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ComparativeAnalysis of TVET Sector in Pakistan

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Comparative Analysis of TVET Sector in Pakistan

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ACRONYMS USED

AJK	Azad Jammu & Kashmir
BTE	Board of Technical Education
CDS	Comprehensive Development Strategy
DAE	Diploma in Associate Engineer
DBA	Diploma in Business Administration
DFID	United Kingdom Department for International Development
DIT	Diploma in Information Technology
EGS	Economic Growth Strategy
ESD	Education for Sustainable Development
FATA	Federally Administrated Tribal Area
GB	Gilgit Baltistan
ICT	Islamabad Capital Territory
ILO	International labour Organization
JICA	Japan International Cooperation Agency
NAVTTC	National Vocational and Technical Training Commission
NSIS	National Skills Information System
NVQF	National Vocational Qualification Framework
P&D	Planning & Development
RAC	Refrigeration and Air conditioning
S&C	Skills Standards & Curricula
SDC	Skill Development Council
SDG	Sustainable Development Goals
TTB	Trade Testing Board
TVET	Technical & Vocational Education & Training
UAE	United Arab Emirates
UNICEF	United Nations International Children's Emergency Fund
UNDF	United nation Development Fund
UNDP	United nation Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNIDO	United Nations Industrial Development Organization
UPS	Uninterruptible Power Supply

EXECUTIVE SUMMARY

Pakistan is amongst resource rich countries that needs coordinated and coherent policy actions to harness the potential in the industries, particularly in the technical and specialized fields. A significant skill gap is faced which is widening day by day despite blossomed growth of the Technical and Vocational Education and Training (TVET) by the successive political governments in Pakistan. Such a widening gap is significantly contributing towards rising unemployment in various sectors of the economy. Mismatch of demand and supply in the industry sector is attributed to the non-availability of the potential workers and shortage of the required skill and training.

In Pakistan, TVET sector has immense potential to address both challenges such as closing skills gaps and reducing unemployment. Nonetheless, TVET suffers from the negative perception of policy and decision makers that it is inferior to the general academic education which resulted in decline in supply of skilled labor force. Such growing perception leaves detrimental impacts on overall TVET sector that is considered as low quality and yielding low returns limiting investment for skill development. Such dimming prospects, TVET schools increasingly suffer from inferior infrastructure as against traditional education channels and limited funds for teacher training, curriculum upgrades, and the equipment needed for skill development.

This study is a mix of desk review and sample based survey providing key information and critical analysis of TVET sector in Pakistan. Currently, the proportion of (15-29) year population is around 28% with Male 51% and female 49% at annual growth rate of 1.8%. This provides huge youth bulge whose potential can be harnessed by utilizing in formal education system and TVET sector.

First section reports that 3581 (technical: 934 & vocational: 2,647) public & private TVET institutions are found in Pakistan with annual supply of skilled labour force of 314,176 (DAE: 81,836 & Trade certificate: 232,340) to labour market. This is pertinent to mention that the number of private vocational TVET institutions is much higher than the public owned institutions. However, the contribution of private institutions is only 11% in technical skills whereas the share of vocational trade in skilled workforce is around 55%. As per the statistics, 58% TVET institution buildings were found satisfactory while only 10% were ranked as not satisfactory.

The internet facility is essential for TVET institutions for the purpose of online library repository, low cost institutional reporting, managing Provincial TVETA's M&E system and other

technology initiatives. The survey statistics demonstrates that majority of TVET institutions (99.3%) have internet access in Punjab, followed by Islamabad 90.5%, Khyber Pakhtunkhwa (KP) 76.3%, Sindh 31.8%, Baluchistan 24.5%, Azad Jammu and Kashmir (AJK) 31.8%, Federally Administrative Tribal Area (FATA) 30.3%, and Gilgit Baltistan (GB) 12.3% being the lowest internet access region. The presence of first aid kit is important in TVET institutions for provision of on-spot emergency relief to faculty and students. This is less encouraging as majority of the TVET institutions have functional first-aid kit. Punjab tops with 46% followed by Sindh 19.7%, FATA 11.4%, AJK 10.6%, Islamabad 6.9%, and non-existent in Baluchistan institutes. Almost 95% of TVET institutes does not have access to drinking water facility within its campuses and deals shortage by generating electricity through generators.

The diagnostics of this critical study will facilitate the policy makers at the federal and provincial level, training institutions and other TVET stakeholders in the formulation of evident based decisions resulting in designing and implementation of need based training system to bridge skill gaps in the country.

CHAPTER

1 INTRODUCTION

The developed and developing countries have recognized the benefits of having a skilled workforce for ensuring sustainable economic development. These countries are successfully competing in international labour market and consequently achieving social and economic benefits from investments made heavily in the skill development sector.

In the context of Pakistan, it is believed that the current TVET system, technical education standards, curriculum and teacher training materials does not match with the growing demand of national and international jobs. It is a stylized fact that a number of private TVET institutions as not under the direct control of provincial TEVTA is much higher than the public sector institutions. Such a high concentration of private sector does not follow any minimum academic standards that results in imbalances owing to the increased supply of skilled workforce in the labour market.

It is a general perception that the existing curriculum offered in the TVET institutions does not correspond to the job market demand of the national and international market, due to which majority of the skilled workforce remains unemployed and the employer often reports skill deficiencies.

BACKGROUND

The TVET institute is a key element of any policy initiative that aims to improve socio-economic conditions, creates jobs and alleviates poverty. The Government of Pakistan recognizes the importance of the TVET sector in terms of skill development. It intends to overcome a number of challenges in the sector, such as ensuring quality, access equity and relevance of current TVET practices. The ensuring of all TVET graduates adequately prepared for the job market in line with labour market demands requires shift from a supply-driven to a demand-oriented TVET system. It also requires an active role of the business community in designing, developing, managing and evaluating TVET activities.

Pakistan's population is growing at a rapid pace. At the moment, the workforce is growing faster than the economy leading to unemployment, particularly in case of young people. The TVET sector's capacity to deliver needed training services is insufficient to provide this ever growing workforce with professional skills. There are approximately 315,000 places available in the formal TVET sector for estimated 950,000 new labour market entrants each year. Less than

6% of young people have acquired technical skill through the TVET system, and only 2.5% of them have received on-the-job training. This means that the competence level of the Pakistani workforce is too low to contribute adequately to enterprise productivity and competitiveness. It also means that Pakistan is not fully unleashing its potential youth for sustained supply of skilled labor force to the market. .

Recognizing the critical role of skill development in achieving sustained economic and social progress, the government is committed to reforming its TVET system as outlined in the National Skills Strategy (NSS) 2009-2013. The implementation of the NSS is a joint effort of public and private actors and stakeholders at national, provincial/regional and local levels. It is coordinated by the National Vocational and Technical Training Commission (NAVTTC) at the federal, and Technical and Vocational Training Authorities (TEVTAs) at the provincial levels.

Several development partners such as United Nations Educational Scientific and Culture Organization (UNICEF), United Nations Development Fund (UNDF), United Nations Industrial Development Organization (UNIDO), World Bank (WB), British Council, United Kingdom Department for International Development (DFID) and Japan International Cooperation Agency (JICA) support the reform process through different interventions.

In April 2011, the five-year TVET Sector Support Programme was launched to assist the Government of Pakistan in the NSS implementation. The programme is jointly funded by the European Union, the Kingdom of the Netherlands and the Federal Republic of Germany. The Deutsche Gesellschaftfür Internationale Zusammenarbeit GmbH (GIZ) implements the Programme in partnership with NAVTTC and in close cooperation with TEVTA's and other TVET stakeholders including the private sector.

NATIONAL SKILLS INFORMATION SYSTEM (NSIS)

The NAVTTC developed a policy document titled 'Skilling Pakistan: National Skills Strategy 2009 – 2013'. The strategy's fundamental aim is to reform the TVET system. The NSS envisions provision of relevant skill for industrial and economic development, improvement of access, equity and employability and assurance of quality through an integrated approach.

The National and overseas employment demands are shifting towards the higher skill categories. It is imperative for the vast labour force to move up the skill-ladder through advanced training programmes and higher education to cater to emerging international requirements, both in high skill services and high technology industrial production. It is crucial to invest heavily in high quality secondary and tertiary education and TVET sector to transform economy more resilient and competitive in global market.

As new policies and systems are to be developed to implement the NSS and respond to the rapidly changing environment, there is an urgent need to rely on readily available information that can influence the decision–making process.

The timely and relevant skill/labour market information is thus increasingly important because the countries of the region move to increase their productivity and competitiveness and continuously monitor the social and economic impact of globalization. With the establishment of NSIS, the government will be able to take stock of their capacity to produce and use skill information in decision-making process at national, provincial and district levels. The system will help formulate policies to adjust the demand and supply of skill according to the job requirement and tackle the unwieldy unemployment issue.

The NSIS should be 'one single source' of all information available on labour market. The information will be available across institutions, industry, disciplines, duration /timelines, trade, skill etc. The NSIS will support decision-making by providing research oriented reliable and credible information to all stakeholders.

Ensuring reliable information to every citizen has been an important and long-standing policy mandate of the government departments. The sourcing, calibrating, processing and presenting information on real time basis has been a challenge despite sustained efforts due to fragmented data gathering, inaccuracy of data gathered and lack of comprehensive delivery model. It is imperative to integrate information to provide a single source and a common window for all TVET-related information to the different stakeholders. The major stakeholders would be policy makers, planners, employers, training institutions and trainee/students.

OBJECTIVE OF NSIS

- To develop/provide a reliable National Skills Information System for workforce development in employable skill
  - Skills Information System
  - Establish data collection system (supply and demand)
  - Supply and Market Demand Management
  - Supply and Market Demand Analysis

- To provide timely and accurate information on demand and supply analysis, to TVET planners, training institutions, industry, academia, students and public in general;
  - Information Dissemination System
  - Establish interactive platform/network for TVET stakeholders
  - Align TVET plans, policies, programmes with NSIS

- To establish and facilitate career/vocational guidance and placement services for TVET graduates and potential employers;
  - Establish Career/Vocational Guidance Service
  - Establish Job Placement Service
  - Provide information on skill available and skill required

TVET POLICY & INSTITUTIONAL ENVIRONMENT

Historical perspective of the today's mostly known TVET provides an evolving look on the basis of which the concept has been termed with various names in order to better elaborate its associated fundamentals. One can find various interchangeably-used names in the available literature, which mainly include TVET, Occupational Education, Career and Technical Education, Vocational Education, Industrial Education, Technical Education etc. At the second International Congress on Technical and Vocational Education held in the Republic of Korea in 1999; UNESCO and ILO in consultation with their respective member states and partner agencies, jointly agreed upon using the term TVET in future in order to unify all the fields. The definition of TVET thus adopted at the Korean Congress[1] is "those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skill, attitudes, understanding and knowledge relating to occupants in various sectors of economic and social life" (UNESCO, 1999).

The TVET's evolution, as portrayed by Benavot (1983), can be linked back to technological changes necessitated by the industrial revolution. The industrialization process introduced mechanization, which urged greatly for specialized workforce capable of meeting the demands of the economic shift. This in turn demanded for capacitating institutions as well as human resources to meet the unmet market demand, which later on exposed its true potential for economic growth and poverty alleviation. This can be termed as the main aim of interventions made in the sphere of technical education and vocational training.

Thus TVET is gaining its importance throughout the world. There has been discussion to add TVET to the UNESCO 'Education for All' (EFA) and 'Education for Sustainable Development' (ESD) initiatives. The strengthening and upgrading TVET is also regarded as important for achieving the Sustainable Development Goals (SDGs).

RELEVANT INTERNATIONAL CONVENTIONS

Keeping in view the importance of the intervention in terms of its potential contribution in alleviating poverty and improving social inclusion, the international community has ratified several conventions to which Pakistan is a signatory. ILO, being central to the theme, advocates and reports on these conventions primarily referred as the core labour standards.

These conventions provide guiding principles to cater to the labour issues as well as to keep binding on the member states to comply with core labour standards. This makes the mention of these conventions of particular importance in order to keep the TVET sphere more informed and well-articulated as the requirement of embedding the TVET's designing, planning and implementation stages with the principle outlined in these conventions is a growing concern.

1 Editorial: The future of technical and vocational education

TVET INSTITUTIONAL ENVIRONMENT IN PAKISTAN

In 1947, Pakistan had a very low industrial base, which is only 4% of the total economy. The country started to industrialize in the 1950s and progress in this respect was very notable in the 1960s. The TVET systems were expanded and strengthened to sustain the growth of the manufacturing sector. This initial momentum, however, could not be maintained due to dearth of resources as well as diminishing policy commitment by successive governments towards the TVET sector. The sector thus gradually lost its way to meet the needs of the emerging job markets (GIZ 2011).[2]

With the renewed focus in recent years, TVET is gaining momentum despite its infancy. The available strand of literature reveals that the policy fronts both at national and provincial levels provide a well-defined cover exhibiting the government's commitment required for setting up a robust structure for flourishing the TVET sector.

In Pakistan, TVET has been re-structured at federal level by establishing a NAVTTC, while Technical Education & Vocational Training Authorities (TVETAs) were established at provincial levels. These are being run under certain Acts and policies providing legal cover and strategic direction. The TVET is being dealt by associating it with the education at secondary as well as at higher levels, which in turn produces semi-skilled, skilled and highly-skilled human resource. There are a number of administrative agencies responsible for looking after the TVET's affair at various levels. The respective provincial education departments administer the affairs concerning vocational institutes whereas the labour departments are responsible for technical training and apprenticeship centres. The TVET institutional system at the national and provincial levels is briefly described below (GIZ 2011)[3].

At the federal level, the Ministry of Professional and Technical Training has been established and empowered to lead role in the TVET business and head the NAVTTC and the National Training Bureau (NTB). At the provincial level, TEVTA was formed through an Ordinance (No XXIV of 1999) promulgated by Governor of the Punjab which has now been replaced by TEVTA ACT (ACT X of 2010) Punjab. In Khyber Pakhtunkhwa (KP), TEVTA KP was established under the TEVTA Act no xxx111 of 2015 on March, 2015, whereas the Directorate General Technical Education and Manpower Training was declared as the Secretariat of TEVTA, KP. In Sindh, TVETA Bill was passed by the provincial assembly on 29th March, 2010 and was declared as an Act on 14th April, 2010.

