%, although the province accounts for 11.9% of Pakistan's total population, rendering it the second dis advantageous province after Balochistan.

The province has huge potential of economic growth in areas such as agriculture, livestock, fisheries, tourism, energy, hydel power, oil and gas, and mines and minerals

The recognized hydel capability of KP is 25,000 MW. KP is delivering 57.8% of dimensional stone and 27% of its aggregate territory is secured by forests. The major agricultural products of the region are; wheat, maize, tobacco, gram, millet, barley, rice, sugarcane, sugar beet, fruits and vegetables. Approximately, 2.56 million workforce of KP is involved in domestic trade, business, industry and agribusiness segments, which constitutes 15 % of the aggregate populace of the region (SMEDA, 2010). In 2014, 8.8 million of local travellers visited to KP, major tourism center points of the area includes Narran, Kaghan, Galiyat, Chitral, district Swat and Abbottabad.

The national level labour force participation is 45.2%, however, the participation level in KP is low and was reported to be 36.3% in 2014-15. The unemployment rate of the nation dropped from 6.0 to 5.9 in fiscal year of 2013-2014, while the unemployment rate in KP also dropped from 0.54 million to 0.51 million in the same year. The most recent Labour Force Survey (LFS) indicates a notable unemployment rate of 7.72% for KP when contrasted with the national level 5.9%. These circumstances are further intensified by the low literacy rate of 53.94% in KP when compared with 61.75%, 62.98% and 55.54 % of Panjab, Sindh and Balochistan respectively. The family size of 7.03 in KP is higher than other regions of Pakistan.

This study has analysed the possible TVET skills gap in the top performing sectors/sub sectors of KP. After reviewing all the policy documents, a preliminary list of growth drivers was extracted for possible shortlisting into four sectors. Two step methodology was adopted to select the growth sectors. In the first step, eight sectors were selected based on;

- High growth contribution,
- Higher employability,
- Chambers and association membership, and
- Available training facility.

In the second phase, around 50 meetings and field visits were undertaken involving related government entities, stakeholders, researchers and employer organizations to shortlist the potential economic sectors. The shortlisted sectors/subsector with high potential for skilled workers includes:

- Construction
- Tourism & Hospitality
- Manufacturing (Pharmaceuticals & Light engineering)
- Energy (Micro Hydel & Solar)

The study has identified important sectors and sub sectors which are significant drivers of the economic growth and shows high level of employability opportunities. The training facilities for market demanded TVET skills are also identified. The study also recognized essential TVET skills which existed in the market and the skills which are scarce but highly in-demand. The training facilities for many market oriented TVET occupations or trades are not available in KP. The delivery of TVET qualifications required by the potential sectors is not available either in public and private TVET sector. It was noted that pharmaceuticals, tourism and hospitality sectors have some potential for skilled workers with TVET qualification of level 6 and above of the NVQF and there is hardly any institute to provide trainings at level 5 of the NVQF. Furthermore, the role of chambers and association as a coordinating body is also not fully covered within the functions of these respective chambers and sector associations, which increases the challenges for involvement of business sector in producing skilled workers according to the needs of the market. However, women chamber has some training facilities established to train the women folks in various vocational trades. The quality of trainings, way of deliver and the comprehensiveness of the curricula is also a constraint to meet the expectations of the employer.

The key economic sectors and subsectors of KP identified in this report are in accordance with the government strategic policies and priorities of the next phase of the TVET RSP. Pending official choice, the following sectors/sub sectors are prescribed to be incorporated into the interventions to be supported by the Programme.

Sector/Subsector	Growth Centers	No. of Potential Jobs
Tourism & Hospitality	1. SWAT / Malam Jabba/Madyan 2. Madain/Behrain/Kalam/Ushu 3. Dir/Kumrat 4. Chitral 5. Kaghan/Naran/Shinkiari/Galyat	4,053
Construction Sector	1. All Projects of Annual Development Programs, KP.	27,724
Manufacturing (Pharmaceuticals, Light Engineering & manufacturing)	1. Industrial Estate Hayatabad 2. Industrial Estate Gadoon, Sawabi 3. Small Industrial Zone Kohat Road	60,258
Energy (Micro Hydel & Solar Energy)	1. Urban Areas of KP 2. Northern KP 3. Chitral & Kohistan 4. SWAT	4,120

The following trade associations and chambers are briefed about TVET RSP and the mentioned organizations have agreed to participate in the next phase of TVET RSP.

Sectors/Sub Sectors	Chamber/Associations	Training Establishment
Tourism & Hospitality	1. Khyber Pakhtunkhwa Chamber of Commerce, Peshawar 2. KP Women Chamber of Commerce 3. Pakistan Hotel Association 4. Travel Agent Association of Pakistan 5. Frontier Hotels and Restaurant Association, Peshawar 6. Tourism Corporation Khyber Pakhtunkhwa (TCKP) 7. Travel Agents Association of Pakistan 8. Travel Agents Association of Peshawar	1. Pakistan Austrian Institute of Tourism and Hotel Management (PAITHOM) Swat, KP 2. Haris Institute, Peshawar, KP (Pvt) 3. Modern Institute of Informatics and Management, Islamabad (Pvt) 4. Skills Development Centre, Hospitality & Tourism Department (Batagram)

Sectors/Sub Sectors	Chamber/Associations	Training Establishment
		5. Haris institute of training Peshawar Cantt, PIA Center, Peshawar Cantt 6. PC Peshawar 7. GCT Nowshera
Construction Sector	1. Contractor Association of KP 2. Association of builders and developers, Pakistan 3. All Pakistan Contractors Association (APCA)	1. All TEVTA technical and vocational Institutions 2. All private technical Institution
Manufacturing (Pharmaceuticals, Light Engineering & manufacturing)	1. Pakistan Pharmacists Association (PPA), http://ppapak.org.pk/index.php 2. Pharmacy Council of Pakistan Islamabad, http://www.pharmacycouncil.org.pk/	1. Different departments of KP's Universities
	1. Hunting and Shooting Sports Association. Kohat Road. Peshawar 2. Hunting and Sports arms manufacturers Association, Kohat Road, Peshawar	1. All TEVTA Institutes 2. Pakistan Hunting and Shooting Sports Company, Peshawar 3. Pakistan Hunting Sports school, Kohat Road
Energy (Micro Hydel & Solar Energy)	Pakistan Solar Association Address: 09-Egerton Road, Lahore, Pakistan	1. GTC, Peshawar 2. TEVTA institutions 3. TTC institutions 4. GATTC Hayatabad for Solar
	1. Renewable & Alternative Energy Association of Pakistan 2. KPBOI	1. TEVTA Institutions 2. GCT Swat for Micro Hydel

Way forward

To meet the expectations of a job market, the role of employers, government, chambers and donors is very essential. All the stakeholders need to develop a framework which will share imperative information regarding TVET skills demanded and routing from the job market to the training facility. The stakeholders further suggested that the role of trade association and chambers in the delivery of TVET is important because they are in a better position to coordinate and share information regarding the demands of the job market. The soft skills are mostly missing in the trades like construction, heavy and light engineering; these should be the complementary part of every trade. Furthermore, it was also suggested that the knowledge about norms, culture, work behaviour, co-workers' rights, knowledge about consumer rights and harassment also be a part of the future TVET programmes.

Recommendation KP Chamber of Commerce and Industry/ Women Chamber of Commerce and Industry

The president of KP Chamber of Commerce and Industry (KPCCI) Haji Afzal and executive member of Women Chamber of Commerce and Industry (WCCI) Ms. Fitrat Ilyas Bilour shared their willingness to coordinate and interact with the Programme. The recommendations by both chambers are as follows:

- The chambers should be involved for delivery of vocational training and particularly on the job training.

- Existing skilled workers should be re-trained with additional modules for soft skills such as communications, culture and work norms.
- Training facilities, owned by the WCCI, can be utilized for delivery of women-specific TVET courses by the Programme.

Recommendation of the Business & Industry Associations (BIAs)

- A permanent liaison needs to be set up to follow-up with selected associations regarding TVET RSP interventions.
- The associations in light engineering and Pharma industry have shown a keen interest to cooperate with the Programme; hence follow-up with these organizations is suggested.

Introduction

Scope of the Assignment

The first five-year phase of the TVET sector reform in Pakistan has ended in December, 2016. During the last five years, a number of milestones have been achieved as far as overhauling the existing TVET system is concerned.

The second five-year phase of the TVET Reform Support Programme (TRSP), which has started in January, 2017, is developed on the groundwork, policies and accomplishment of the first phase taking the reform to the next development stage, provide wider access to adequate vocational training and aiming at higher involvement of chambers, trade associations and private sector business establishments taking responsibilities in forming and implementing TVET activities.

The overall objective of the TRSP (TVET III) is to contribute towards socio-economic growth through development of human resources, enabling people to engage in productive employment. The specific objective is to improve governance and private sector participation in the TVET sector to enhance access to quality skills development that meets the demand of the labour market.