For the provincial level implementation of the above legislations/acts, the authorities such as the TEVTAs, and the Skill Development Councils (SDCs) are entrusted as autonomous bodies with planning and executing training programmes as well as carrying out tasks such as revi-

2 Labour Market Information - A situational analysis of Pakistan submitted to GIZ TVET Sector Support Programme by Jan de Voogd, MD and Prof. Dr. Muhammad Iqbal Qureshi (2011).

3 As above.

sion/development of curriculum, and training of trainers. In addition, the Directorates of Technical Education (DTE), Provincial Directorates of Manpower Training along with other agencies run their own vocational training programmes in the public sector. The National Training Board and the associated Trade Testing Boards are responsible for their own examinations and issuance of skill training certificates.

Thus as whole, the TVET sector is undergoing a restructuring process to position itself as a demand-driven training sector in line with the prevalent training system elsewhere in the world (NISTD 2009)[4]. It also aims, as expressed in the NSS 2009-2013, to introduce competency-based training to ensure that its training programmes are addressing the requirements of local and foreign employers.

STATUS OF LABOUR FORCE AND EMPLOYMENT IN PAKISTAN

The latest Labour Force Survey 2008-09 suggests that the labour force in Pakistan is estimated at 53.72 million, out of which 50.79 million persons are employed, about 35 million in rural areas, while 2.93 million persons are unemployed, thus resulting in an unemployment rate of 5.5%. The gender gap has been narrowed considerably over the years. Male unemployment has increased in the last two decades whereas female unemployment has decreased.

The NSS 2009-2013 by NAVTTC citing the Medium Term Development Framework 2005-2010 indicates that the country has an annual demand of nearly 950,000 skilled workers. This target presents a huge gap as the enrolment across above 1,500 TVET institutions was reported about 350,000. This case is presenting an interesting story as a big shortfall in the required number of skilled workers. The federal and provincial governments through NAVTTC and TEVTAs therefore; face a huge challenge to meet the growing demand of skilled workers for the country's economic development and export human resource elsewhere in the labour deficient countries.

Another challenge is the lack of emphasis on inclusiveness of the poor, female youth and disabled and their acquisition as skilled workers. Unfortunately, some traditional skills as integral part of rural society are not well respected in our society, for instance barber, carpenter, masonry, smith, pottery, etc. who are considered as low class in our social system. These skills are abandoned by the people while TVET sector does not offer formal training programme. However, this perception is positively changing now with the passage of time.

The poor people are excluded from the formal training system, as well as in the informal sector. They are marginalized out of training connections as training flourishes from social and community connections.[5] Thus, they remain likely to be uneducated, having greater difficulties in accessing formal skills training due to entry requirements related to qualifications and fees.

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

5 'Is Skills Training a Good Investment for the Poor? Evidence from Pakistan' by ShehryarJanjua (2011) from the Mahboubul Hag Human Development Centre

As a whole, in addition to policy instruments, there is a dire need of ensuring procedural measures that would ensure an effective implementation of the policies in line with the supply and demand requirements for achieving the overall associated objectives. There is also a need to establish the importance of quality and access of TVET services in a gender sensitive and pro-poor manner for achieving its associated objectives of employability, poverty reduction and economic growth.

STATUS OF TVET INSTITUTES IN PAKISTAN

A larger labour force is good for the rapid economic growth of the country provided it is used in the productive employment. It demands a mixture of quality skilled workers, tradesmen, technicians, technologists, engineers, researchers and development scientists. Without good education system and need-based TVET institutions/course curricula, quality skilled labour force for productive employment would not grow resulting into continued rise in youth un-employment and/or un-skilled workers. It becomes difficult for them to emerge out of poverty and fall into ant-social and/or state activities.

In Pakistan, presently there are over 3,581 public & private TVET institutions with an enrollment of 314,188 students working in the country and providing technical skill to the labour force. These include technology colleges, polytechnic institutes and mono-technic institutes, whereas commerce education for business sector is provided in over 200 commercial training institutes. In addition, vocational institutes also operate throughout the country. The authentic facts on private TVET enrollment and graduation are not available but according to NISTD study, there are more than 1,000 private institutes throughout the country that are engaged in providing TVET. Now it is being planned to produce one million skilled labour per year(NISTD 2009).[6]

The different duration of courses in various technical and vocational fields is being offered across the country, ranging from three-month certificate course to three year diploma of associate engineering (DAE). All these diverse approaches serve the purpose of employment, self-employment, and further improvement in education. The NISTD study has found that except three-year diploma of Associate Engineering Programmes, all other options are not up to the mark. As far as vocational training is concerned, various experiments in the country have not yielded positive results due to which most reform proposals invite controversy (NISTD 2009).[7]

The curricula of TVET focus remains on the acquisition of employable skills. Keeping in view of enhancing the skills-level of the work force, there is a need to revitalize, modernize and har-

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

7 Research Study on Technical and Vocational Education in Pakistan at Secondary Level National Institute of Science and Technical Education in collaboration with UNESCO, Islamabad (2009).
Composite Welfare indices of Khyber Pakhtunkhwa (2011)
CDS & EGS KP

monize TVET in the specialized institution of technical education, as well as integrate it with the general school education (UNESCO 2009). Furthermore, Skill Development Programmes for the skilled workers trained through informal sources *(Ustad-Shagird)* would be needed to enhance their skill and improve attitude towards the work in their areas.

The CDS, Khyber Pakhtunkhwa, a seven year development plan (2010-2017), and the EGS, beef up the commitment of government to invest Rs. 16,800 million in the development and improvement of technical and vocational education. The strategy emphasizes to create institution mapping and identification of the population's future need in the area of technical and vocational education. The provincial government policy documents emphasize on improving quality of technical education, introducing new trades, technology and courses to respond to the training need and market-oriented subject at institution level.

The strategies also lay emphasis upon the establishment of new technical and vocational institutions and provision of equipment and other missing facilities at the existing training institutions.

CHAPTER

2 BACKGROUND

The NSIS is established to facilitate TVET stakeholders and train demand driven graduates in the new emerging trade to overcome the shortage of skilled manpower within the country and complete the requirements of the oversea market. The need felt measures the effects of the economic transaction on the job market, through timely research.

The national Skills Information System is playing essential role in the provision of results to policy makers for information decision making. This information will provide solid ground to the policy makers in identifying key gaps in the current status of skilled labour force in the market and developing solutions to reduce the supply demand gap. The followings are the main stakeholders of the National Skills Information system.

Each stakeholder in the system is involved at different points to fulfill the essential objective to up-skill the vast labour force across the entire sector with a view to providing employment on sustained basis. The skill development cycle consists of the following steps. The NSIS cell aims to ensure timely data flown from the TVET institutions to provincial TVETA and national database. On the basis of which, the activity is designed in two phases. In phase-1, manual data would be collected from TVET institution and the train the institution for web based application. In phase-2, the demand side data would be collected.

TARGET POPULATION

The target population for the data collection exercise is all the public and private TVET (Technical & vocational) institutions across the country.

OBJECTIVE

The following are the sub-objectives.

a. To know about gap between demand and supply of skilled and semi-skilled workforce.
b. To provide statistical information to develop the national occupational skills standard.
c. To facilitate the TVET to utilize the NSIS data & statistics in planning and decision making.
d. To calculate the public & private sector contribution in development of skilled human capital

METHODOLOGY

There are two approaches for quantitative data collection from TVET institutions, one is manual through enumerators and second is through web based application. Initially, it was decided to use the manual approach in the beginning and train the TVET institution staff on e-questionnaire for future annual data collection. On the basis of decision of TWG, each TVETA is requested to nominate the TVETA's staff for data collection. The master trainers are trained on questionnaire and future web based approach while in some places, the enumerators are also used to collect data from private TVET institution.

Two days workshop was conducted for reviewing the NSIS supply and demand side data collection questionnaires. The revised questionnaire was again presented in the 7th TWG meeting and got final approval for data collection. In this way, data was collected from the TVET institutions in Pakistan.

For the purpose of data collection and capacity building of the TVET institutions on e-questionnaire, 96 master trainers were deputed from the staff of provincial TEVTA. In case of Baluchistan, the master trainers were trained, but collection was kept pending due to several causes as a result of which the available material was utilized in the analysis. In AJK, the nomination was received very late, on the basis of which private enumerators were hired to collect

data from all public and private TVET institutions. Islamabad faced a lot of problem regarding data collection as the organization like provincial TVETA did not exist, although data was collected due to enumerators. In future, data would be collected through e-questionnaire, which is available on NSIS website (www.skillingpakistan.org). In case of lack of internet access, the questionnaires available on NSIS website would be downloaded and processed in manual data feeding.

CHAPTER

3 GENERAL INFORMATION & BASIC FACILITIES

BUILDING CONDITION

The data displays multiple conditions of the building found in the TVET institutions of Pakistan and its provincial units. The result shows that average 58 percent buildings of vocational and technical TVET institutions were found satisfactory, 23 percent were declared partially satisfactory and around 10 percent were ranked as not satisfactory. It can be inferred that majority buildings serve the purpose of the TVET institutions for which they were constructed. The picture becomes conspicuous in terms of comparison when status of the building conditions is viewed in the provincial units. 15.9% of total buildings each in Sindh and AJK have been declared as unsatisfactory followed by Khyber Pakhtunkhwa 14.9 percent and Islamabad 10.9 percent. In addition to that, 42.5% buildings have been termed as partially satisfactory in Islamabad which is a matter of concern of low quality in the development of human workforce. The conditions of the buildings in Baluchistan and FATA are also not satisfactory which can be ranked as 40.8% and 36.6 percent of total buildings respectively. However, Punjab outweighs other provinces over satisfactory conditions of the buildings which accounts for 78.7% of total buildings followed by GB 58.3 percent, Sindh and AJK with each 56.1 percent as satisfactory.

Table 3

Province	Satisfactory	Partially Satisfactory	Not Satisfactory
Punjab	78.7	18.4	2.9
Sindh	56.1	28.0	15.9
Khyber Pakhtunkhwa	62.3	23.1	14.7
Baluchistan	51.0	40.8	8.2
Gilgit Baltistan	58.3	36.6	5.1
AJK	56.1	28.0	15.9
FATA	54.9	40.8	4.2
Islamabad	46.5	42.5	10.9

MEDIUM OF INSTRUCTION

The data regarding use of languages in the TVET institutions in the provinces given below in the table suggests that Urdu is the most commonly used language as medium of instructions in the classes which means that teachers/trainers prefer to use this language for the convenience of the trainees in the learning process for skill development. The use of Urdu forms 30.8% of total languages during transmission of information to the participants. It is followed by English 21.7%, use of mixed languages 27.3% and local languages 20% which contribute to the exchange of information between trainers and trainees. The comparison of data shows that GB takes a lead in the use of local languages that accounts for 55.8% of total available languages, followed by Sindh 50.8% and FATA 40.8%. 71.7% TVET institutions in the Punjab use English as medium of instruction whereas 90.4% institutions of Khyber Pakhtunkhwa use Urdu as medium of Instructions. However, Islamabad outweighs the provincial units in the use of mixed languages whose 98.5% TVET institutions are dependent on these languages followed by Baluchistan (71.4%), GB (16.1%), Sindh (9.1%) and Khyber Pakhtunkhwa (8.1%).

Table 4

Province	Urdu	English	Mixed	Local Languages	Others
Punjab	22.3	71.7	4.7	0.0	1.3
Sindh	36.4	3.0	9.1	50.8	0.8
Khyber Pakhtunkhwa	90.4	1.5	8.1	0.0	0.0
Baluchistan	6.1	10.2	71.4	12.2	0.0
Gilgit Baltistan	20.5	7.7	16.1	55.8	0.0
AJK	36.4	53.8	9.1	0.0	0.8
FATA	32.4	25.4	1.4	40.8	0.0
Islamabad	1.5	0.0	98.5	0.0	0.0

TYPE OF SHIFT

The results in table-5 reveal that average 57% TVET institutions use morning shift, 20% of them offer courses in evening shift and only 22% TVET institutions administer both morning and evening shifts regarding training to the participants. Keeping in view of comparison of TVET institutional capacity and enrollment, 34% spaces in technical institutions and 35% in vocational institutions are available for more enrollments to get training. The need based skilled workforce supply can be increased by offering the evening courses in mostly TVET institutions. The institutions in Khyber Pakhtunkhwa lead the morning shift of classes with 91.7% followed by Islamabad (76.4%), FATA (70%), Baluchistan (65.3%) and GB (60.1%)

which indicates the interest of the institutions for training in the morning session. The status of the remaining provinces in terms of morning courses offered is not so high which means that they divided their shifting programmes based on rising demand of people for the skill development purpose. The 50% institutions in Sindh province are engaged in offering evening courses followed by GB (31.5%) whereas 76.6% institutions in Punjab take lead in offering mixed courses in comparison with other provinces.

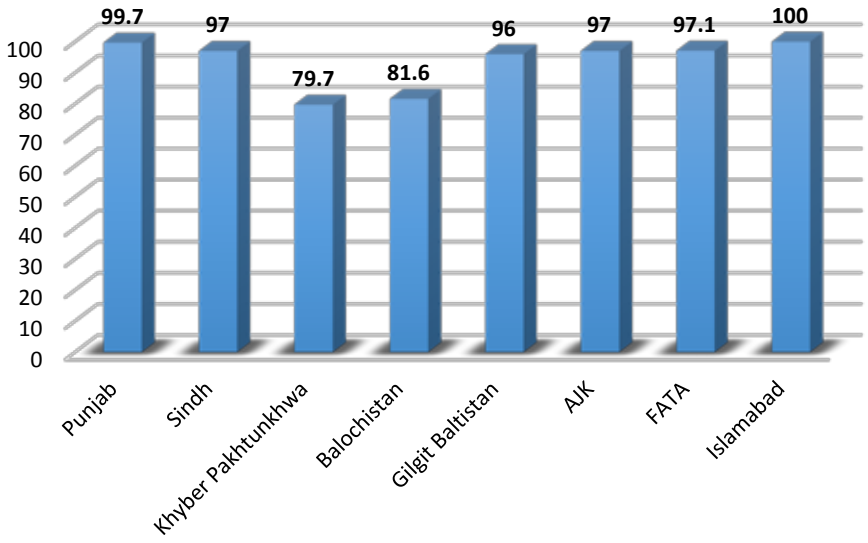
Table 5

Province	Morning	Evening	Both
Punjab	22.2	1.2	76.6
Sindh	33.3	50.0	16.7
Khyber Pakhtunkhwa	91.7	0.3	8.0
Baluchistan	65.3	4.1	30.6
Gilgit Baltistan	60.1	31.5	0.3
AJK	33.3	50	16.7
FATA	70.4	23.9	5.6
Islamabad	76.4	2.9	20.7

DRINKING WATER FACILITY

The data in the graph below manifests availability of drinking water facility in TVET institutions in Pakistan and its federating units. The interpretation of data shows that the institutions in Islamabad have 100% access to drinking water facility which reflects proper development of human skill through training. It is followed by Punjab with 99.7% drinking water facility for its institutions, Khyber Pakhtunkhwa having 79% drinking water facility for the institutions and Baluchistan institutions have 81.6% drinking water facility. The TVET institutions in FATA have 97.1% drinking water facility followed by Sindh and AJK with each 97% drinking water facility respectively. The encouraging results in terms of drinking water facility in the TVET institutions provide congenial environment for both trainers and trainees in teaching and learning process aimed at bridging gap between demand and supply of skilled labor force.

Figure 1



STATUS OF DRINKING WATER

On the basis of gathered data, it has been evaluated that drinking water remains available in 80% TVET situations whereas drinking water is available sometimes in 17% institutions and only 2% institutions are devoid of drinking water facility where opportunity of human skill development is bleak. Moreover, always availability of drinking water is found in the institutions in all the federating units. Furthermore, sometime availability of drinking water is almost found in the institutions of the provincial units with highest in GB (59.6%) and lowest in Punjab (1.2%). However, the proportion of not available drinking water is high in Baluchistan with 8.1% followed by FATA with only 2.9% while institutions of the remaining provinces show negligible proportion under this category.

Table 6

Province	Always available	Sometime available	Not available	Others
Punjab	96.2	1.2	0.1	0.0
Sindh	86.0	11.6	1.6	0.8
Khyber Pakhtunkhwa	93.3	6.7	0.0	0.0
Baluchistan	86.5	5.4	8.1	0.0
Gilgit Baltistan	40.4	59.6	0.0	0.0
AJK	86	11.6	1.6	0.8
FATA	54.4	42.6	2.9	0.0
Islamabad	100.0	0.0	0.0	0.0

SOURCE OF DRINKING WATER

It has been assessed on the basis of data in Table 7 given below that about 55% of drinking water comes from water supply in the TVET institutions followed by 24% water from tube wells, 17% water from wells and only 4% water from other sources. The largest source of drinking water used by the institutions in Punjab is well that accounts for 74.4% while GB has well as least source of drinking water. All the TVET institutions in the provinces use water supply as a major source with GB (96%), Baluchistan (80 %), Islamabad (77%), Khyber Pakhtunkhwa (65.3%) followed by institutions in other provinces with considerable dependent on this source. So far as tube well as source of water is concerned, the institutions in Sindh take a lead with 55% as users followed by FATA (39.1%), Khyber Pakhtunkhwa (19.2%) and negligible users by other provinces.

Table 7

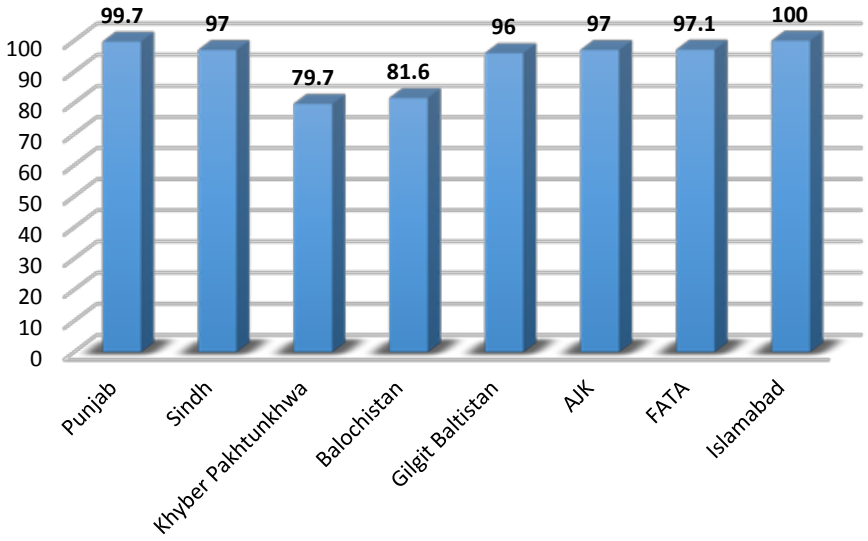
Province	Water Supply	Tube Well	Well (Water Pump)	Others
Punjab	13.4	5.5	74.4	6.7
Sindh	32.8	55.0	9.2	3.1
Khyber Pakhtunkhwa	65.3	19.2	7.5	8.0
Baluchistan	80.0	5.7	11.4	2.9
GB	96.2	2.1	0.3	1.4
AJK	32.8	55	9.2	3.1
FATA	42.0	39.1	14.5	4.3
Islamabad	77.5	13.3	9.2	0.0

ELECTRICITY

The graph regarding results about availability of electric connections in the institutions of the country discloses known fact that training and education cannot be carried out without electricity. The compared results reveal that 99% institutions are using electricity in the discharge of their functions. It means that efficiency and effectiveness suffered due to lack of electricity is absent in the institutions.

The comparison of the results about availability of electricity connections in TVET institutions in Pakistan, with known fact lays emphasis that electricity is essential in TVET institution. The compared results reveal that vast majority of the institutions (99%) have electricity connections, except FATA, where only 92.9% TVET institutions have electricity connections. The main reasons are lack of supply of electricity and use of alternative source (Solar).

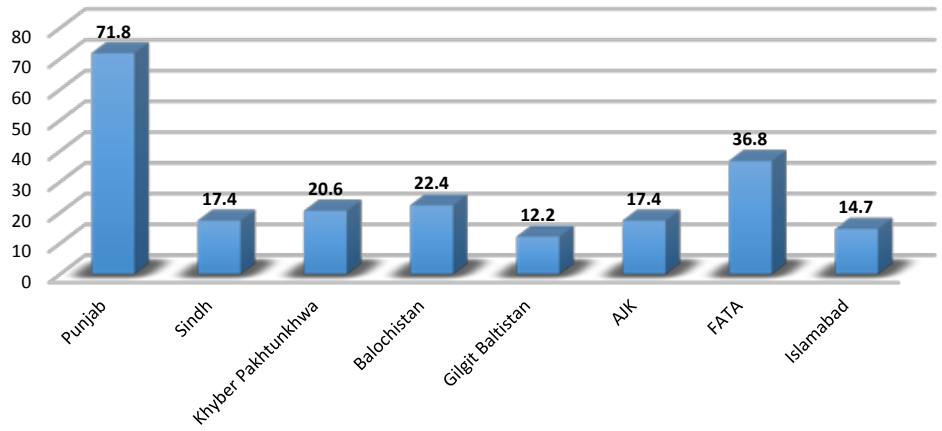
Figure 2



BACKUP SOURCE OF ELECTRICITY

The data in the graph indicates level of availability of backup source of electricity in the TVET institutions of different provinces in Pakistan. The backup source of electricity is essential in the wake of emergency when power outage occurs repeatedly. As per statistics, the institutions in Punjab have maintained around 71.8% backup source of electricity, followed by FATA 36.8%, Baluchistan 22.4%, Khyber Pakhtunkhwa 20.6%, Sindh and AJK with each 17.4%, Islamabad 14.7% and GB 12.2%. The Islamabad and GB are far behind in keeping up backup source of electricity as a result of which efficiency remains low in comparison with other provinces due to this factor.

Figure 3



TYPE OF BACKUP SOURCE OF ELECTRICITY

The tabulated data statement pertaining to types of backup source of electricity in Table 8 below has been assessed and found that majority TVET institutions are using UPS which account for 47% of total backup source of electricity available with them. The use of UPS is followed by adopting other types such as generators 43%, and solar 8% as backup source of electricity. The province wise data in terms of kind of backup source of electricity indicates that majority of the institutions is using UPS (94.6%) in the Punjab which is sufficient for official use in the public sector. In Sindh, the use of generators is the highest 86.4% while Khyber Pakhtunkhwa has use of UPS (50%), generator (30.8%), solar (17.3%) and 1.8% of institutions using more than one backup source of electricity. In Baluchistan, use of UPS is the highest (50%), generator (30%) and solar (20%) as backup source of electricity. 100% of 12.2% institutions in GB as backup source are using UPS only without relying on other sources. In AJK, majority of the institutions (17.4% of total) are using UPS only for official use. The FATA institutions have also the use of backup sources of electricity such as UPS (24%), generator (56%) and solar (20%). In Islamabad, the electricity supply is comparatively better with only 14.7 % used as backup source including UPS (41.5%), generator (56%), solar (20%). The efforts must be directed to strengthen the backup source of electricity in the TVET institutions of Islamabad and its provinces to avoid any breakdown in the emergency situation.

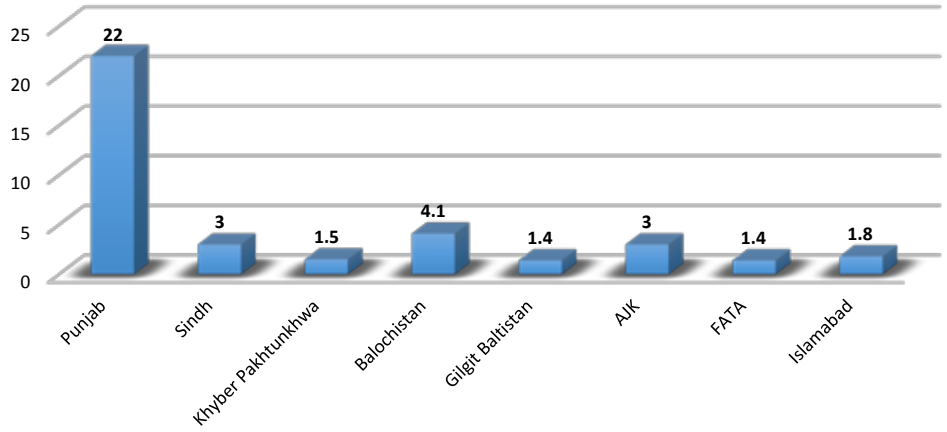
Table 8

Province	UPS	Generator	Solar	Others	More than I source
Punjab	94.6	3.2	1.8	0.0	0.4
Sindh	9.1	86.4	0.0	0.0	4.5
Khyber Pakhtunkhwa	50.0	30.8	17.3	0.0	1.9
Baluchistan	50.0	30.0	20.0	0.0	0.0
Gilgit Baltistan	100.0	0.0	0.0	0.0	0.0
AJK	9.1	86.4	0.0	0.0	4.5
FATA	24.0	56.0	20.0	0.0	0.0
Islamabad	41.5	51.2	7.3	0.0	0.0

HOSTEL FACILITY

The fact shown in the graph in figure 4 point outs about the hostel facility in the country that FATA surpasses other provinces on the availability of hostel facility (14.3%) in the TVET institutions for the students which mean that the students belonging to other areas don't face any residential problems. It was followed by Sindh (9.2%), AJK (9.1%), Baluchistan (6.1%), Punjab (3.9%), GB (3.4%) and Islamabad 3.3%. The institutions in Islamabad are on the bottom list with respect to the availability of hostel facility whose declining situation urges the administration to improve the hostel facility for providing convenience to the students in the process of learning.

Figure 4: Hostel Facility

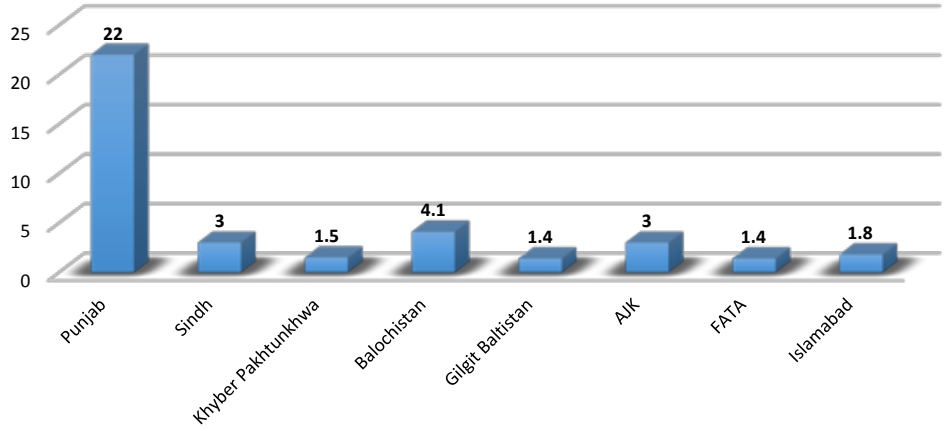


Sindh (9.2%), AJK (9.1%), Baluchistan (6.1%), Punjab (3.9%), GB (3.4%) and Islamabad 3.3%

CAFETERIA/CANTEEN

The graph shows variation in terms of having cafeteria/canteen in the TVET institutions of different provinces for provision of entertainment facilitates to the students. The institutions of AJK lead other provinces on availability of cafeteria/canteen that make up 54.4% of total facility. It was followed by Sindh 54%, FATA 27.1% and 3.3% in Islamabad, the lowest than others. The emerging situation indicates that deficiency in cafeteria/canteen where pointed out, is required to be removed for bringing amelioration in the human skill development.