This assignment aims to identify potential sectors in KP, where, there is a demand for skilled workers and hence accordingly future interventions can be supported under TRSP.

Assignment Objectives

The main objectives of the study are given below:

1. Identification of at least four sectors having high and well paid employment potential which may include overseas employment
2. Identification of the required trades and professions
3. Identification of possible skill gaps
4. Identification and rating of the training institutions
5. Identification and rating of the chambers/associations
6. Formulation of recommendations/preparation of future Road Maps

Methodology

The report is based on scientific research techniques and it includes the steps of literature review, data sources, data treatment, data collection methods, data analysis through different techniques, discussion and recommendations based on the analysis.

Review of literature and relevant documents

In this step, a comprehensive review of different published resources was accomplished for case building and discovering preparatory development drivers in the economy of KP. For this purpose, information from organizations such as ERKF, Department of Industries, KPBOIT, KPEZMDC, KPOGDCL, KPBOS, KPTC, Tourism Department, PEDO and Planning Department was consulted.

Some of the key documents consulted for this study include;

- Industrial Policy KP (2016),
- Reclaiming Prosperity in KP (2015-18),
- Integrated Growth Strategy (2014-2018)
- Investment Policy of KP (2017),
- KP Labour Force Survey (2014-15),
- KP Industrial Production Survey (December, 2015),
- Pharmaceuticals cluster survey of SMEDA (2016)
- Important District-Wise Socio-Economic Indicators of Khyber Pakhtunkhwa (2016)

Consultative Workshops/Meetings

Consultative workshop/meeting with key government officials, and other stakeholders was conducted in order to determine the contextual level of skill requirements, availability, shortage and ways to bridge the TVET skills gap. This has helped in the shortlisting of identified sectors.

Key Informant Interviews

KIIs were conducted with the key government officials, office bearers of chambers of commerce, trade associations, individual employers and experts. These KIIs helped in seeking their input on study objectives, which was highly beneficial for data collection relevant to prevailing TVET skills in the market, relevancy with the professions, deficiency and gap in TVET skills.

The Key informants were asked for current and futuristic labour market needs and requirements. Their responses have helped in probing regarding skills in high demands in the particular sector. It has identified the level of competency required to perform that job. For the ease of the key informants, they were requested to rate the level of TVET skills required to a job on the scale of semi-skilled, skilled and proficient.

Scheme of the Report

The study report is formalized with the following sections:

1. **Background:** In this section background of the study, ToRs and objective of the study are discussed.
2. **Socio-economic status of KP:** This section has explained the social and economic standing of the province of KP. The statistics related to literacy, poverty, gender, labour force, employment, growth rate and investment has been discussed in this section.
3. **The identification of potential sectors with economic potential:** In this section potential sectors are identified on the basis of literature review. The selection has been done on the basis of these sectors which have contributed towards the growth within KP and its potential contribution in job employability.
4. **Shortlisting of potential sectors:** This section has provided the key stakeholder inputs on potential sectors. This has helped in the short listing of the available sectors based on growth, employability, training facility and trade associations.
5. **Skill & gap identification in selected sectors:** This section is provided in tabular form in which the literature based skills in shortlisted sectors is provided as a required skill in that particular sector. The cumulative inputs of KIIs on selected sector are listed as the available TVET skills in that specific sector. The difference between required TVET skills and existing skills are reckoned as skills gap.
6. **Identification of chambers/trade associations and training facilities:** This section has identified different training facilities which can train the labour force. Since, trade association and chambers work as a coordinating body between industry, government and non-government institutions, the identification of such bodies is very helpful in recognizing and highlighting issues related to industry and businesses.
7. **Recommendation to fill the skill gaps:** This section has provided handful recommendations to the training providers and BIAs in order to overcome TVET skills gaps in selected sectors and for further improvement.
8. **Questionnaire:** The questionnaire used for KIIs purpose is appended at the end.

Socio-economic Parameters

Khyber Pakhtunkhwa's Socio-economic Overview

KP is one of the four provinces of the federation of Pakistan and is situated in the northwest region of the country. KP shares 1,100 km border with Afghanistan. Peshawar is the heart of the province with extremely fertile land and is irrigated by river Kabul. KP contributes 10.5% to Pakistan's GDP. In the past, KP's economy received different shocks; an earthquake struck the region in 2005, it has been victim of heavy floods in 2010 and has also been the sufferer of intense terrorism from 2007 to 2014. These conflicts, turmoil, and unrest damaged the structure of the economy, the locals, investors and businessmen. Therefore, they had to be relocated to other provinces, which worsened the economic state of the province.

The government of Khyber Pakhtunkhwa adopted a peace-building strategy in 2010 which gave rise to several assessment and evaluation studies in order to determine how the province can cope-up with the crises on multiple grounds. One key outcome of these assessments was increasing realization that different ways must be identified that can lead to the revitalization of economic, trade and business activities in province and adjoining FATA.

The economic arena of KP has not been very impressive since the inception of the country. However, there have been recent initiatives of KP government in order to promote economic growth. Formation of specialized agencies such as KPEZDMC, KPBOIT, PEDO, KPOGDCL and TEVTA are some of the initiatives that show government's commitment to change the social and economic fabric of KP. These initiatives have attracted many national and international investors. Furthermore, the KP government gave an emphasis on the autonomy of high potential sectors with strategic policies which is an essential step towards KP economic revitalization.

KP has tremendous potential in construction, transport, energy, oil & gas, tourism, agriculture and mining sectors. The identified hydel potential of KP is 25,000 MW. The province is producing 57.8% of dimensional stone and 22.3% its total area is covered by forest. The major agricultural crops of the province are; wheat, maize, tobacco, gram, millet, barley, rice, sugarcane, sugar beet, fruits and vegetables. Around 2.56 million workforce of KP is involved in trade, commerce, industry and agriculture sectors, which constitutes 15% of the total population of the province (SMEDA, 2010). Furthermore, 70% of world class tobacco is produced in KP which gives revenue of PKR 51 billion to the federal government and PKR 100 million to KP government. KP has one billion barrels of oil and four trillion cubic feet of gas.[1] The provinces generated PKR 17.5 billion as revenue during the financial year 2014-2015 from oil and gas royalties.

KP has rich traditions, culture, natural sceneries and adventure sites. According to the IGC report, "Reclaiming Prosperity in KP, 2015-18", around 8.8 million of domestic tourists visited the province of KP in 2014. The private sector owns 90 % of the tourism and hospitality sector, but investment is restricted only to the hotel and transport facilities (Planning & Development,

[1] Integrated Development Strategy, 2104-18

2015). Main tourism hubs of the province are Narran, Kaghan, Galiyat region, Chitral, Swat and Abbottabad.

Labour Force Challenges in KP

The labour force in Pakistan has recorded an increase of 2.5 million personnel from 2010-11 to 2012-13, which was further increased from 60.10 million to 61.04 million from 2013-14 to 2014-15. The civilian labour force of KP increased from 6.58 million in 2010-11 to 6.72 million in 2012-13, which is an increase of 0.14 million. In 2013-14 to 2014-15 the civil labour force further increased 0.15 million. This increase has developed several challenges for the labour force of KP.

1. The national level labour force participation is 45.2%, however, in KP this participation is recorded to be 36.3% in 2014-15
2. The unemployment rate of the country dropped from 6.0 to 5.9 from the year 2013-14 to 2014-15. Comparatively, the unemployed labour of KP was also dropped from 0.54 million to 0.51 million from 2014 to 2015, however, this decrease was recorded mainly in male labour force. The number of unemployed females remain the same in 2015 i.e. 0.20 million.
3. The latest LFS suggested highest unemployment rate of 7.72%[2] for KP as compared to the national level i.e. 5.9%. Furthermore, the youth unemployment rate (age 10 years above) is more alarming as it is calculated to be 25.37%. Similarly, the female unemployment rate is 3.03%[3] as compared to the national level of 2.15% respectively. This also indicates that the KP economy is not performing well and has not created many openings for youth.
4. The labour force situation was further impaired by the low literacy rate of 53.94% of KP as compared to 61.75, 62.98 and 55.54 % of Panjab, Sindh & Balochistan respectively.
5. The growth rate of 4.3% in the province is also low as compared to a national growth rate of 4.6%.

Considering the highest unemployment rate, highest population rate, lowest literacy rate, lowest labour force participation and low economic growth (4.3%), the revitalization of socio-economic status supported by skilled workers is the need of the day. This will increase the supply side and will not only enhance the developmental statistics, but will also augment the growth statistics. On the other hand, historically, TVET sector received a low priority in KP for some of the following reasons;

- As the pre entry/admission requirements for TVET is low or even not required, therefore, it has created an impression of low priority education. The image of TVET was further mutilated by psychological, social and cultural factors such as education for low caste and less privileged group. The opportunity cost of the less privileged group makes it more repulsive to opt for education for their bread and butter.
- The ADP allocated for public sector TVET institutes is also not sufficient to make these institutes work according to the needs of the job market.
- The institutional and curriculum structure also makes it a vague qualification to attain. Multiple curricula, issuing authorities with an overlapping mandates and the absence of a quality curriculum framework are the main concerns in making the TVET attractive.

[2] Calculated as unemployed labor force / total labor force

[3] National unemployed are as follow; total=3.62, Male=2.31, female=1.31. the provincial data for 2014-15 are as follow; total=6.6 m, Male=5.31, female =1.21, source: Annual Report LFS 2014-15

- The TVET faculties' antiquated training delivery methods also contributed towards ineffective vocational trainings.

KP Integrated Development Strategy 2014-2018

Integrated Development Strategy 2014-2018 is the KP's official socio-economic Strategy, which is formulated with objectives to respond to the inadequate social services, underperforming judicial system, ineffective law and order regime and mis-governance. The IDS has integrated all the previous strategies such as Comprehensive Development Strategy, Economic Growth Strategy and Post Conflict Needs Assessment, with a clear direction and priorities and all the ambiguities have previously observed are clarified in IDS. The strategy will re-join to an improved, transparent, corruption free system of governance, which must have privileges and fundamental rights of the people of the province. The IDS has shifted the government priorities from only growth to social services, justice, security, accountability and inclusiveness.

The strategy highlighted different challenges to KP's economy, which has decreased the growth rate of the economy despite that KP has numerous natural endowments and comparative advantages over other provinces. Specifically, agriculture contributed to 21% to provincial GDP. Livestock and agriculture, together, provide livelihoods to 83% of the people living in rural areas. The total hydel potential is 50,000 MW, in which 25,000 MW is already known and the oil and gas reserves are estimated to have 1 billion barrels of oil and 4 trillion cubic feet of gas a year.

Like other economic strategies, IDS also attributed the low skill labour as highlights of the KP low pace economy. IDS claims, traditional methods, inadequate infrastructure, weak regulatory regime, energy shortages and inadequate capacity are the major challenges in KP economy. IDS suggested that increasing the productivity and value addition in the minerals sector through modern extraction and processing techniques will contribute more to the provincial growth. Further, diversification in agriculture into horticulture, fruits and vegetables through skilled labour in tunnel farming and other advanced methods will be handy to sweep over the development issue. Another manifestation of the solution to lower growth rate will be urbanization by conversion of towns and cities into growth centers through infrastructure support and road connectivity. This will lead to the connection of small towns to not only big cities but also to markets into economic and industrial hubs.

The IDS stresses for labour force development through enhanced TVET skills and modern education by improving the vocational qualifications in the TVET institutions. This will help to overcome the high unemployment rate and low employment to population ratio of the province. This will also aid in adopting the local labour to skills and crafts for more honest involvement of industry and engagement in market oriented high yield professions. IDS also covered the KP government's focus on social and economic inclusiveness by highlighting the initiatives for poor in the province, which include microfinance schemes, cash stipends, in-kind schemes and skills development programs. The government will also provide financial assistance to unemployed individuals during their TVET skills development tenure.

Reclaiming Prosperity in KP (IGC, Report 2014)

Reclaiming Prosperity in KP is one of the highly cited reports in KP's official documents and strategic policies. The report is prepared under International Growth Centre, Pakistan Program management. The IGC report is based on scenario; when the NATO will leave a stable Afghanistan and it will open trade door for Pakistan, as a result KP will reclaim its prosperity with an increase in international trade with Afghanistan and Central Asian countries. The report identified certain growth challenges in the province, which include; low growth rate, increasing labour force and the slow absorption of the economy, which enhance the income inequality and poverty. Furthermore, many of the MDGs are not fulfilled due to the poor inclusiveness of the economy.

The report also identified growth oriented sectors which can propel the economy to a much higher trajectory if properly harnessed.

1. **Urbanization** is growth sector no 1. According to the report, 83% population lived in rural areas and 90% are a maximum of two hours away from the major city. Such a short distance has a great potential for employment generation and economic activities in these areas.
2. **Regional Trade and Connectivity** has also a long lasting impact on KP economy and will be the growth center. The boosting effect of the economy will mainly be supported by the exogenous but related factors such as the withdrawal of NATO force from Afghanistan, Pakistan's ability to create peace with its adjacent borders, facilitating trading activities through improved custom, clearance and tax system and enhancing product sophistication and competitiveness.
3. **Remittance:** According to the Bureau of Emigration and Overseas Employment, every fourth registered worker is from KP and sustaining this tendency will require up gradation of the TVET skills of KP labour force. To capitalize on overseas employment and to maintain the existing shares in remittances, KP labour must adopt the highest paid jobs in the services sector with an appropriate skill and should intervene in upcoming mega events such as football world cup 2022 and world expo trade fair 2020. This will let them know what TVET skills and levels are anticipated in the near future.

The report also identifies the priority and potential sectors based on its GDP contribution in KP's economy. The manufacturing sector contributed 17% to KP's economy and the major sub sector in manufacturing includes marble, granite, cement, pharmaceuticals, furniture and woodworking. Construction is the other potential growth sector, which contributed around 4% to provincial GDP. Construction is also a large employer of the skilled labour after agriculture sector which is also a significant contributor in employing low skilled labour in its retail trade. Agriculture is the largest employer of the labour force and is contributing towards 14% of KP's GDP. The report suggested a few measures to improve the performance of agriculture and horticulture sectors. These include diversifying the existing portfolio of crops into high value crops, improving irrigation management and promoting horticulture, seeds nurseries and research.

The minerals and gemstones reserves are also significant and contributing to 3% of KP's GDP. The sector is suffering from outdated technology and processes of mineral extraction that resulted in high wastage of minerals. Improving the lease policy, regulating the explosives use and up-gradation of the technology will benefit the labour force and KP's growth.

Tourism & hospitality is also a potential sector, which contributed significantly to the growth of the provincial economy. The report suggested for a tourism policy which will address the potential problems associated with tourism, such as marketing strategy, image building, infrastructure development and improving law & order situation.

Hydel capacity can also be a significant contributor to KP's economy if harnessed properly. Power shortage affected not only the industry, but also the entire economy of the country and the provinces. KP has a potential of 25,000 MW in hydel power, however, the report suggested for establishing the micro hydel, thermal and renewable energy sources to overcome power shortages either by itself or through PPPs.

Transport sector contributed 13% of KP's GDP and due to land lock situation of the province the role of transport is very critical in KP economic uplift. Road connectivity grows industrial clusters which in turn develops agglomeration economies attracting more businesses. Connecting rural areas with economic hubs will provide access to employment, health and education, hence, transport is very imperative to the socioeconomic hoist of the province.

The report also highlighted the importance of minimizing the cost of doing business, the 'rule of law' and governance for economic development. The report declared health, education and skill development as inclusion of the poor in the province of KP. According to the report, KP is passing through demographic transition and it created a youth bulge which is a major challenge to the economy. Addressing the human capital development, improving livelihoods, generating employment and converting vulnerable to permanent employment, require TVET skills development of the labour.

Step-1: Identification of Sectors and Sub-Sectors (Based on Literature Review)

Rationale of Selected Sectors

These sectors are extracted from literature review based on the set pattern described in the objectives of the study. Several policy and government documents were reviewed, followed by meetings with government officials, independent researchers, and economist as well as representatives of business community. A broad array of sectors and subsectors in KP were selected for further shortlisting.

The commonality of the criteria adopted for preliminary sector selection is listed below:

1. Those sectors mentioned in different government documents showing higher GDP contribution
2. Those sectors or sub sectors which show a high tendency for employability
3. An industry with potential to become a growth sector in a specific geographic area or having a tendency of becoming cluster
4. The consideration of training facilities, association and chamber memberships
5. Sectors, or sub sectors having professional appeal to the students and showing higher student enrolments.

KP's Potential Economic Sectors

Transport

Transport Sector contributed about 13% of KP's GDP. This high contribution is mainly attributed to the geographical location of KP, which is landlocked and distant from the seaport. Transport plays a pivotal role in intercity and metropolitan connectivity, creation of industrial groups which grades in group economies appealing additional business, ultimately creating opportunities for skilled workers. Transport for underprivileged groups links backward areas to growth centers and provide access to employment, education and healthcare.

Tourism & Hospitality

Tourism and hospitality are one of the leading sectors of the KP's economy and contributed 19% of total national domestic tourist traffic, which created a competitive edge over other provinces. However, this tourist inflow was hampered by dilapidated infrastructure, unaware about potential sites and poor image of the province. If the infrastructure is improved, information regarding new and old tourist sites is disseminated, the law and order situation are further improved and an effective marketing strategy is in place for image building and attraction of tourists, then the existing 8.8 million domestic tourist flow will further be increased by 10% annually. This will create additional jobs for the TVET graduates in various professions of this sector.