Figure 5



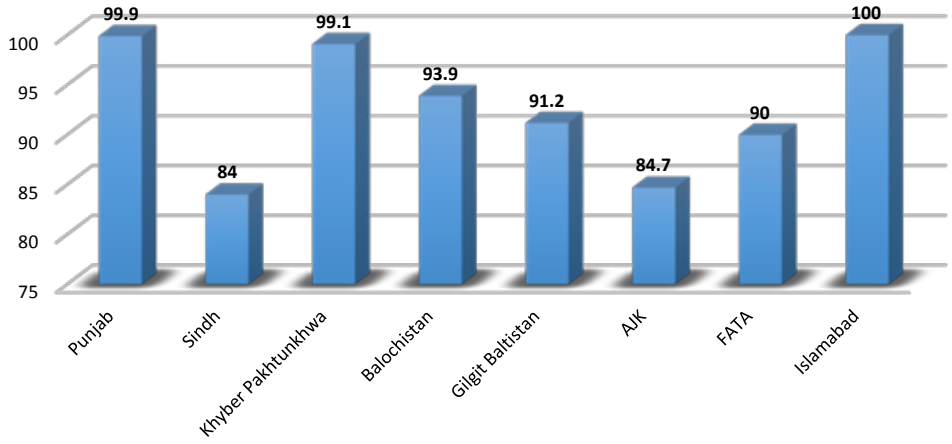
TRANSPORT FACILITY

The transport facility arranged by the institutions for the students plays key role in the improvement of efficiency in the education and training by reducing time and psychological stress of reaching late. The data presented in the graph below reflects the availability of transport facility in the TVET institutions of the country. The transport facility is the basic need of the students enrolled in the institutions which is required to be met on emergency basis. The data shows that 22% of the institutions in Punjab avail transport facility for the students as well teachers, followed by Sindh 3%. Only 1.4% institutions in both FATA and GB use the transport facility which means that less availability of transport facility is adversely affecting the efficiency of the students who encounter transport problems if the transport is not arranged by the TVET institutions.

TOILET FACILITY

The provision of toilet facility is the basic requirement to the students by the TVET institutions which must be met before start of the classes. The data available in the graph leads to the conclusion that majority institutions have toilet facility. The institutions in Islamabad have provided 100% toilet facility to the students, followed by Punjab 99.9%, Khyber Pakhtunkhwa 99.1%, Baluchistan 93.9%, GB 91.2%, FATA 90%, AJK 84.7% and Sindh institutions have 84% toilet facility. The deficiency of toilet facility in the institutions of the provinces shown in the data needs to be improved for provision of enabling environment of learning to the students.

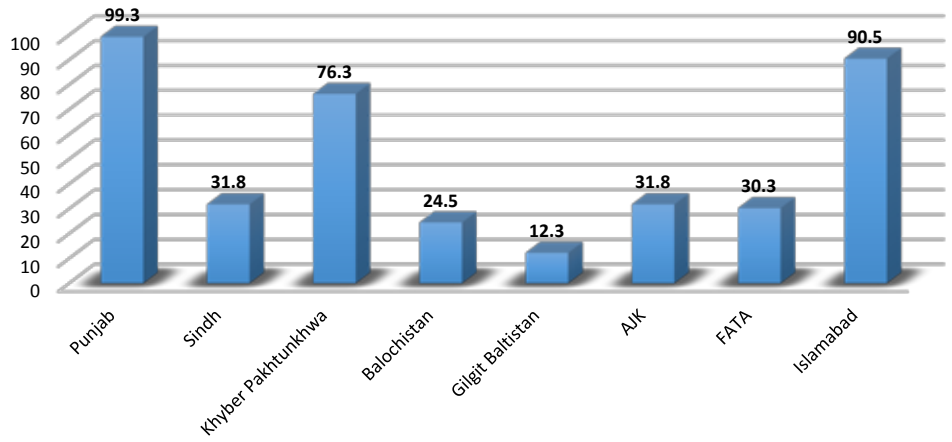
Figure 7



INTERNET FACILITY

The internet serves as a key to get an access to the latest information for the students in the institutions. The data shown in figure 8 indicates that provision of internet facility must be made to the students for the purpose of online low cost reporting by the institutions. The facility whittles down expenses on purchasing books from the markets drastically. It is a modern era that urges adoption of the latest technology in the enhancement of education and training of the students. So provision of internet facility is compulsory and needs to be applied at all cost. The initiatives launched by the institutions cannot yield desired results if internet facility is not provided. The Punjab ranks top in having internet facility in its institutions which accounts for its 99.3%, followed by Islamabad 90.5%, Khyber Pakhtunkhwa 80.0%, Sindh 31.8%, Baluchistan24.5%, AJK 31.8%, FATA 30.3% and GB 12.3% having the lowest internet facility.

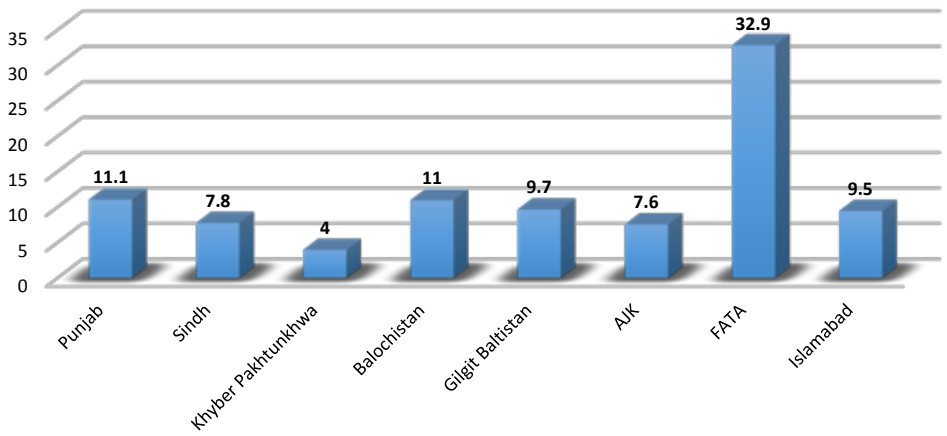
Figure 8



SPORTS FACILITY

The sport plays an important role in shaping mind and personality of the students accompanied with learning. No TVET institution can be called an institution if sport facility is not available for the students. The assessment from the graph below gives clear picture that majority of the private and public institutions don't have sport facility which means that facility to refresh the minds of the students for proper learning does not correspond to the provision practice. The available data demonstrates that 32.9% institutions of FATA avail sport facility that excels in other provinces. It was followed by Punjab 11.1%, Baluchistan 11%, GB 9.7%, Islamabad 9.5%, Sindh 7.8%, AJK 7.6% and Khyber Pakhtunkhwa 4%, the lowest of all in terms of having sport facility.

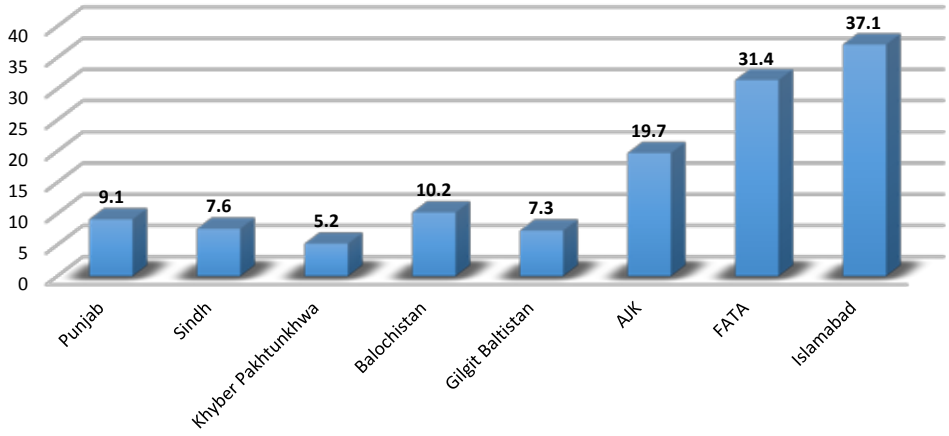
Figure 9



LIBRARY FACILITY

The library serves as a source of materials for the students required in the development of skill to deal with the problems. It necessitates the provision of library in the TVET institutions as guide for the students. The data in the graph manifest non-availability of library in the institutions that needs to be resolved for proper development of human skill. The provision of library facility in the institution of Islamabad is the highest with 37.1%, followed by FATA 31.4%, the lowest in Khyber Pakhtunkhwa.

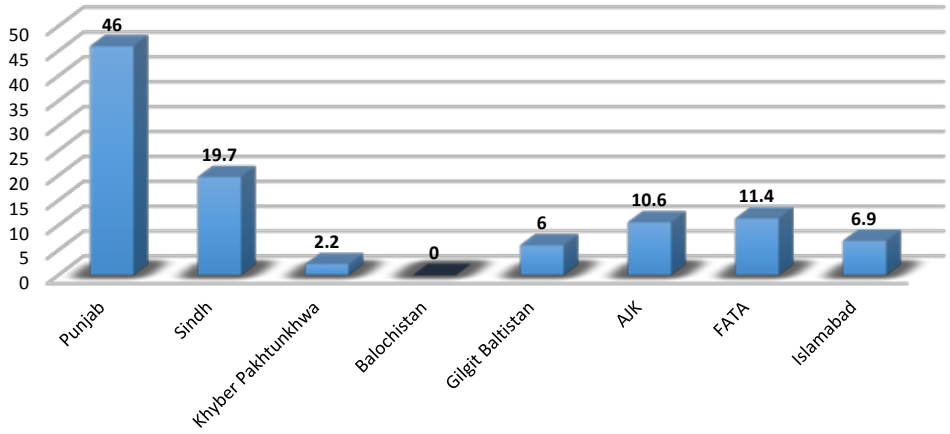
Figure 10



FIRST AID KIT

The first aid kit works in the emergency situation when incidence occurs in the workshop during working by the students. Its provision in the workshops of the TVET institutions is mandatory as the students are always at risk during training that might lead to the injuries. The data in the graph points out that Punjab is the only province where 46% of the institutions have first aid kit in dealing with the emergency matters. The proportion of this facility is dismally low in the institutions of other provinces, which is reflected by Sindh 19.7%, FATA 11.4%, AJK 10.6%, Islamabad 6.9%, and Baluchistan 0%.

Figure 11



CHAPTER

4 ENROLLMENT & ANALYSIS

STATISTICS OF VOCATIONAL INSTITUTES (AVERAGES)

The data presented in Table 9 suggests that total capacity of the vocational institutions (private & public) assessed was 314,706 students against yearly enrolment of 232,340 students. The gap between existing capacity and demand comes to be 82,366 students which can only be abridged through enhancing the capacity of institutions of Pakistan for producing required skilled labour force. This hiatus is unlikely to happen due to supply of skilled workforce on traditional pattern. The analytical look at the provincial data indicates that the dropout in all the provinces is normal except 27% in FATA and 10% in GB of total enrolled students. The dropout in the remaining provincial units and Islamabad is minimal which can be reduced to zero by increasing the efficiency of the institutions. The student teacher ratio is low against defined criteria in all the public institutions of the provincial units except Khyber Pakhtunkhwa (49:1 ratio) followed by Sindh (45:1).

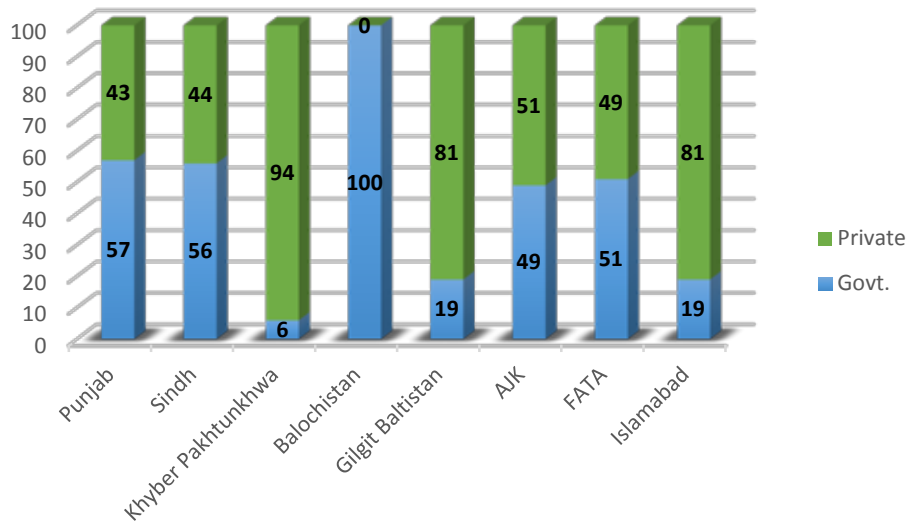
However, the private institutions have high ratio which reflect improved efficiency in producing skilled labor force. The vocational institutions of the Punjab take lead in producing around 85,790 (Public institution around 57%) skilled workforce to labour market, Khyber Pakhtunkhwa skilled workforce supply is 73,912 (Public institution share only 6%), Sindh skilled workforce supply is 37,292 (share of public institution 56%), GB supply 12,890 (Public institution share around 19%). In Baluchistan, NSIS cell only covers the public institutions, which gives supply to the labour market around 3,695. In AJK, the share of public vocational institutions in skilled workforce supply is 49% followed by FATA 51% and Islamabad 19% respectively. So far as number of the students per room is concerned, the institutions in Sindh accommodate 39 students in one room which is the highest of all. It was followed by Khyber Pakhtunkhwa having 32 students per room whereas the institutions in FATA have the least number of students per room which is equal to 14 students per room.