Agriculture (Tobacco)

KP is producing 75-80 % of tobacco in the country. The districts Charsadda, Mardan Bunair, Manehra and Swabi are the main producers of this high quality tobacco product. Among other types of tobacco, the main cash crop is the Flue Cured Virginia, which is commonly known as cigarette. The grower districts are producing 60-70 million KGs of the world standard tobacco (Khan, 2013). Tobacco is producing PKR 46-47 billion as a central excise duty of the federal government, PKR 65-70 million rupees to Pakistan tobacco board and PKR 100 million to the provincial government of KP. The British American tobacco and Philips Morison, the two MNCs dominated the whole tobacco sector, followed by 100 of local units. The local units are lagging behind due to low quality, technology and unskilled labours. The local industry can be converted into a potential job market with an improved TVET labours.

Minerals (Marble)

KP possesses a very rich reserve of minerals, which include large reserves of gold, copper, zinc, platinum, lead, gypsum, coal, limestone, and feldspar. However, the marble contribution of KP in total country production is 78%. Buner, Chitral, Swabi & Malakand possess majority of the resources. The potential social and economic contributions of marble industry will be further increased if outdated technology is abandoned, wastages are controlled, capacity of the workers are improved through TVET intervention in marble industry and effective regulatory regime is set to practice. A comprehensive mining development framework, dedicated investment and credit lines will further boost marble production.

Furniture

The total area of KP under forest is 22.3%, which provides a natural endowment to the furniture industry in KP. Peshawar is amongst the main six clusters of furniture industry in Pakistan. The furniture industry in KP is attributed with static designs, less skilled workforce, improper wood seasoning, lack of marketing strategy, conventional workshops and reluctance to use of modern machinery. If these factors are overcome, the furniture industry will enhance further.

Leather & Footwear

Leather footwear products are mostly prepared In District of Charsadda and Bannu and it is a promising sector with higher level of employability. According to a USAID report, if the supply chain is developed, this sector can contribute up to 200,000 jobs in the country. A huge livestock sector exists in KP which will be the supply side of an incredible and potential leather & footwear sector. KP has a very good potential in leather and footwear if its labour force is trained, specifically, beyond footwear i.e. in the production of leather jackets, belts and purses.

Carpet & Rugs

Due to the high influx of Afghan refugees in early 80s, KP has developed the carpet & rug sectors. The hand-knotted oriental carpets and rugs are admired all across Pakistan. According to PCMEA, approximately, 200,000-250,000, workers are employed in carpet and rugs sector. In KP, carpets and rugs are weaved in Peshawar. According to Pak-Afghan trading company around 1,500 small industries and 700 medium units are associated with carpet and rugs weaving within the province.

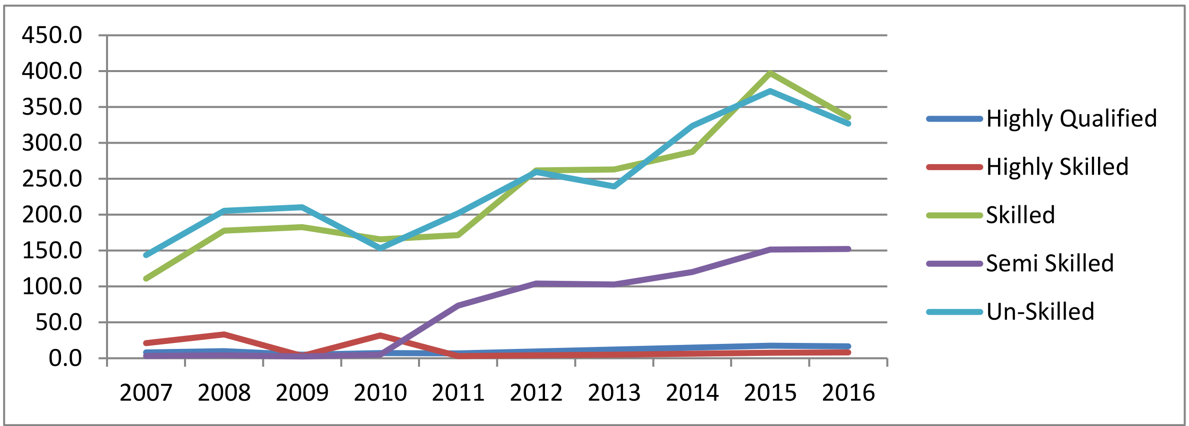
Overseas Employment Trend in Last 10 Years

This table shows the number of Pakistanis who travelled abroad for employment registered with the Bureau of Emigration and Overseas Employment during the period 2007-16. The share analysis of overseas shows a higher tendency for skilled and unskilled labour from 2007-16. However, the rate of skilled workers is increasing as compared to unskilled labour in the last 10 years. This clearly demonstrates that skilled workers demand is increasing overseas.

Table No. 1
Overseas Employment in Last 10 Years
All figures are in (000)

Year	Highly Qualified	Highly Skilled	Skilled	Semi-Skilled	Un-Skilled
2007	8.2	21.0	110.9	3.2	143.7
2008	9.7	33.2	177.8	4.2	205.4
2009	5.0	3.3	182.7	2.5	210.2
2010	7.1	31.7	165.7	5.2	153.3
2011	7.0	3.0	171.7	73.2	202.0
2012	9.3	4.2	261.5	104.2	259.3
2013	12.1	5.0	263.1	103.0	239.5
2014	14.6	6.2	287.6	120.2	323.8
2015	17.5	7.9	397.3	151.6	372.3
2016	16.5	8.2	335.7	152.2	326.8

Source: Bureau of Emigration and Overseas Employment



Overseas Employment province wise

Table 2 shows workers registered for overseas employment by the Bureau of Emigration & Overseas Employment during the period 2007-16. The last 10 years data demonstrated that KP stands second in overseas employment as compared to other regions and provinces. This shows the tendency and willingness of KP labour force to work abroad and earn and contribute towards remittances.

Table No. 2
Overseas employment Province WISE (000)

YEAR	Federal	Punjab	Sindh	KP	Baluchistan	AJK	NA	FATA
2007	1.3	153.0	20.4	76.7	3.7	19.5	0.4	12.0
2008	9.1	197.2	31.7	131.4	6.8	31.9	0.4	21.8
2009	1.6	199.7	30.8	114.6	4.5	31.3	0.5	20.5
2010	1.2	189.4	31.8	98.2	3.1	22.5	0.5	16.2
2011	1.8	226.9	40.2	130.1	5.3	33.1	0.7	18.8

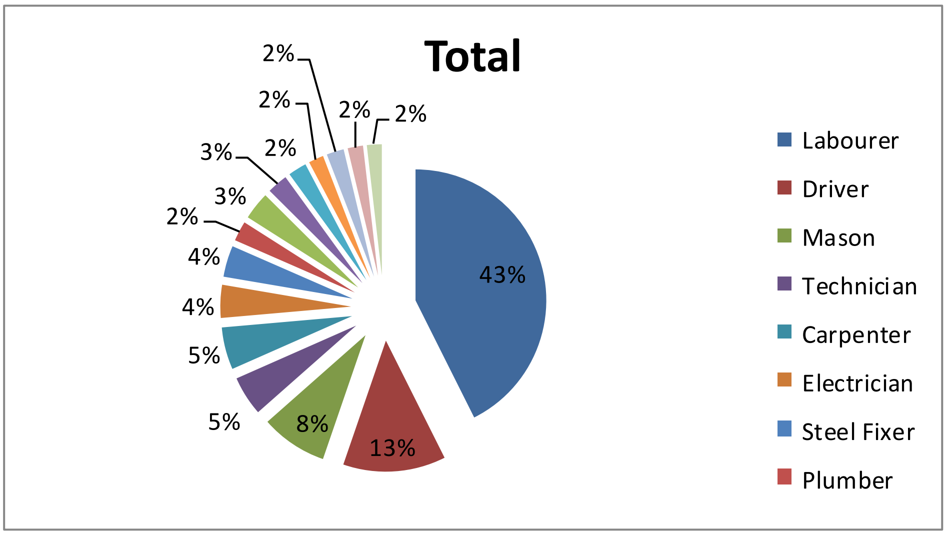
2012	4.2	337.7	46.6	176.3	5.1	38.8	0.8	29.0
2013	7.1	326.0	55.6	150.4	9.3	40.0	1.2	33.0
2014	8.9	383.5	89.7	167.4	7.3	52.1	2.1	41.4
2015	9.0	478.6	116.9	221.0	7.7	64.6	2.9	45.8
2016	8.5	446.6	85.3	206.9	6.4	43.1	3.0	39.6
Total	67.5	4614.8	863.6	2298.0	102.7	588.3	15.3	452.7

Source: Bureau of Emigration and Overseas Employment

Overseas employment category wise

This table shows the last 10 years data of top 15 occupational trades recorded by the Bureau of Emigrants and Overseas Employment. The data shows that a higher overseas involvement of the labour force is in the unskilled trade labourer, driver, mason, technician and carpenter are the top four trades that together contribute the same figure as that of labourers alone. This higher tendency overseas clearly shows the lack of TVET skills in our labour market. The following pie chart of the overseas employment trending from last 10 years shows that 43% of the entire labour force was just labourers and work in unskilled trades. The second highest employment trend recorded overseas is of drivers, which contributed 13% of the overseas employment in the last 10 years. Mason, technician and carpenter remain on third, fourth and fifth position and recorded their contribution of 8%, 5% and 5% each.

Graph 2
Pie Chart of Overseas Employment in last 10 Years



KP's Employment by Sector/Major Industry

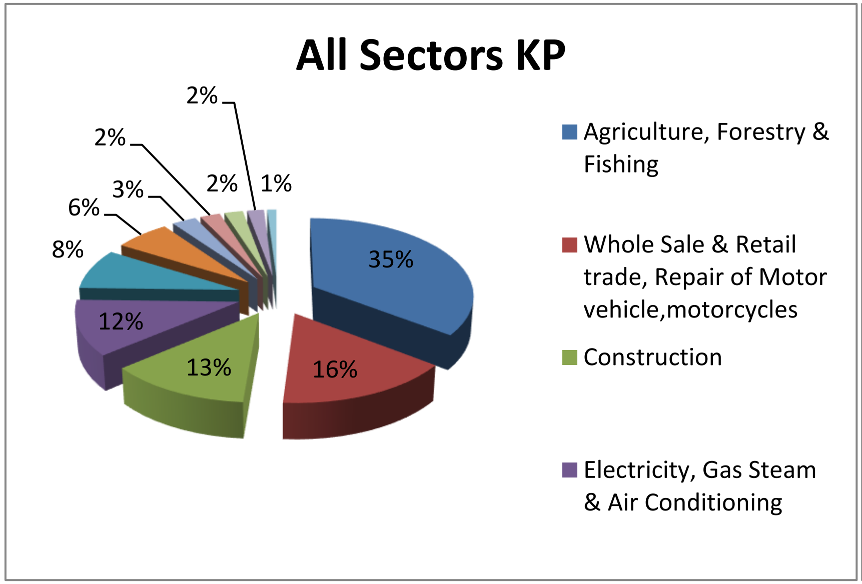
Table No.3 is providing an interesting analysis of the percentage distribution of employed persons (10 years & above) by major industry division sex & area of Khyber Pakhtunkhwa for the year 2014-15. Agriculture, forestry & fishing sector rank high in providing jobs and it contributed to 35.56 % of the total job market of KP in 2014-15. Whole sale & retail trade, repair of motor vehicle, motorcycle sector remain on second and contributed 15.52% of the entire job market. Construction contributed 12.45%, followed by energy with 11.26%. After looking into these sectoral contributions in the job market with their contribution to economic growth of KP, the next section consists of the shortlisted identified sectors.

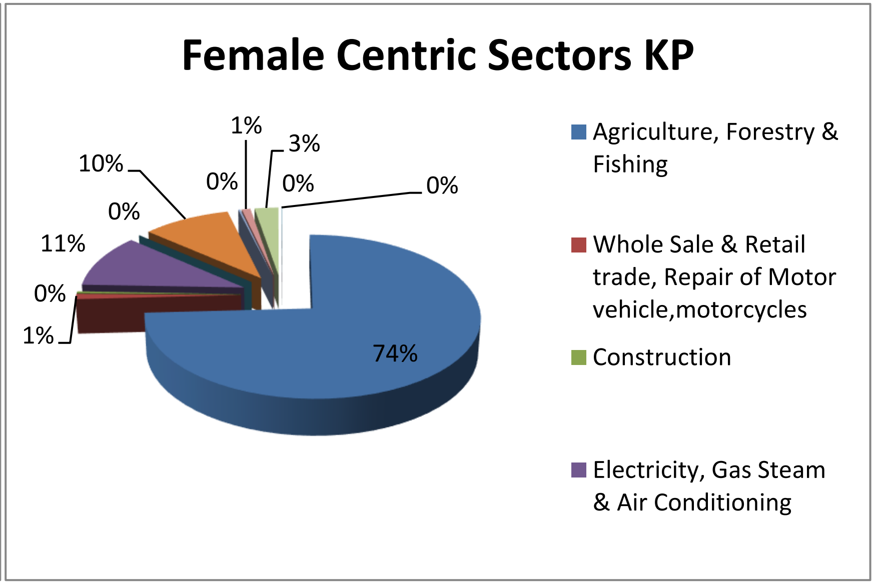
Table No. 3

PERCENTAGE DISTRIBUTION OF EMPLOYED PERSON (10 YEARS & ABOVE) BY MAJOR INDUSTRY DIVISION SEX & AREA OF KHYBER PAKHTUNKHWA, FOR THE YEAR 2014-15

	All Areas			Rural			Urban		
Industry Division	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	101	83.19	17.81	82.32	66.14	16.18	17.8	16.15	1.65
Agriculture, Forestry & Fishing	34.56	21.5	13.06	33.84	20.92	12.92	0.72	0.58	0.14
Whole Sale & Retail trade, Repair of Motor vehicle, motorcycles	15.52	15.33	0.19	10.58	10.45	0.13	4.93	4.87	0.06
Construction	12.45	12.39	0.06	10.9	10.84	0.06	1.56	1.56	0
Electricity, Gas Steam & Air Conditioning	11.26	9.35	1.91	8.01	6.55	1.46	3.25	2.8	0.45
Transport, Storage	8.19	8.19	0	6.58	6.58	0	1.61	1.61	0
Education	6.13	4.42	1.71	4.5	3.43	1.07	1.63	0.99	0.64
Public Administration & Defense	2.68	2.64	0.04	1.72	1.69	0.03	0.97	0.95	0.02
Other Services Activities	2.19	2.02	0.17	1.63	1.51	0.12	0.57	0.52	0.05
Human Health & Social Work Activities	2.03	1.57	0.46	1.33	1.05	0.28	0.7	0.52	0.18
Accommodation and Food Services Activities	1.82	1.82	0	1.36	1.36	0	0.46	0.46	0
Mining & Quarrying	1.01	1	0.01	0.09	0.08	0.01	0.01	0.01	0
Activities of Households as Employers, Undifferentiated Goods & Services-Producing Activities of Household for own use	0.67	0.5	0.17	0.3	0.22	0.08	0.37	0.27	0.1
Real Estate Activities	0.46	0.46	0	0.26	0.26	0	0.2	0.2	0
Information and Communication	0.37	0.37	0	0.21	0.21	0	0.17	0.17	0
Administrative and Support Service Activities	0.35	0.35	0	0.21	0.21	0	0.15	0.15	0
Professional, Scientific and Technical Activities	0.34	0.34	0	0.17	0.17	0	0.17	0.17	0
Water Supply, Sewerage, Waste Management & Remediation Activity	0.29	0.29	0	0.15	0.15	0	0.14	0.14	0
Manufacturing	0.28	0.28	0	0.26	0.26	0	0.02	0.02	0
Financial and Insurance Activities	0.24	0.22	0.02	0.12	0.1	0.02	0.11	0.11	0

	All Areas			Rural			Urban		
Arts, Entertainment & Recreation & Other Activities	0.08	0.08	0	0.04	0.04	0	0.04	0.04	0
Activities Extraterritorial Organizations & Bodies	0.08	0.07	0.01	0.06	0.06	0	0.02	0.01	0.01





Step 2: Shortlisting Potential Economic Sectors (KIIs based)

After considering the overall job market in Pakistan, overseas, in KP and consulted the stakeholder these sectors and subsectors are shortlisted for the study. The finalized sectors are showing growth potential and highest level of employability in KP and abroad. The pharmaceutical sector is very female concentric and showing 60% of female employment.