Table 9

Province	Capacity	Teaching staff	Dropout	Enrollment	Student teacher Ratio	No. of student/ Room
Pakistan	314706	13330	9153 (4%)	232340	17	21
Punjab	118587	8248	3099 (4%)	85790	10	15
Sindh	49450	836	1343 (4%)	37292	45	39

Province	Capacity	Teaching staff	Dropout	Enrollment	Student teacher Ratio	No. of student/ Room
Khyber Pakhtunkhwa	88387	1512	2506 (3%)	73912	49	32
Baluchistan	2972	207	116 (3%)	3695	18	22
Gilgit Baltistan	14446	626	1290 (10%)	12890	21	15
AJK	12161	611	65 (1%)	5227	9	16
FATA	7248	341	606 (27%)	2230	7	14
Islamabad	21455	949	128 (1%)	11304	12	18

Figure 12: Skilled workforce supply to labour market



STATISTICS OF TECHNICAL INSTITUTES (AVERAGES)

The data in the table evaluates that 26% capacity is less in all the public and private institutions of Pakistan that urges attention to focus on decreasing the gap of capacity otherwise it shall continue to rise resulting into less supply of skilled labour force into the market. It can be expressed in other words that the current total capacity of the technical institutions stands at accommodation of 81836 students for education and training. The share of the private technical institutions is only 11% that needs to be enhanced by inviting private sector for investment in this sector. The technical institution of Sindh supply skilled workforce is the highest (25998, 32%), followed by Khyber Pakhtunkhwa (25580, 31%) and Punjab (24104, 29%). The lowest supply is from institutions of Baluchistan, which is less than 1% that needs consistent work for enhancing its share.

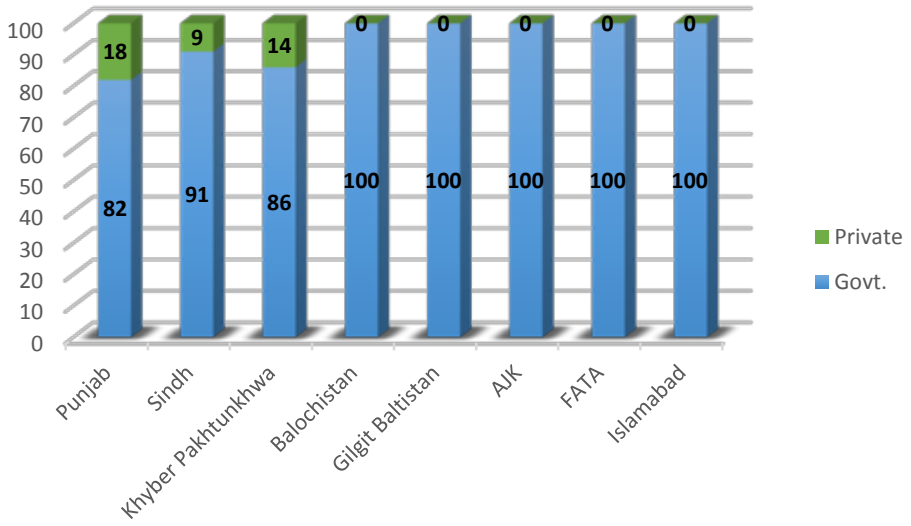
If the performance of private technical institutions regarding share in supply of skilled labour force in different provinces of Pakistan is viewed, then it can be assessed that their share is miserably less in the contribution to the vocational trade. In Punjab, the share of private

institutions is the highest with 18%, followed by Khyber Pakhtunkhwa 14% and Sindh 9%. The lowest student teacher ratio is found in Baluchistan (2:1), highest in Sindh (47:1), followed by Punjab (30:1) and Khyber Pakhtunkhwa, (29:1). The highest dropout is observed in Baluchistan (10%), followed by AJK with 8% of total dropout. The concrete measures are needed for bringing reforms in the technical institutions towards bridging gaps developed in key performance indicators over the years which can guarantee in the supply of required skilled labour force to the emerging demand of the market.

Table 10

Province	Capacity	Teaching staff	Dropout	Enrollment	Student teacher Ratio	No. od student/ Room
Pakistan	110184	2984	2665 (3%)	81836	27	32
Punjab	51250	796	1775 (7%)	24104	30	65
Sindh	20800	556	536 (2%)	25998	47	41
Khyber Pakhtunkhwa	25580	870	422 (5%)	25580	29	35
Baluchistan	560	96	18 (10%)	187	2	5
Gilgit Baltistan	1949	88	60 (3%)	1786	20	25
AJK	6290	126	146 (8%)	1927	15	27
FATA	765	52	19 (3%)	600	12	39
Islamabad	2990	400	111 (7%)	1654	4	15

Figure 13: Teacher to Student Ratio



PROVINCIAL DISTRIBUTION OF TECHNICAL & VOCATIONAL INSTITUTIONS

The data given in the Table 11 indicates about the status of all the public private institutions in Pakistan and its provinces. As per gathered statistics, there are 3,581 institutions working in Pakistan out of which 934 are technical and 2,647 are vocational institutions. The highest

number of institutions are found in Punjab with 1817 in number that comes to 51% of total institutions (Technical=662, Vocational=1,155), followed by Khyber Pakhtunkhwa with 599 in numbers as 17% of total (Technical= 30, Vocational= 569) and Sindh with 589 as 16% of total (Technical=186, Vocational 403). The lowest number institutions are found in FATA having 61 in numbers, which is 2% of total institutions in Pakistan (Technical=9, Vocational=52).

Table 11

Province	Technical	Vocational	Total
Pakistan	934	2647	3581
Punjab	662	1155	1817
Sindh	186	403	589
Khyber Pakhtunkhwa	30	569	599
Baluchistan	8	115	123
GB	8	167	175
AJK	12	102	114
ICT	19	84	103
FATA	9	52	61

TVET INSTITUTION DISTRIBUTION TYPE, LEVEL AND PROVINCE WISE

The assessment of data as per table given below provides information that 445 public and 489 private institutions under technical category and 617 public and 2,030 private institutions under vocational category are found in Pakistan. The proportion of the technical institutions out of total institutions stands at 26% whereas the skilled workforce supply of technical institutions is around 26% and share of the private technical institution is only 11% that invites special attention in this area for improvement. The data provides further information in terms of provincial units about the institutions level and distribution. In Punjab, the number of private institutions is 1,196, which is 66% of the total institutions in province. However, the proportion of private technical institutions is 51%, but its share in supply of skilled work force to the labor market is only 18%, which means that the private technical institutions in selected trade have fewer enrollments. On the other side in the same province, the proportion of the private vocational institutions is 75%, but the share in supply of skilled work force is 43%.

All the federating units present similar picture, expect Khyber Pakhtunkhwa, where proportion of the private institutions is 88% and share of skilled workforce is 14% in the technical side, but its share is the highest (94%) in the vocational side.

Table 12

Province	Technical		Vocational		G.Total
	Public	Private	Public	Private	
Pakistan	445	489	617	2030	3581
Punjab	337	325	283	872	1817
Sindh	65	121	127	276	589
Khyber Pakhtunkhwa	26	4	44	525	599
Baluchistan	2	10	34	81	127
GB	1	7	25	142	175
AJK	4	4	44	58	110
ICT	3	16	34	50	103
FATA	7	2	26	26	61

GENDER WISE DISTRIBUTION OF TVET INSTITUTIONS

The evaluation of data in Table 13 shows information about gender distribution of the institutions. On the average, 40% male specific institutions, 42% female institutions and 18% (Majority private institutions) for both genders are found in the country. Likewise in Punjab, the proportion of male institutions is 36&, female institutions 44% and co-education 20%. In Sindh, the proportion of male institutions is 32% followed by female 36% and 32 institutions for both gender. In Khyber Pakhtunkhwa, the proportion of male institutions is 71%, female 24% and 5% institutions for both gender. In Baluchistan, the proportion of male institutions is 42% followed by female 47% and 11% for both genders. The suggestion can be made that institutions providing co-education must be increased in terms of enhancing their share in the development of human skill for provision of skill labour force to the market.

Table 13

Province	Male	Female	Co-education	Total
Pakistan	1443	1497	644	3581
Punjab	662	793	362	1817
Sindh	190	210	189	589
Khyber Pakhtunkhwa	426	141	32	599
Baluchistan	53	60	14	127
GB	28	121	26	175
AJK	35	67	8	110
ICT	27	66	13	103
FATA	22	39	0	61

TRADEWISE VOCATIONAL INSTITUTIONS SUPPLY TO LABOUR MARKET

In **Punjab,** on vocational education side, the proportion of male is around 70%. The most popular trade in Punjab is Beauticians, which is 10% of the total skilled workforce supply while the share of the private sector in this trade is around 50%. The second most popular trade is Basic computer course, which is around 7% of total, while the share of the public sector is around 22% and the female proportion in the basic computer course is around 30%. The third most important trade is Driver, with proportion 6%.

In **Sindh,** the most popular trade is dress making & tailoring, which is 11% of the total vocational supply to labour market. The second most popular trade is AutoCAD, which is 7% of the total vocational supply and the third popular trade is Beautician with 6% of the total supply of skilled workforce. The female proportion in skilled workforce is around 30% and the share of the private institutions certificate level skilled workforce is around 44%.

In **Khyber Pakhtunkhwa,** the most popular trade on vocational side is Basic computer course, Dress making & tailoring, with each 7% of the total supply of skilled work force to labour market. The second most popular trade is rural poultry and diploma in the information technology with each 5% of the total supply. On the basis of ranking, the third most important trade is welding, AutoCAD and Masan with each 4% of the total skilled labour force supply. The female proportion in total skilled workforce supply is around 26% and the contribution of private sector TVET institutions is around 94%.

In **Baluchistan,** the most popular trade is Basic computer course, which is around 18% of the total supply of skilled workforce to the labor market, followed by welding 16% and the third most important trade is auto mechanic and motor winding, which is around 12% of the total skilled work force supply from TVET institutions of Baluchistan.

In **Gilgit Baltistan,** the private sector contribution is around 81% and majority of its supply is in domestic trade, but there is urgent need to check, whether the skilled human capital in domestic trade contributes to the household economy or not. The most important trade is tailoring, which is around 32%, followed by basic computer course, 16% and the embroidery 7% of the total skilled work force supply to the labour market. The male proportion in skilled work force supply is around 29%.

In **AJK,** the most popular trade is basic computer course, which is around 17% of total vocational side skilled work force supply to the labour market. The second most important trade is AutoCAD, 10% and the third is domestic trade tailoring and professional IT with each around 8%.

In **FATA,** the most popular trade is "English Speaking Course", which is 21% of the total vocational supply of Vocational TVET institutions in FATA. The second most popular trade is tailoring (100% female), which is 14% of total supply. The third popular trade is DIT, which is 13% of the total vocational skilled work force supply.

In **Islamabad,** the Capital of Pakistan, the most popular trade is Beautician, which is around 15% of the total skilled work force supply to the labour market from its vocational institutions. The second most popular trade is basic computer 14% and the third popular trade is tailoring and dress making. The contribution of the private vocational institutions in skilled work force supply is around 81% and female proportion is around 45%.

TRADE WISE TECHNICAL INSTITUTION SUPPLY TO LABOUR MARKET

The technical institutions include the colleges of technologies, polytechnics and mono-technic institutions, where the Diploma of Associate Engineer (DAE) is awarded by the concerned Board of technical Education (BTE). The total annual supply of technical institutions in different disciplines is around 81834, in which the share of public institutions is 89%.

In **Punjab**, the most popular trade is Electrical technology, which is around 20% of the total skilled workforce supply to labour market. The second most popular trade is mechanical and civil technology, with each 19% and the third popular technology is chemical 8% of total supply in DAE courses to labour market. The private technical institutions share is around 18% and the gender ratio is 1:20 (1 female: 20 male) whereas the most popular technologies in female are computer, Food Processing and Fashion designing.

In **Sindh**, the total annual supply in technical education is around 25998 (32% of total) to the labour market. The most favorite trade is civil technology, which is around 27% while the second most popular technology is electrical (22%) and the third is mechanical technology 18% of the total supply of technical institutions to labour market. The gender ratio in the supply of skilled workforce in technology is 1:16 (1 female: 16 male) while the contribution of public sector institutions is around 9%.

In **Khyber Pakhtunkhwa**, the total annual supply in technical trade is around 18486 (23%) to labour market, but the share of public technical institutions is around 86%. The gender ratio in the supply of skilled workforce in technical trade is 1:33 (1 female: 33 male). The most popular trade on technical side is civil technology with 35%. The second popular technology is electrical 29% and the third is mechanical technology with 12% of the total technical annual supply of the technical institutions in the province. .

In **Baluchistan**, the lowest enrollment in technical institutions is observed and its share in supply of 81834 graduates in different technology is only 0.2%, while the share of population (15-29) year is 3.8%. The popular trade is electronics with 31%, followed by Electrical technology with 26% and the third popular technology is computer & Information technology.

The share of **Gilgit Baltistan (GB)** in the annual supply of 81834 graduates in different trade is 2.4%; the female proportion is "0" in the supply of skilled workforce in technical trade. The most popular trade is civil technology, which is around 66%, followed by the second most popular trade electrical technology with 28% and the third, Computer and information technology with 5%. The supply of skilled workforce is squeezed to the limited technology, but the demand of the local economy is not addressed.

The share of **Azad Jammu Kashmir (AJK)** in the annual supply of the TVET graduates in technical field is 2.2% and the supply of technical workforce is squeezed to only "3" kind of technologies, which are civil, electrical and electronics. The gender ratio in technical supply of skilled workforce is 1:100 (1 female against 100 males).

The share of **FATA** in the annual supply of skilled workforce in the field of DAE is only 0.7%, while the share of population (15-29 year) is 2.2%. It means that intervention is needed to increase the supply of the skilled workforce from FATA. In FATA like other small provincial units (GB & AJK), the supply of skilled workforce in technical education is squeezed to fewer technologies.

The share of the **Islamabad** in the annual supply of skilled workforce in technical trade is around 2.0%, but the proportion of population (15-29) year is around 0.9%. The most popular technology is civil, which is 33% of the total supply from its technical institutions. The second most popular technology is mechanical (23%) and the third is electronics (15%). The gender ratio in skilled workforce supply is around 1:13 (1 female against 13 males).

CHAPTER

5 CONCLUSION & RECOMMENDATIONS

1. All the Boards of Technical Education (BTE) and Trade Testing boards (TTB), should be linked with national database for the purpose of planning, research and employability of the TVET graduates.
2. Web based linkage of the National database and provincial TVETA's is essential to reduce skilled workforce supply and demand gaps.
3. The performance of the high proportion private TVET institutions is not satisfactory as compared to public TVET institutions, which indicate to take some necessary steps to improve the standard of training.
4. There should be controlling authority for the private TVET institutions or to ensure the reporting line between the provincial TVETA's to create skilled workforce supply and demand balance.
5. TVET stakeholders and the policy makers in the short term should collect and analyze data about labor market needs; set the vision, goals and targets for the TVET system; initiate design of occupational standards, curricula, and student qualification requirements, with involvement of employers and other social partners.
6. All the TVET stakeholders' policy makers, training providing institutions, employers, ministry of Overseas Pakistanis, Overseas Employment Corporation, Bureau of Emigration and Overseas Employment and job seekers should use the same platform to reduce the gaps between skilled supply and demand of skilled labor force.
7. Sector wise digital classification would be addressed to prepare uniform list of vocational and technical education to reduce the variations.
8. All the provincial TEVTA's need to establish job placement offices in each industrial zone to link the job seekers, training providers with employment promotors and need to address the labour market demand.
9. The economic transection effects should be addressed prior to its negative impact on labour market, for this purpose, each TEVTA's needs to establish LMIS Cell.

ANNEX-1: STATISTICAL TABLES

TABLE 14: TRADE WISE ENROLLMENT IN VOCATIONAL INSTITUTIONS OF PUNJAB

Trade	Govt. Institutions			Private Institutions			G.Total
	Male	Female	Total	Male	Female	Total	
Beautician	0	4,378	4,378	0	4,410	4,410	8,788
Basic Computer	890	367	1,257	3,300	1,123	4,423	5,680
Vehicle Driving	2,537	367	2,904	1,883	110	1,993	4,897
DIT	1,273	396	1,669	2,196	238	2,434	4,103
Auto CAD	1,675	120	1,795	1,985	0	1,985	3,780
Certificate in Computer Application	1,813	1,030	2,843	0	0	0	2,843
Tailoring	324	115	439	568	1,700	2,268	2,707
Web graphic and designing	478	85	563	1,754	290	2,044	2,607
Plumber	828	0	828	1,191	0	1,191	2,019
Computer operator	461	349	810	1,201	0	1,201	2,011
CCA (3 Month)	1,332	360	1,692	231	47	278	1,970
Embroidery	28	170	198	0	1,713	1,713	1,911
Welding	477	0	477	1,234	0	1,234	1,711
D. Tailoring	194	1,379	1,573	0	0	0	1,573
Dress Designing & Making	73	1,125	1,198	23	350	373	1,571
Clinical Assistant	981	475	1,456	0	0	0	1,456
UPS Repairing	789	0	789	621	0	621	1,410
Carpenter	589	0	589	765	0	765	1,354
Electrical General	1,109	0	1,109	236	0	236	1,345
Auto & FM G III	1,325	0	1,325	0	0	0	1,325
Cooking	6	74	80	855	345	1,200	1,280
Electronics Technician	127	0	127	1,144	0	1,144	1,271
Import and export documentation	42	13	55	1,120	0	1,120	1,175
Industrial Electrician	525	0	525	642	0	642	1,167
Civil Surveyor	890	0	890	0	0	0	890
HV/ACR	435	0	435	455	0	455	890
CA & OP	541	323	864	0	0	0	864
Auto Electrician	420	0	420	384	0	384	804
Auto Mechanic	798	0	798	0	0	0	798
Matric Vocational	147	648	795	0	0	0	795
Refrigeration and Air conditioning	757	27	784	0	0	0	784
HVACR (1 Year)	191	0	191	591	0	591	782
Instrumentation	757	0	757	0	0	0	757
Motor Winding	94	0	94	598	0	598	692
Motor Cycle Mechanic	513	0	513	162	0	162	675
Electrician 2 Y	645	0	645	0	0	0	645

Trade	Govt. Institutions			Private Institutions			G.Total
	Male	Female	Total	Male	Female	Total	
Vocational Teachers Training Diploma	67	233	300	101	230	331	631
C.C.A	236	78	314	200	33	233	547
Advance Designing & Making	0	530	530	0	0	0	530
Welding G II	517	0	517	0	0	0	517
Tailoring (6 Month)	28	463	491	0	0	0	491
Turner	54	0	54	432	0	432	486
Office Management	0	35	35	435	0	435	470
Machinist	456	0	456	0	0	0	456
Auto & Diesel	431	0	431	0	0	0	431
Machine operator (1 year)	424	0	424	0	0	0	424
Electrical wireman	419	0	419	0	0	0	419
HVACR 2 Year	96	0	96	300	0	300	396
R & M Electrical Appliances	387	0	387	0	0	0	387
Surgical Instrument 2 y	13	324	337	0	0	0	337
Electrician 1 y	284	26	310	0	0	0	310
Tractor operator	70	0	70	234	0	234	304
HVACR GII	55	0	55	239	0	239	294
HVACR (Six Month)	52	0	52	236	0	236	288
Electrician 6 Months	285	0	285	0	0	0	285
Computer Hardware & Network Professional	236	13	249	0	0	0	249
Electrician GII	248	0	248	0	0	0	248
HVACR 3 Months	11	0	11	237	0	237	248
Auto & Farm Machinery	246	0	246	0	0	0	246
Machine Embroidery 3 m	0	237	237	0	0	0	237
Repair and maintenance electrical	233	0	233	0	0	0	233
C H & N P	194	30	224	0	0	0	224
Plumbing & Sanitary Fitting	219	0	219	0	0	0	219
Quantity Surveyor	195	0	195	0	0	0	195
Welder/Fabricator	142	28	170	0	0	0	170
Handicraft	0	166	166	0	0	0	166
Paint Polish	5	11	16	130	0	130	146
Electronic Application	145	0	145	0	0	0	145
Butcher	17	3	20	123	0	123	143
Fitter General	141	0	141	0	0	0	141
Food cooking and kitchen management	11	37	48	0	91	91	139
Fashion designing and dress making	0	135	135	0	0	0	135
Tailoring (3 Month)	21	112	133	0	0	0	133
FashionDesigning (1 year)	0	130	130	0	0	0	130

Trade	Govt. Institutions			Private Institutions			G.Total
	Male	Female	Total	Male	Female	Total	
Agricultural field assistant	118	0	118	0	0	0	118
Industrial stitching	43	73	116	0	0	0	116
Tailoring 1 year	77	38	115	0	0	0	115
Draftsman Civil (1 year)	113	0	113	0	0	0	113
ADDM	0	106	106	0	0	0	106
Auto & Farm Machinery G-II	106	0	106	0	0	0	106
City & Guild Advance	106	0	106	0	0	0	106
Foundry & Pattern Making	104	0	104	0	0	0	104
Mechanical	104	0	104	0	0	0	104
Kashigari	40	60	100	0	0	0	100
Electronics (2 year)	99	0	99	0	0	0	99
Draftsman Mechanical	98	0	98	0	0	0	98
Machinist G III	97	0	97	0	0	0	97
Motor winding (One year)	74	15	89	0	0	0	89
Halal Butcher	65	20	85	0	0	0	85
Industrial garment stitching	17	65	82	0	0	0	82
Tractor Operator 6 M	81	0	81	0	0	0	81
Welder Arc. & Gas	78	0	78	0	0	0	78
Auto Farm Machinery	77	0	77	0	0	0	77
welder 2 y	77	0	77	0	0	0	77
Fitter General G II	75	0	75	0	0	0	75
Basic Dress Design	0	19	19	0	55	55	74
Veterinary Assistant	73	0	73	0	0	0	73
Welder 6 Months	71	0	71	0	0	0	71
D.Com		69	69	0	0	0	69
Mobile phone repairing	68	0	68	0	0	0	68
Hair & skin Care (one year)	0	67	67	0	0	0	67
Machinist (24 M)	67	0	67	0	0	0	67
Tractor and diesel mechanic	65	0	65	0	0	0	65
Met & Welding	64	0	64	0	0	0	64
Draftsman Civil (24 m)	62	0	62	0	0	0	62
Draftsman (Civil) G-II	61	0	61	0	0	0	61
Textile Fitter	61	0	61	0	0	0	61
Draftsman (Civil) G-III	60	0	60	0	0	0	60
Computer Textile Designing	42	17	59	0	0	0	59
welder 1 year	59	0	59	0	0	0	59
Maudling& Modeling	56	0	56	0	0	0	56
Plumber (one Year)	52	0	52	0	0	0	52
Textile Weaving	52	0	52	0	0	0	52

Trade	Govt. Institutions			Private Institutions			G.Total
	Male	Female	Total	Male	Female	Total	
Fabric Printing (6 month)	0	50	50	0	0	0	50
Home Appliances Repair	49	0	49	0	0	0	49
Turner (6 Month)	47	0	47	0	0	0	47
Hand Embroidery	0	46	46	0	0	0	46
Motor Winding 6 M	46	0	46	0	0	0	46
Plumber (6 Month)	46	0	46	0	0	0	46
Wool Technology (2year)	43	0	43	0	0	0	43
Electrical application	42	0	42	0	0	0	42
Electronic Application GII	42	0	42	0	0	0	42
Textile sup: D&B	42	0	42	0	0	0	42
Ceramic Body Preparation	40	0	40	0	0	0	40
Ceramic Fring Technique	40	0	40	0	0	0	40
Machinist G II	40	0	40	0	0	0	40
Bulldozer Operator	39	0	39	0	0	0	39
EWT Deeni Madrissa	39	0	39	0	0	0	39
Machine shop	39	0	39	0	0	0	39
Moto Winding 6 m	39	0	39	0	0	0	39
Draftsman (Mechanical) G II	37	0	37	0	0	0	37
Hotel Management	32	5	37	0	0	0	37
Machine Embroidery (6 Month)	0	37	37	0	0	0	37
sports Goods 1y	37	0	37	0	0	0	37
Fitter General (2 year)	35	0	35	0	0	0	35
Professional Cooking	0	35	35	0	0	0	35
Commercial Art & Graphics (1 year)	0	33	33	0	0	0	33
Fitter Textile	33	0	33	0	0	0	33
Machinist (6 Month)	33	0	33	0	0	0	33
Plumber (3 month)	33	0	33	0	0	0	33
Electronics Application (1 year)	31	0	31	0	0	0	31
Industrial Electrician (3 Months)	31	0	31	0	0	0	31
Auto Mechanic	30	0	30	0	0	0	30
Industrial Electrician (6 Month)	30	0	30	0	0	0	30
Poultry Farming	30	0	30	0	0	0	30
MCM	28	0	28	0	0	0	28
Draftsman Mechanical G II	27	0	27	0	0	0	27
Electrician G-III	26	0	26	0	0	0	26
CNC machine Operator 3 Months	25	0	25	0	0	0	25
Fitter General 3 Months	25	0	25	0	0	0	25
Machine Embroidery 3 Months	0	25	25	0	0	0	25

Trade	Govt. Institutions			Private Institutions			G.Total
	Male	Female	Total	Male	Female	Total	
Machinist S/C	24	0	24	0	0	0	24
Civil Draftsman	23	0	23	0	0	0	23
Hair & Skin Care	0	23	23	0	0	0	23
Plastic blow and injection molding	22	0	22	0	0	0	22
Fabric Printing	0	21	21	0	0	0	21
Industrial Electronics G-III	21	0	21	0	0	0	21
Draftsman Mechanical 2 years	20	0	20	0	0	0	20
Fitter General (G II Level)	20	0	20	0	0	0	20
Turner 1 Year	18	0	18	0	0	0	18
Basic Measurement	16	0	16	0	0	0	16
Basic safety Precautions	15	0	15	0	0	0	15
Glazing & Decoration 3 Months	0	15	15	0	0	0	15
Industrial Electronics	15	0	15	0	0	0	15
Welding (3 Months)	15	0	15	0	0	0	15
CDM (1 Y)	0	14	14	0	0	0	14
Kitchen Gardening	0	13	13	0	0	0	13
Plumber G II	12	0	12	0	0	0	12
Hair& Skin Care (3 Month)	0	11	11	0	0	0	11
Tractor Mechanic GIII	11	0	11	0	0	0	11
Spray Painting (6 Month)	10	0	10	0	0	0	10
Textile sup: Spinning	10	0	10	0	0	0	10
Draftsman Mechanical G-III	9	0	9	0	0	0	9
Welding G II	9	0	9	0	0	0	9
Draftsman Mechanical	8	0	8	0	0	0	8
Spoken & Business English	0	8	8	0	0	0	8
Welding (Six Month) Morning	8	0	8	0	0	0	8
Polishing & Finishing	7	0	7	0	0	0	7
Fabric Printing (3 month)	0	2	2	0	0	0	2
Total	34,013	15,279	49,292	25,806	10,735	36,541	85,833

TABLE 15: TRADE WISE ENROLLMENT IN VOCATIONAL INSTITUTIONS OF SINDH

Trade	Govt. Institutions			Private Institutions			G.Total
	Boys	Girls	Total	Boys	Girls	Total	
AutoCAD	1,278	235	1,513	878	102	980	2,493
Beautician	0	865	865	6	1,489	1,495	2,360
Basic Computer	0	0	0	1,378	876	2,254	2,254
Tailoring and Dress Making	123	1,263	1,386	395	2,165	2,560	3,946
Fashion Designing	0	582	582	340	178	518	1,100
Professional IT	0	0	0	785	296	1,081	1,081