KP Potential Sectors

1. Construction
2. Energy (Micro Hydel & Renewable Energy)
3. Tourism & Hospitality (Hotels, Restaurant, Tour guide)
4. Manufacturing (Pharmaceuticals & Light Engineering & Manufacturing)

Rationale

1. **Construction:** According to some government officials, construction is the most potential sectors in this study, as very high tendency of the students gets enrolled in a trade like surveyors, draftsman and civil technology, etc. Further, TVET qualifications related to civil technology, road surveys, draftsman and designing have a high overseas propensity. Construction firms have a very good number of memberships in chambers and association. The vocational and technical institutes are also available for construction related trades to deliver training in relevant trades. The sector holds 12.4% in the labour market, which is likely to be increased in the years to come. Construction is labour intensive sector engrossing variety of skills. The most needed skilled workers are; quantity surveyors, filtration technicians, cooling & heating system technicians, plant mechanics, site supervisors etc. The complete range of existing and most demanded skills/occupations is given in matrix 1. The level of skills and knowledge fall between NVQF level-2 to level-3 for the majority of occupations.
2. **Renewable Energy** is the emerging sector; most of the enrolment took place in trades related to micro hydel energy trades in Swat, which has huge potential for production of cheap electricity through micro hydel power plants. A lot of demand is forecasted for solar energy and inverters repairs. KP has a high potential of hydel power, about 25,000 MW potential is existed in KP. The KP government plans to set up 1000 micro hydro power stations across KP in the next few years. Currently the contract for the construction and establishment of 356 units has already been awarded. On average 3-5 technicians per unit will be engaged in the post establishment i.e. operation, repair and maintenance. The sector will also create allied jobs, i.e. electricians, household appliance repair etc.
   The second subsector of the energy sector is solar. The long outstanding unresolved power shortage in the country, particularly in the rural area of KP and FATA has given a surge to solar energy. The sector needs skilled workers for installation, aftercare service technician, electrical technician, modeller, roofer and battery expert. Level 2-3 NVQF will enable a person to do the aforementioned jobs. At present there is no local association, except the Pakistan Solar Association based in Lahore. The association, however, has a representative in Peshawar.
3. **Tourism and Hospitality:** Tourism and hospitality is another sector highly recommended by the government officials and other stakeholders due to its potential of growth. Mostly the tourism and hospitality sector involves soft skills such

as computer, communication, languages, public dealing, office management and tour guide, etc. hence it will not be a big issue to conduct their skill up gradation through private sector or through government sector other than TEVTA and private TVET institutions. Tourism and hospitality are one of the leading sector of the KP's economy and contributed 19% total national domestic tourist traffic and the existing 8.8 million domestic tourist flow will further be increased by 10% annually. Pakistan Hotel Association, Travel Agent Association of Pakistan, Frontier Hotels and Restaurant Association, Peshawar, Tourism Corporation Khyber Pakhtunkhwa (TCKP) are all functional and supporting the sector, the following are the existing and non-existing most demanded trades/occupations pointed out by the concern. Cook (Sous Chef, chef), Housekeeping, Tour operators, IT & Computer Technician, Public Relations officer, Event manager, Banquets, Conferences and Resort Manager , Ticketing and reservation assistant. These occupations will require level 2-4 NVQ. Competency Based National Vocational Qualification for some of them, have already been developed under the previous phase of TVET reform support Programme.

4. The **manufacturing** sector is one of the top performing growth agents of the KP economy in the recent years. The sector has recorded 17% contribution to the provincial GDP and remains the highest priority and potential sector for policy makers. The sub sectors in manufacturing such as cement, marble, pharmaceuticals and furniture is also the high priority area of the KP's government. However, the sector is highly diversified in sub sectors which include; food processing, beverages, paper board, woolen textiles, ceramics, cement, cigarettes, cotton textiles, jute textiles, matches, electric bulbs, fertilizers and pharmaceuticals.

a. Pharmaceuticals

In 2015, the pharmaceutical market in Pakistan reached for a significant USD 1.8 billion, which is 10th largest in Asia Pacific and 4th fastest growing market in the world. In the total health expenditure, private sector contributed 82.5% and leaving 17.5% shares for the government to contribute, which remain just 1% GDP. The current market share of pharmaceuticals in health sector is mostly contributed by the domestic companies and by the higher spending of the consumer on health which has recorded USD10 of per head capita, which attracted MNCs to invest more in the pharmaceutical sector. KP has over 70 pharmaceutical manufacturing units with investment capital of PKR 60-150 million on each unit and it employed from 75-300 labours per unit mostly female. The sector is supported by the PPA and PCP, Islamabad. Drug safety technicians, clinical research assistants, bio statisticians, process technicians, bio technicians are most potential occupations which are considered high in demand. These occupations will require NVQF Level-3-5. Institutions which can host training in the above skills/trade are available in the private sector only.

b. Light Engineering & Manufacturing

The light engineering and manufacturing is the back bone of all industries in KP and it provided basic support to construction, pharmaceuticals, transport, agriculture and all other notable sectors of KP economy. Mainly the KP light engineering and manufacturing sector comprise of armoury, spare parts, steel moulding, building machinery, sporting and hunting weapons and textile machinery. The industrial units are mostly situated inside industrial estate at Hayatabad, Kohat road and Swabi. Hunting and Shooting Sports Association, Kohat Road; Peshawar and Hunting and Sports Arms Manufacturers Association, Kohat Road, Peshawar are functional and support can easily be solicited for the TVET-III. The skills/occupations which are most in demand in the industries are PLC technicians, Engraver, Industrial Technician, CAD/CAM technician, Product Designer, Dies and Moulds Technicians, Quality controller and Material Tester, etc. Level-4-5 of the NVQF will be needed to attain in order to adopt the above occupations.

Potential Employment in KP (After TVET intervention)

The aggregate work in KP's formal parts is recorded to be 0.89 million by the labour force survey 2015. Out of these 0.89 million, our selected sector contributed 43.18%, that makes 0.384 million of the employments with the assumption that our proposed intervention in the job market through improving TVET skills will add another 96 thousand more jobs. The details of the job market indicators are given in Table No. 3.

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Table No. 3
Potential Employability after TVET Intervention

Sectors	Sub / Sectors	%age Contribution in Total job market	Available jobs	No. Of Potential Jobs
Manufacturing	(Pharma + Light Engineering)	27.06	241,031	60,258
Construction		12.45	110,896	27,724
Tourism + Hospitality		1.82	16,211	4,053
Energy	(Solar & Hydel)	1.85	16,478	4,120
	Total	43.18	384,616	96,154

Source: LFS 2015, National Accounts 2015-16

Conclusion and Recommendations

Based on review of the available documents and input from both the public and private sector representatives, following are some of the deficiencies in delivery of TVET in KP;

2. All of the identified sectors and sub-sectors are facing the issues of product sophistication and increase competition. To overcome this problem, industries need to invest in new technologies and to acquire skilled workers with market-based competencies. But most of the visited businesses have limited focus on these two critical elements. Many of the interviewees indicated a gap between industry and TVET training and upon observations of the TVET trend in enrolments, it was found that higher enrolment has no relationship with market demand and it has no concern with economic growth. There is a complete disconnect between market demands and TVET skills e.g. no institute is offering TVET skills in the very dynamic and a potential pharmaceutical sub-sector in KP and the situation is even more challenging in the hospitality sector.
3. A similar mismatch between demand and supply exist within light engineering sub-sector. There are a number of trades in demand, but training facilities are only offering repair and maintenance skills in selected trades. Similarly, only two institutes in entire KP are offering TVET skills in hydel power and in solar energy
4. The mining sector is contributing about 3% to the provincial GDP and about 57.8% of marble production at the national level comes from KP. However, the marble is still extracted with old fashion methods, resulting into a high wastage. At a very nominal scale, marble can be converted into mosaic and other value added products. Unfortunately, no training institute in KP is providing TVET skills training to marble sector except at Buner with very narrow scope
5. There are 6.0 million jobs in KP, in which 3.0 million are associated with informal sectors dominated by agriculture, fisheries, and forest, while 0.89 million jobs are in the formal sectors. These 0.89 million jobs are dominated by the lower cadre employees. Roughly 95% of these jobs are at NVQF level 1-4 and only 5% are left for executives and higher qualified persons. So most of the Executive level jobs are covered by the university graduates and they need a lot of orientation and on the job trainings to get the know-how of the job. Therefore, it is suggested to introduce NVQF level 5-7 for executive cadre in the industry.
6. The lack of soft skills among freshly graduates specifically in the light engineering sectors is another key finding came out of the discussion with the stakeholders. The explicit knowledge regarding the hazards associated with machines and electrical equipment is also deficient in the current TVET curriculum.
7. The statistics revealed by the business associations and chambers regarding the current job market are roughly matched to the statistics of the labour force survey and hence can be taken into account for planning purposes. Further, the 5% increase in job market per year in anticipation of filling the missing TVET gaps in the identified sectors/subsectors is also realistic and it makes sense. However, the industry prefers to impart-on the job training rather sending their workers to formal training institutes.