Trade	Govt. Institutions			Private Institutions			G.Total
	Boys	Girls	Total	Boys	Girls	Total	
Electrician	844	0	844	205	0	205	1,049
Computer Application & Programming	567	34	601	317	120	437	1,038
Ref: / AC	789	0	789	157	0	157	946
Welding	756	0	756	170	0	170	926
Advance Diploma information Technology	132	48	180	531	212	743	923
Garments making	0	0	0	247	659	906	906
Computer Networking	347	122	469	392	33	425	894
DIT	0	0	0	390	348	738	738
RTV Electronics	720	0	720	0	0	0	720
Civil Drafting	442	0	442	275	0	275	717
Plumbing	511	0	511	204	0	204	715
Office Administration	236	383	619	38	35	73	692
Oracle DBA	456	233	689	0	0	0	689
Machinist	453	0	453	218	0	218	671
Computer Operator	456	144	600	52	0	52	652
Office Automation	533	114	647	0	0	0	647
Montessori Training	0	73	73	210	362	572	645
Electronics	471	0	471	164	0	164	635
Dress Making & Designing	0	632	632	0	0	0	632
Computer Language	0	0	0	455	145	600	600
Auto Mechanic	485	0	485	107	0	107	592
Accounting & Auditing	367	178	545			0	545
Computer Hardware	225	11	236	244	0	244	480
Wood Working	456	0	456	0	0	0	456
Carpentry	433	0	433	0	0	0	433
Hand & Machine Embroidery	0	392	392	0	0	0	392
Machine Embroidery/ Hand Embroidery & tailoring	0	125	125	0	265	265	390
Technical School Certificate (TSC-i)	143	231	374	0	0	0	374
Knitting	0	349	349	0	0	0	349
Machine Embroidery		336	336	0	0	0	336
General Electrician	309	0	309	0	0	0	309
General Fitter	274	0	274	0	0	0	274
Cutting Special/Cutting Sewing Normal	0	262	262	0	0	0	262
Turner	259	0	259	0	0	0	259
Business Administration (DBA)	125	32	157	65	30	95	252
B.ED	0	0	0	171	76	247	247
Tractor Mechanic	246	0	246	0	0	0	246
Stitching & Sewing	0	233	233	0	0	0	233

Trade	Govt. Institutions			Private Institutions			G.Total
	Boys	Girls	Total	Boys	Girls	Total	
Industrial Electronics	219	0	219	0	0	0	219
Graphic Designer	0	0	0	132	78	210	210
I.P.C	202	0	202	0	0	0	202
Cabinet Making	173	0	173	0	0	0	173
Steganography	157		157	0	0	0	157
Arch & Interior	0	155	155	0	0	0	155
Wiremen	0	0	0	155	0	155	155
Mechanical Drafting	133	0	133	0	0	0	133
General Machinist	125	0	125	0	0	0	125
M/ Shop Group	117	0	117	0	0	0	117
Auto Electrician	0	0	0	99	0	99	99
Motor winding	0	0	0	79	0	79	79
Secretarial skill	0	69	69	0	0	0	69
drawing & Arts	0	0	0	29	33	62	62
Glass work	0	0	0	45	0	45	45
Business IT	0	0	0	28	11	39	39
Lab Technician	0	0	0	25	13	38	38
Printing & Graphics Art	38	0	38	0	0	0	38
Typing	0	0	0	38	0	38	38
DOM	0	21	21	0	0	0	21
Mobile Repairing	20	0	20	0	0	0	20
Total	13,620	7,122	20,742	9,024	7,526	16,550	37,292

TABLE 16: TRADE WISE ENROLLMENT IN VOCATIONAL INSTITUTIONS OF KHYBER PAKHTUNKHWA

Trade	Govt. Institutions			Private Institutions			G. Total
	Boys	Girls	Total	Boys	Girls	Total	
Basic Computer	103	18	121	4,423	422	4,845	4,966
Tailoring & Dress Making	218	143	361	2,278	2,271	4,549	4,910
Rural Poultry	0	0	0	456	3,088	3,544	3,544
DIT	211	23	234	3,045	179	3,224	3,458
Welding	55	0	55	3,101	0	3,101	3,156
AutoCAD	0	0	0	2,901	0	2,901	2,901
Mason	0	0	0	2,819	0	2,819	2,819
Leather Work	0	43	43	2,567	106	2,673	2,716
Fabric Painting	0	51	51	2,234	279	2,513	2,564
Machine Embroidery	12	122	134	11	2,219	2,230	2,364
Lathering & Cutting	0	89	89	2,245	0	2,245	2,334

Trade	Govt. Institutions			Private Institutions			G. Total
	Boys	Girls	Total	Boys	Girls	Total	
Marble Cutting & Polishing	0	0	0	2,234	0	2,234	2,234
Auto Mechanic	68	0	68	2,117	0	2,117	2,185
Hand Embroidery	10	152	162	44	1,856	1,900	2,062
Beautician	0	71	71	0	1,979	1,979	2,050
Wood Work	41	0	41	1,583	0	1,583	1,624
Domestic Tailoring	0	0	0	726	891	1,617	1,617
Motor cycle Mechanic	0	0	0	1,613	0	1,613	1,613
RAC	578	0	578	978	0	978	1,556
Glass work	0	0	0	1,345	0	1,345	1,345
Auto Electrician	14	0	14	1,245	0	1,245	1,259
Cutting & Sewing	0	150	150	145	900	1,045	1,195
Machine Knitting	0	26	26	27	1,124	1,151	1,177
Aluminum Mechanic	0	0	0	1,123	0	1,123	1,123
Carpenter	51	0	51	1,034	0	1,034	1,085
Hand Knitting	38	73	111	31	942	973	1,084
Auto Diesel	72	0	72	944	0	944	1,016
Tractor Mechanic	0	0	0	976	0	976	976
Post Matric	0	47	47	0	919	919	966
Motor Winding	0	0	0	961	0	961	961
Short Course	0	44	44	312	561	873	917
Cooking & Baking	0	0	0	645	231	876	876
Paint Wall Graphing	4	30	34	817	0	817	851
Driving	0	0	0	719	25	744	744
Post Middle	0	12	12	0	713	713	725
Electrical equipment repair	0	0	0	716	0	716	716
Printing	0	12	12	679	0	679	691
Aluminum Fatter	25	0	25	589	0	589	614
CNG Kit Installation	0	0	0	549	0	549	549
Shorthand & Typing	0	0	0	500	0	500	500
Electrician	499	0	499	0	0	0	499
CNG Plan/Compressor operator	0	0	0	434	0	434	434
Machinist	99	0	99	324	0	324	423
Electrical	152	0	152	267	0	267	419
Mobile phone Repairing	0	0	0	345	0	345	345
Radio & TV	97	0	97	248	0	248	345
Civil Surveyor	18	0	18	256	0	256	274
Industrial Electrician	97		97	155	0	155	252
Civil Draftsman	64	0	64	123	0	123	187

Trade	Govt. Institutions			Private Institutions			G. Total
	Boys	Girls	Total	Boys	Girls	Total	
Electrician G-II	180	0	180	0	0	0	180
RAC GIII	120	0	120	0	0	0	120
Plumber	109	0	109	0	0	0	109
Cooking & Home Management	0	37	37	0	23	23	60
Welding GIII	48	0	48	0	0	0	48
Machinist G-II	35	0	35	0	0	0	35
Plumber GIII	35	0	35	0	0	0	35
Drawing & Designing	6	24	30	0	0	0	30
Auto Machine GII	25	0	25	0	0	0	25
Draftsman Mechanical	25	0	25	0	0	0	25
Welding G-II	24	0	24	0	0	0	24
Total	3,133	1,167	4,300	50,884	18,728	69,612	73,912

TABLE 17: TRADE WISE ENROLLMENT IN VOCATIONAL INSTITUTIONS OF BALUCHISTAN

Trade	Boys	Girls	Total
Basic Computer	502	153	655
Welding	574	0	574
Auto Mechanic	457	0	457
Motor Winding	449	0	449
Beautician	0	344	344
Electrician	221	0	221
Dress Designing	0	189	189
Tailoring	103	56	159
AutoCAD	138	0	138
Plumbing	84	0	84
Refrigeration and Air Conditioning	76	0	76
Machinist	47	0	47
DIT	18	24	42
Embroidery	0	42	42
Commercial Cooking	35	0	35
Networking	33	0	33
Radio and Television Repair	32	0	32
CARPET EMBROIDERY	30	0	30
Computer Aided Design and CAM	23	0	23
Auto Electrician	17	0	17
Web development	16	0	16

Trade	Boys	Girls	Total
Civil Draftsman	14	0	14
Secretarial	0	14	14
Maintenance Mechanic	4	0	4
Total	2,873	822	3,695

TABLE 18: TRADE WISE ENROLLMENT IN VOCATIONAL INSTITUTIONS OF GILGIT BALTISTAN

Trade	Govt. Institutes			Private Institutes			G. Total
	Boys	Girls	Total	Boys	Girls	Total	
Tailoring, Sewing	216	539	755	612	2,778	3,390	4,145
Basic Computer Course	984	12	996	578	459	1,037	2,033
Cutting, Drafting,Embroidery,Knitting	0	73	73	9	770	779	852
Sewing , Knitting & Cutting	80	215	295	0	326	326	621
Beautician	0	0	0	0	489	489	489
English Language	0	0	0	210	270	480	480
Embroidery	0	0	0	0	455	455	455
Handicraft	0	0	0	0	434	434	434
Decoration & Designing	0	0	0	26	254	280	280
Hand Embroidery,Tailoring	0	156	156	0	119	119	275
Handicraft	0	15	15	0	235	235	250
knitting & Cutting	0	0	0	0	232	232	232
Hand Craft	0	0	0	0	215	215	215
Wood Spinning	0	25	25	103	57	160	185
Bag ,Purse Making	0	0	0	0	120	120	120
AutoCAD	0	0	0	112	0	112	112
E-Marketing	20	10	30	40	30	70	100
Adult Literacy	0	0	0	40	48	88	88
Hand Knitting	0	0	0	0	84	84	84
Students of Class V to VIII	0	0	0	80	0	80	80
Traditional Cap Making	0	0	0	54	26	80	80
Drafting, Cutting,Tailoring,Hand Embroidery, Hand Knitting	0	0	0	0	70	70	70
Radio Mechanic	18	0	18	49	0	49	67
Sewing/Handicraft	0	0	0	0	60	60	60
Computer Hardware & software Courses	0	0	0	31	24	55	55
Dress Designing	0	0	0	0	55	55	55
wood Craft	0	0	0	52	0	52	52
Baskets Making	0	0	0	6	45	51	51
Weaving Shawl	0	0	0	3	48	51	51
Building Electrician	0	0	0	46	0	46	46

Trade	Govt. Institutes			Private Institutes			G. Total
	Boys	Girls	Total	Boys	Girls	Total	
Italian Dhow	0	42	42	0	3	3	45
Shorthand	0	0	0	45	0	45	45
Over Lock &Peeko	0	0	0	0	40	40	40
Plumbing	0	0	0	38	0	38	38
Typing Short Hand	16	0	16	20	0	20	36
E-Publishing	0	0	0	15	18	33	33
UPS	0	0	0	32	0	32	32
Cloth Sewing	0	0	0	0	30	30	30
Electrician	15	0	15	15	0	15	30
Curtin Making	0	0	0	0	26	26	26
ZariTela Embroidery	0	0	0	0	26	26	26
Arts of Painting	0	0	0	14	11	25	25
Technical IT	0	0	0	10	15	25	25
Sharma	0	0	0	0	24	24	24
Dying	0	0	0	0	21	21	21
Gems Cutting	20	0	20	5	18	0	20
Mobile Repairing	0	0	0	20	0	20	20
Fruit Processing	5	14	19	0	0	0	19
Solar Installation	0	0	0	19	0	19	19
Cross Stitching	0	0	0	0	18	18	18
Cultural Heritage	0	0	0	0	15	15	15
Hunza Embroidery	0	0	0	0	14	14	14
Koresha	0	0	0	0	13	13	13
Press Designing	0	0	0	0	13	13	13
Language C++	0	0	0	12	0	12	12
Threat Netting	0	0	0	0	11	11	11
Pattu Weaving	0	0	0	2	18	20	20
Rug Weaving	0	0	0	0	10	10	10
Technical Education	0	0	0	0	10	10	10
Web Developing	0	0	0	10	0	10	10
Polishing	0	0	0	6	3	9	9
CharaBafi	0	0	0	3	5	8	8
Machin Cutting	0	0	0	0	6	6	6
Software	0	0	0	4	2	6	6
Photography	0	0	0	0	5	5	5
Spinning	0	0	0	1	4	5	5
Lattice Making	0	0	0	4	0	4	4
Scissor Cutting	0	0	0	0	4	4	4
Carving	0	0	0	3	0	3	3
G-Total	1,374	1,101	2,475	2,329	8,086	10,415	12,890

TABLE 19: TRADE WISE ENROLLMENT IN VOCATIONAL INSTITUTIONS OF AZAD JAMMU KASHMIR (AJK)

Trade	Govt. Institutions			Private Institutions			G. Total
	Boys	Girls	Total	Boys	Girls	Total	
Basic Computer course	139	81	220	454	212	666	886
AUTO CAD	0	0	0	538	0	538	538
Tailoring	43	212	255	0	141	141	396
Professional IT	165	2	167	208	19	227	394
Hand and machine Embroidery	0	24	24	0	275	275	299
Electrical	278	0	278	15	0	15	293
Knitting Tailoring	0	215	215	0	60	60	275
Civil surveyor	79	0	79	124	0	124	203
Computer Hardware	79	0	79	95	0	95	174
RAC	146	0	146	16	0	16	162
Plumbing	154	0	154	0	0	0	154
Mobile phone repairing	97	0	97	24	0	24	121
Quantity surveyor	100	0	100	8	0	8	108
Auto Mobile	97	0	97	0	0	0	97
Basic elementary IT Course	20	25	45	32	10	42	87
Electronics	54	0	54	24	0	24	78
Graphic Designing	0	0	0	55	19	74	74
Drafting & cutting	0	72	72	0	0	0	72
Hardware & software	46	0	46	20	0	20	66
DIT	37	3	40	10	15	25	65
English spoken Language	0	20	20	26	13	39	59
Embroidery	19	39	58	0	0	0	58
Welding	56	0	56	0	0	0	56
Safety officer	0	0	0	55	0	55	55
Electronics Application	33	0	33	0	0	0	33
Accounting	21	0	21	10	0	10	31
False celling	30	0	30	0	0	0	30
Networking	0	0	0	28	2	30	30
Draftsman	27	0	27	0	0	0	27
Machinist	7	0	7	20	0	20	27
Radio/TV	26	0	26	0	0	0	26
Advance computer diploma	0	6	6	18	0	18	24
Cutting & tailoring	9	15	24	0	0	0	24
Steel Fabricator	23	0	23	0	0	0	23
Fitter general	22	0	22	0	0	0	22
Aluminum	21	0	21	0	0	0	21
Graphic & Animation	0	0	0	21	0	21	21