Way forward

Considering the gaps at sectors/subsectors, the disconnects between demands and supply of skilled workers following recommendations are proposed:

1. Possibilities for training facilities for pharmaceuticals and marble needs to be further explored
2. A mechanism needs to be adopted to identify demand and supply gaps and the trends in the job market for informed decision making in KP
3. The future trainings shall be offered on basis of market demand not on the basis of supply
4. The role of chambers of commerce and trade associations needs to be further strengthened for TVET design and delivery
5. A comprehensive liaison shall be developed amongst all stakeholders regarding TVET skills demand; TVET skills training facilities, quality of TVET skills imparted and job placement

TVET skills Gap Matrix KP

Matrix-1: Construction Sector

Geographical area/Cluster Location	Sector/sub Sector	Rational	Trade/Professions	Employment Potential	Association	Training Establishment & Concern departments
Entire Province	Construction	Construction: a very high tendency of the students to get is enrolled in a trade like surveyors, draftsman and civil technology, etc. Further, TVET skills related to civil technology, road surveys, draftsman and designing have a high overseas propensity. Construction firms have a very good number of membership in chambers and association. The vocational and technical institutions are also available for construction related trades to impart training and education.	Quantity surveyor Construction sub engineer Designer (Building & Road) Quality control Sub engineer Architecture Water supplier technician Plumber Sanitary workers, Filtration Plant mechanic Sewerage Technician Carpenter Welder Mason Plumber	Total KP-workforce is 110,895. In It is estimated that in the next five years 27,000 more jobs will created The following are the existing and non-existing most demanded trades/occupations mainly in NVQ level 2-3. Quantity surveyor Filtration technician Cooling & heating system technician Plant mechanic Site supervisor Quality control engineer (DAE/Level 5) Carpet layer Elevator Mechanic Insulation technician Pipefitter Sheet metal worker Steel fixer Water proofer Water supply technicians 3D Designer/ Graphic expert (Level-4)	Contractor Association of KP Association of builders and developers, Pakistan All Pakistan Contractors Association (APCA)	ATIN NLC Amangarh, Nowshera GCT, Polytechnic and Vocational Institutes

Key Potential	Contributed 4% to GDP of KP 2nd largest contributor to labor market High tendency of students' enrollments Higher propensity in overseas job market Highly associated and a good number of membership in chambers
Key Weakness/Risks	Outdated syllabus in training facility Disconnect between job market and training providers
CBTA packages available	NVQF Level-2 HAVC NVQF Level-3 Building Electrician, Plumber & Pipe fitting, NVQF Level-4

Matrix-2: Tourism & Hospitality Sector

Geographical area/Cluster Location	Sector/sub Sector	Rational	Trade/Professions	Employment Potential	Association	Training Establishment & Concern departments
SWAT / Malam Jabba / Madyan **Madain / Behrain** **Kalam / Ushu** **Kumrat** **Chitral** **Kaghan /Naran** **Shinkiari** **Galyat**	Tourism & Hospitality	Tourism and hospitality are one of leading sector of the KP's economy and contributed 19% of total national domestic tourist traffic and the existing 8.8 million domestic tourist flow will further be increased by 10% annually.	Hotel management / Operation Front office / Guest Services Food & Beverage Management Counter Service (Airline, Travel Agencies) Basic Housekeeping Bakery Certificate Professional Cookery Domestic Cooking Tour operation Tour guide Outdoor Management Trekking Guide IT Technician Hotel Inspectors Admin and Accounts Assistants Superintendent Assistant Computer Operators Receptionist, Ticketing and reservation Marketing Cook Housekeeping	Currently the sector consists of 16200 workforces. The estimated growth will increase the labour force by 4,000 nos in the next three to five years. The following are the existing and non-existing most demanded trades/occupations which require level 2-4 NVQ Cook (Sous Chef, chef) Housekeeping Tour operators IT & computer Technician Public Relations officer Event manager Banquets and Conferences Resort Management Corporate Headquarters Finance Ticketing and reservation	Pakistan Hotel Association Travel Agent Association of Pakistan Frontier Hotels and Restaurant Association, Peshawar. Tourism Corporation Khyber Pakhtunkhwa (TCKP) Lower Court Building, 13/A, Khyber Road, Peshawar. Tel: 091-9211091 Fax: 091-9210871 www.kptourism.com - Travel Agents Association of Pakistan Room no: 115, Ist floor, central hotel building Merewether road, Karachi 75530 Phone number: 021-35656022, 02135682748. All Restaurant Association of Pakistan: 10/A,ManShahrah-e-FasaM.A.C.H.S.,Karachi TRAVEL AGENTS ASSOCIATION OF Peshawar: 30,2nd Floor,Cantonment Plaza,Fakhar-e-Alam Road,Cantt. Peshawar: Phone: (92 91) 5287771	Hashoo Foundation, Chitral PC Peshawar Pakistan Austrian Institute of Tourism and Hotel Management (PAITHOM) Swat, KP. Haris Institute, Peshawar, KP (Pvt). Modern Institute of Informatics and Management, Islamabad (Pvt). Haris institute of training Peshawar Cantt, PIA Center, Peshawar Cantt GCT Nowshera Skills Development Centre, Hospitality & Tourism Department (Batagram Department of Tourism & Hospitality, Hazara University, KP Department of Tourism & Hospitality, Abdul Wali

<table>
<tr><th>Geographical area/Cluster Location</th><th>Sector/sub Sector</th><th>Rational</th><th>Trade/Professions</th><th>Employment Potential</th><th>Association</th><th>Training Establishment & Concern departments</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Khan University, Mardan, KP

Department of Tourism & Hotel Management, University of Malakand, KP</td></tr>
<tr><td>Key Potential</td><td colspan="6">The highest number of domestic tourist, i.e. 8.8 million
Highest number of tourist spots
27% of the total area under forest, providing more potential place for tourist activities
A considerable number of historical places in KP, that can attract domestic and international tourist.
19% of total domestic tourist traffic</td></tr>
<tr><td>Key Weakness/Risks</td><td colspan="6">Poor law & order situation in KP
Poor infrastructure and access roads to tourist spots
Recent militancy and its after-shocks in SWAT, one of the major tourist resort
Poor hospitality services in KP, even no 5 star hotel is available.</td></tr>
<tr><td>CBTA packages available</td><td colspan="6">NVQF Level-2 Cook & Watier
NVQF Level-3 F&B Captain & Chef De Partie,
NVQF Level-4 Sous Chef,</td></tr>
</table>

Matrix-3: Energy Sector

Geographical area/Cluster Location	Sector/sub Sector	Rational	Trade/Professions	Employment Potential	Association	Training Establishment & Concern departments
Northern KP **Chitral, Kohistan, SWAT**	Hydel	KP has a high potential of hydel power, about 250,00 MW potential is existed in KP. Roughly 350 micro hydel power projects are already installed by the KP government, which will be extended to 1,000 projects in two years.	Electrical sub engineers Mechanical sub engineers Electrical technicians Plant sub engineers Hydro energy specialist Renewable energy Oil and gas specialist Geoscientist	Currently in solar and hydel energy approx. 16500 workers are working, due increase demand in the sector an estimated 4,000 more technicians and workers will be required in the sector. The following will be in mostly in demand, which will require NVQ level 2-4. Some of them required either level-5 of DAE i.e. sub engineers mechanical and Electrical Maintenance & Aftercare technician Turbine technicians Mini hydro systems technician Mason Steel fixer Sub Engineers (Mechanical, Electrical) Field surveyor Heavy Machinery Operators	Renewable & Alternative Energy Association of Pakistan KPBOI	GCT Swat for Micro Hydal
Urban KP	Solar		IT Experts Surveillance Experts Electricians Solar panel installers Mechanics Technicians Mechanical technicians, Programmers Welder Pipe fitters	Currently in solar and hydel energy approx. 16500 worker are working, due increase demand in the sector an estimated 4,000 more technician and workers will be required in the sector. The following are the most demanded one. The qualification requirement for the same ranging from Level-2-3 NVQ After care service technician	Pakistan Solar Association Address: 09-Egerton Road, Lahore, Pakistan Phone: +92 300 8470865 Naeem Tariq E-mail: info@pakistansolarassociation.org	GATTC Hayatabad for Solar GCT, Peshawar

Geographical area/Cluster Location	Sector/sub Sector	Rational	Trade/Professions	Employment Potential	Association	Training Establishment & Concern departments
			Commissioning mechanical technician	Electrical technician Modeller Roofer Battery expert Logistic technician		
Key Potential	Very high level of hydel potential 25,000 MW is known, while there is another 15,000 MW in the pipeline. In GCT Swat very high enrolments were experienced in the micro Hydal trade. A higher demand for repair and maintenance of batteries and inverters are expected 359 micro hydal dams are approved by KP government and further1000 micro hydal dams are expected to construct next 2 to 3 years. CPEC energy projects will further increase the demand of hydal power projects labours.					
Key Weakness/Risks	No transmission mechanism existed for KP to get hold of their produced electricity. Only two colleges are providing training facilities in hydal and solar energy trades. CPEC hydal and renewable energies projects may reduce the demand of skills workers in solar energy					
CBTA packages Available (Micro Hydal Energy)	NVQF Level-1-4 Microhydel Plant technician					
CBTA packages Available (Solar Energy)	NVQF Level-2 NVQF Level-3 Plumbing & Pipe fitting, Building Electrician, Welder NVQF Level-4					

Matrix 4: Manufacturing Sector

Geographical area/Cluster Location	Sector/sub Sector	Rational	Trade/Professions	Employment Potential	Association	Training Establishment & Concern departments
Industrial Estate Hayatabad **Industrial Estate Gadoon, Sawabi** **Small Industrial Zone Kohat Road**	Light Engineering & Manufacturing	The sector has recorded 17% contribution to the provincial GDP and it is wide spread over a different range of industries, including pharmaceuticals, cement, beverages, wood works etc.	Machine Operator Bench Fitter Foundry workers Welders CNC Machine operators Assembler Polisher/ Finisher Welders	The following are the most demanded trades/occupations, which will require NVQ Level-4 PLC technicians Engraver Industrial Technician CAD/CAM technician Product Designer Dies and Molds Technicians Quality controller Material Tester	Hunting and Shooting Sports Association. Kohat Road. Peshawar Hunting and Sports arms manufacturers Association, Kohat Road, Peshawar	GCT, Polytechnic & Vocational Training Institutes Pakistan Hunting and Shooting Sports Company, State life building. Peshawar Cantt Pakistan Hunting Sports school, Kohat Road
Industrial Estate Hayatabad, Peshawar **Industrial Estate Gadoon, Sawabi** **Small Industrial Zone Kohat Road**	Pharmaceutical	In 2015, the pharmaceutical market in Pakistan reach to a significant $1.8 billion, which is 10th largest in Asia Pacific and 4th fastest growing market in the world. Around 60% employees in Pharmaceuticals is female	Inventory Controller R&D Associate Laboratory Technician Production operator Microbiologist Quality assurance technicians Packaging experts Laboratory supervisor	The following are the most demanded trades/occupations which will require NVQ Level-3-5 Drug safety technicians Clinical research assistants Bio Statisticians Process technicians Bio Technicians	Pakistan Pharmacists Association (PPA) http://ppapak.org.pk/index.php Pharmacy Council of Pakistan Islamabad. http://www.pharmacycouncil.org.pk/	Northwest Institute of Health Science, Peshawar Rehman Medical Training Institute, Peshawar Department of Pharmacy, Peshawar University, Peshawar. (B. Pharmacy & Pharm. D) Faculty of Pharmacy, Gomal University, Dera Ismail Khan. B. (Pharmacy & Pharm. D.) Department of Pharmacy, University of Malakand, Butkhela, Malakand (Pharm. D.)

Geographical area/Cluster Location	Sector/sub Sector	Rational	Trade/Professions	Employment Potential	Association	Training Establishment & Concern departments
						Department of Pharmacy, University of Malakand, Butkhela, Malakand Pharm. D. Department of Pharmacy, Hazara University, Havelian Campus. Pharm. D. Faculty of Pharmacy, Sarhad University, Peshawar. Pharm. D. Women Institute of Learning, Abbottabad Pharm. D. Department of Pharmacy, Abasyn University, Peshawar Pharm. D. Department of Pharmacy, COMSATS Institute of Information Technology, Abbottabad. Pharm. D.
Key Potential	Light Engineering & Manufacturing Light engineering is the backbone of all industries Light engineering training facility is easily available A higher demand of light engineering is expected in the era of CPEC Pharmaceuticals The pharmaceuticals sector contributed 82.5% of the total health expenditure					

Geographical area/Cluster Location	Sector/sub Sector	Rational	Trade/Professions	Employment Potential	Association	Training Establishment & Concern departments
	KP has over 70 pharmaceutical manufacturing units with investment capital of Rs. 60-150 million on each unit. One of the higher job market, it employed from 75-300 labours per unit mostly female.					
Key Weakness/Risks	Light Engineering & Manufacturing The curriculum is obsolete and not reflecting the out world Soft skills in light engineering trade trainings are missing From 2007 to 2014, 62% industrial unit (1145-units) were closed , leaving thousands of workers jobless Worsening energy shortfall affected the productivity of the sector High input costs as compare to other sectors Pharmaceuticals No training facility is available to train formally from level 1 to 5. Mostly involved highly regulated trade, so its kind of difficult to get accreditation and award qualification in pharmaceuticals.					
CBTA packages Available (Light Engineering)	NVQF Level-2 Welding; Heat, Ventilation & Air-conditioning; Machinist; Electro Mechanical Technology, Electrical Equipment Installation & Repair NVQF Level-3 NVQF Level-4					
CBTA packages Available (Pharmaceuticals)	NVQF Level-2 NVQF Level-3 NVQF Level-4					

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Annexes

Terms of Reference

Sector Study to identify potential sectors for implementation of demand driven Competency Based Training in Khyber Pakhtunkhwa and Federally Administered Tribal Aras

PN: 09.2254.2-009.00

Country: Pakistan

AV: Hans-Ludwig Bruns

Contracting period: 20 working days max. between December 12, 2016 – January 10, 2017

1. Background:

The Technical and Vocational Education Training (TVET) Reform Support Programme in Pakistan is funded by the European Union, the Embassy of the Kingdom of the Netherlands, the Embassy of the Kingdom of Norway and the Federal Republic of Germany. It aims at improving access, equity and relevance of TVET in Pakistan.

The five-year programme has five components: 1) Improving TVET Governance and Institution Building, 2) National Qualifications Framework and Human Resource Development, 3) Fund for Innovative Training (FIT) and Labour Market Services, 4) Capacity-building for TEVTAs, and 5) Cooperative Training and Green Skills.

Piloting of the Competency Based Training & Assessment (CBT&A) is one of the key elements of the ongoing reform, being supported by the Programme.

Under this paradigm shift, the training programmes are designed and delivered by adopting a systematic competency standard approach, focusing on the TVET skills for better employability of the trainees. The CBT courses meet the needs of the enterprises and at the same it ensures greater employability of the graduates.

Currently the CBT&A courses are being offered in 60 trades through over 130 TVET institutes across Pakistan. From January 2017, the delivery of CBT&A courses will be up scaled in other potential economic sectors and sub-sectors, where there is high potential of employment or self-employment for the completers.

2. Objective and tasks of the consultancy:

Main objectives include:

- Identification of at least four sectors having high and well paid employment potential which may include overseas employment
- Identification of the required trades, professions
- Identification of possible skill gaps
- Identification and rating of the relevant training institutions,
- Identification and rating of the relevant chambers/associations,
- Formulation of recommendations/preparation of future Road Maps.

Specifically, the expert is required to perform the following tasks:

A. Planning

- Collect and analyse materials, documents and information suitable to support the sectoral feasibility study and subsequent identification of suitable Business and Industry Associations (BIAs)
- Preparation of draft time table, visiting schedules and travel arrangements; planning of appointments and meetings in close liaison with the relevant staff at the TVET RSP
- Extended desk review, documents study and internet research

B. Implementation

- Conduct regular meetings (both face to face and online) with the relevant experts at TVET RSP to finalize roles/responsibilities and execute assignment related activities
- Carry out field research through visits, meetings, surveys activities, interviews
- Data/information collection and analysis
- Keep a close liaison to synergies his/her work with the other national and international experts hired for sector studies and other cross cutting assignments by GIZ and/or its subcontractors
- Conduct needs analysis of the identified BIAs (chambers and/or trade associations) to gauge their capacity and readiness to perform management and coordination tasks of designing and delivering CBT&A courses. Specifically;
  - Identify any current practices to address the skilled workforce needs of their member companies.
  - An overview of the widely demanded TVET skills-set and jobs in each sector/subsector.
  - Information about their current capacity and priority areas e.g. political/social influence, engagement/influence with member companies, involvement in public-private partnerships/dialogues for TVET etc.
  - Further capacity building needs to take over the planning, and coordination roles for TVET in general and CBT&A courses in particular.

C. Follow up & Reporting:

- Consolidate main findings and results into an overall draft document. Collection and incorporation of feedback from GIZ and other experts
- Prepare and submit the final report.

3. Deliverables:

- A detailed work plan to execute the assignment.
- Draft versions of
- Sector analysis reports
- Needs analysis for each identified business membership organisation
- Road map (recommendations) for CBT&A-related activities for each identified organization in the next phase of the TVET Reform Support Programme

All documents must be submitted in English and in electronic form (MS Office compatible).

4. Duration and reporting:

The assignment is expected to start on 12 Dec 2016 and last until 15 Jan 2017. During this period the maximum expected input of the consultant is 20 working days.

The expert reports to the Senior Technical Advisor Communication, PR & Advocacy for all operational, administrative and technical matters.

5. Travel and duty station

The main duty station is Peshawar with expected visits to following cities:

- Hattar, Haripur
- Nowshera
- Kohat

6. Qualification and Experience

- At least 5-7 years of experience of conducting feasibility studies, job market assessment and training needs analysis for industrial sectors, preferably with relevance to the TVET sector
- Strong report writing skills
- Strong communication skills
- Prior knowledge and links with TVET bodies, chambers of commerce and trade associations will be an added advantage

Roll Out Plan

Roll out Plan																														
		Weeks	week-1							week-2							week-3							week-4						
#	Activities	Days	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	Offer Letter																													
2	Lit Review																													
3	Development of tools																													
4	Establishing contacts with stakeholders																													
5	Key informants interview at Pesahwar/Nowshera							off							off							off							off	
6	Key informants interview at Kohat																													
7	Key informants interview at Hattar																													
8	Analysis																													
9	Workshop																													
10	Report Writing																													

List of organizations/People Consulted

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