Trade	Govt. Institutions			Private Institutions			G. Total
	Boys	Girls	Total	Boys	Girls	Total	
Multi-media	0	0	0	21	0	21	21
Tile and Marble Fixer	20	0	20	0	0	0	20
Civil Drafting	18	0	18	0	0	0	18
Logo designing	0	0	0	17	0	17	17
Mechanical drafting	0	0	0	14	0	14	14
Web Developer	0	0	0	12	2	14	14
Electrical Drafting	0	0	0	10	0	10	10
ShalSazee	0	4	4	0	0	0	4
Total	1,866	718	2,584	1,875	768	2,643	5,227

TABLE 20: TRADE WISE ENROLLMENT IN VOCATIONAL INSTITUTIONS OF FATA

Trade	Govt. Institutions			Private Institutions			G. Total
	Boys	Girls	Total	Boys	Girls	Total	
ENGLISH LANGUAGE	0	0	0	465	0	465	465
TAILORING	0	310	310	0	0	0	310
DIT	152	0	152	144	1	145	297
EMBRIODERY	0	250	250	0	0	0	250
KNITING & Tailoring	0	190	190	0	0	0	190
ELECTRCAL	125	0	125	0	0	0	125
WOOD WORKS	34	0	34	75	0	75	109
Basic Computer	0	0	0	72	11	83	83
INTERNET	0	0	0	60	0	60	60
WOOLE WORKS	0	0	0	0	60	60	60
METAL WORKS	52	0	52	0	0	0	52
Graphic Designing	0	0	0	45	0	45	45
Computer PROGRAMING	0	0	0	35	0	35	35
CIVIL Surveyor	28	0	28	0	0	0	28
Web DESIGNING	0	0	0	25	0	25	25
Professional IT	0	0	0	24	0	24	24
C++	0	0	0	23	0	23	23
HARDWARE	0	0	0	20	0	20	20
Web development	0	0	0	17	0	17	17
Networking	0	0	0	12	0	12	12
G.Total	391	750	1,141	1,017	72	1,089	2,230

TABLE 21: TRADE WISE ENROLLMENT IN VOCATIONAL INSTITUTIONS OF ISLAMABAD

Trade	Govt. Institutions			Private Institutions			G. Total
	Boys	Girls	Total	Boys	Girls	Total	
Beautician	0	0	0	46	1,622	1,668	1,668
Basic Computer	184	125	309	769	465	1,234	1,543
Tailoring, dress making	0	0	0	113	1,138	1,251	1,251
AutoCAD	78	0	78	502	71	573	651
Professional IT	0	0	0	464	127	591	591
Quantity Surveyor	313	0	313	150	0	150	463
Dressing designing & tailoring	0	0	0	65	393	458	458
Web development	0	0	0	258	42	300	300
Net working	0	0	0	277	2	279	279
hand Embroidery	0	125	125	0	140	140	265
Graphic Designing	0	0	0	211	34	245	245
Art & Painting	0	0	0	170	60	230	230
RAC	84	0	84	101	0	101	185
Electrician	112	0	112	53	0	53	165
Embroidery	0	152	152	0	0	0	152
Auto Diesel	0	0	0	150	0	150	150
Driving	0	0	0	123	21	144	144
English Speaking	0	0	0	80	63	143	143
Civil surveyor	49	10	59	56	27	83	142
Computer language	0	0	0	93	46	139	139
Plumber	22	0	22	101	0	101	123
Operator heavy machinery	80	0	80	23	0	23	103
Computer IT course	40	25	65	25	0	25	90
Radio Mechanic	86	0	86	0	0	0	86
DIT	0	0	0	36	46	82	82
Auto mechanic	50	0	50	25	0	25	75
Surveyor	50	0	50	22	0	22	72
Building electrician	33	0	33	38	0	38	71
Welder	18	0	18	45	0	45	63
Mobile Repairing	0	0	0	62	0	62	62
Animation	0	0	0	60	1	61	61
Typing	0	0	0	35	23	58	58
Short hand	0	0	0	55	0	55	55
Wood work	0	0	0	55	0	55	55
Fashion and Textile designing	0	0	0	7	47	54	54
Leather Goods making	0	0	0	50	0	50	50
Auto Electrician	48	0	48	0	0	0	48
CCTV Camera Technician	45	0	45	0	0	0	45

Trade	Govt. Institutions			Private Institutions			G. Total
	Boys	Girls	Total	Boys	Girls	Total	
Cycle mechanic	0	0	0	0	45	45	45
Gpon/Fith advance optical Fiber technology	45	0	45	0	0	0	45
DDM	0	0	0	0	42	42	42
Special education skills	0	0	0	30	12	42	42
Machine Embroidery	0	0	0	20	21	41	41
Civil Draftsman	40	0	40	0	0	0	40
Mobile Phone& Set repair	40	0	40	0	0	0	40
Mechanic II Engine	36	0	36	0	0	0	36
CD Man	30	5	35	0	0	0	35
Optical Fiber cable Jointing & Transmission system	35	0	35	0	0	0	35
Safety Officer	0	0	0	35	0	35	35
Computer Office Automation	0	0	0	0	34	34	34
Cutting & tailoring	0	0	0	0	32	32	32
Office management	0	0	0	0	29	29	29
Lab Technician Material	27	0	27	0	0	0	27
Advance web development	0	0	0	14	12	26	26
Desktop Publishing	0	0	0	20	5	25	25
Dispenser	20	5	25	0	0	0	25
Mechanic II	25	0	25	0	0	0	25
Multimedia Designing	0	0	0	12	12	24	24
Picture animation	0	0	0	24	0	24	24
UPS	0	0	0	23	0	23	23
Montessori Teaching	0	0	0	0	20	20	20
Total station	20	0	20	0	0	0	20
Computer software	19	0	19	0	0	0	19
Emergency medical Assistant	0	17	17	0	0	0	17
Electronic Application	14	0	14	0	0	0	14
Motion Graphics	0	0	0	12	2	14	14
Cardiac Technician	8	2	10	0	0	0	10
Medical Technical assistant	5	5	10	0	0	0	10
Hardware and Networking	0	0	0	9	0	9	9
Cad Modeling	0	0	0	6	2	8	8
Renal Dialysis technician	4	4	8	0	0	0	8
Sanitary Inspector	6	2	8	0	0	0	8
Total	1,666	477	2,143	4,525	4,636	9,161	11,304

TABLE 22: TECHNOLOGY WISE ENROLLMENT IN TECHNICAL INSTITUTIONS OF PUNJAB

Male	Govt. Institutions			Private Institutions			G.Total
	Boys	Girls	Total	Boys	Girls	Total	
DAE Electrical	4,371	0	4,371	432	0	432	4,803
DAE mechanical	4,327	0	4,327	334	0	334	4,661
DAE Civil	3,967	0	3,967	671	3	674	4,641
DAE Chemical	1,664	0	1,664	210	0	210	1,874
DAE (Electronics)	1,031	61	1,092	419	43	462	1,554
Computer Information Technology	472	2	474	567	171	738	1,212
DAE Food Processing & Preservation	597	0	597	123	234	357	954
DAE Auto & Farm Machinery Technology	915	0	915	0	0	0	915
Computer Information Technology	333	0	333	347	128	475	808
Auto Mechanical	365	0	365	64	0	64	429
DAE Textile Waving	291	0	291	120	0	120	411
Fashion Designing	0	20	20	110	276	386	406
Mechatronic	373	0	373	0	0	0	373
Auto & Farm	343	0	343	0	0	0	343
Dress Designing & Making	0	239	239	0	0	0	239
DAE Agriculture Science	138	0	138	0	0	0	138
DAE Petroleum	84	0	84	0	0	0	84
B. Tech. Mechanical	80	0	80	0	0	0	80
DAE Textile spinning	72	0	72	0	0	0	72
Petro Chemical	62	0	62	0	0	0	62
B. Tech. Auto Mobile & Farm machinery	45	0	45	0	0	0	45
Total	19,530	322	19,852	3,397	855	4,252	24,104

TABLE 23: TECHNOLOGY WISE ENROLLMENT IN TECHNICAL INSTITUTIONS OF SINDH

Trade	Govt. Institutions			Private Institutions			G.Total
	Boys	Girls	Total	Boys	Girls	Total	
DAE Civil	6,754	24	6,778	134	2	136	6,914
DAE Electrical	5,319	153	5,472	326	9	335	5,807
DAE Mechanical	4,761	0	4,761	0	0	0	4,761
DAE C.I.T	1,879	395	2,274	317	177	494	2,768
DAE Electronics	1,336	202	1,538	313	46	359	1,897
B.Tech Mechanical	167	0	167	336	0	336	503
DAE Chemical	333	0	333	89	0	89	422
DAE Garments Technology	43	255	298	0	0	0	298
DAE Auto & Diesel	286	0	286	0	0	0	286
DAE Petroleum	255	0	255	0	0	0	255

Trade	Govt. Institutions			Private Institutions			G.Total
	Boys	Girls	Total	Boys	Girls	Total	
B.Tech Civil	227	0	227	0	0	0	227
DAE Textile Dyeing & Printing (TDP)	175	50	225	0	0	0	225
Bio-Medical	130	82	212	0	0	0	212
B.Tech Electrical	208	0	208	0	0	0	208
DAE Architecture	114	86	200	0	0	0	200
DAE Telecom	35	0	35	123	4	127	162
DAE Food Preservation	124	33	157	0	0	0	157
DAE RAC	0	0	0	116	0	116	116
B.Tech (Hons) Electrical	99	0	99	0	0	0	99
DAE Apparel marketing & Merchandizing	0	0	0	52	25	77	77
B.Tech (Hons) Mechanical	73	0	73	0	0	0	73
B.Tech (Hons) Civil	58	0	58	0	0	0	58
DAE Meteorology	0	0	0	55	0	55	55
DAE Mining	47	0	47	0	0	0	47
DAE Bio Medical	0	0	0	25	18	43	43
Textile management& marketing	0	0	0	22	19	41	41
DAE Fashion Design & Management	0	0	0	15	18	33	33
DAE Instruments & Process control	0	0	0	30	0	30	30
DAE Animation	0	0	0	18	6	24	24
Total	22,423	1,280	23,703	1,971	324	2,295	25,998

TABLE 24: TECHNOLOGY WISE ENROLLMENT IN TECHNICAL INSTITUTIONS OF KHYBER PAKHTUNKHWA

Trade	Govt. Institutions			Private Institutions			G. Total
	Boys	Girls	Total	Boys	Girls	Total	
DAE Civil	5,844	0	5,844	589	36	625	6,469
DAE Electrical	4,718	74	4,792	480	78	558	5,350
DAE Mechanical	2,309	0	2,309	0	0	0	2,309
DAE Electronics	568	0	568	297	63	360	928
CIT	39	0	39	478	179	657	696
B. Tech Electrical	391	20	411	0	0	0	411
DAE Computer Hardware	345	39	384	0	0	0	384
DAE Architectural	197	0	197	139	28	167	364
DAE Telecom	320	0	320	173	16	189	509
DAE Chemical	275	0	275	0	0	0	275

Trade	Govt. Institutions			Private Institutions			G. Total
	Boys	Girls	Total	Boys	Girls	Total	
B. Tech Civil	168	0	168	0	0	0	168
DAE AUTO	143	0	143	0	0	0	143
DDM Technology	66	57	123	0	0	0	123
DAE RAC	109	0	109	0	0	0	109
DAE Petroleum	91	0	91	0	0	0	91
B.Tech Mechanical	67	13	80	0	0	0	80
Auto & Farm	47	0	47	0	0	0	47
DAE Food	30	0	30	0	0	0	30
Total	15,727	203	15,930	2,156	400	2,556	18,486

TABLE 25: TECHNOLOGY WISE ENROLLMENT IN TECHNICAL INSTITUTIONS OF BALUCHISTAN

Trade	Boys	Girls	Total
DAE Civil	22	0	22
DAE Electrical	48	0	48
DAE Electronics	56	2	58
DAE Chemical	24	0	24
DAE CIT	21	14	35
Total	171	16	187

TABLE 26: TECHNOLOGY WISE ENROLLMENT IN TECHNICAL INSTITUTIONS OF GILGIT BALTISTAN

Trade	Boys	Girls	Total
DAE CIT	88	0	88
DAE Civil	1,275	0	1,275
DAE Electrical	539	0	539
DAE Mechanical	10	0	10
DAE Telecom	15	0	15
Total	1,927	0	1,927

TABLE 27: TECHNOLOGY WISE ENROLLMENT IN TECHNICAL INSTITUTIONS OF AZAD & JAMMU KASHMIR (AJK)

Trade	Boys	Girls	Total
DAE Civil	992	13	1,005
DAE Electrical	707	5	712
DAE Electronics	69	0	69
G. Total	1,768	18	1,786

TABLE 28: TECHNOLOGY WISE ENROLLMENT IN TECHNICAL INSTITUTIONS OF FATA

Trade	Boys	Girls	Total
DAE Civil	96	0	96
DAE Electrical	331	0	331
DAE Electronics	94	0	94
DAE Telecom	79	0	79
Total	600	0	600

TABLE 29: TECHNOLOGY WISE ENROLLMENT IN TECHNICAL INSTITUTIONS OF IS-LAMABAD

Trade	Boys	Girls	Total
DAE Civil	552	0	552
DAE Mechanical	380	0	380
DAE Electronics	199	45	244
DAE Electrical	193	0	193
DAE Telecommunication	135	0	135
DAE CIT	56	44	100
DAE Architecture	0	50	50
Total	1,515	139	1,654