# Situation Analysis to Support the Programme Design Process for National Skills Strategy of the Islamic Republic of Pakistan

Janjua, Yasin and Mohammad, Irfan

SEBCON (Pvt) Limited , Socio-economic and Business Consultants, Islamabad

2008

Background Paper

# Situation Analysis to Support the Programme Design Process for National Skills Strategy of the Islamic Republic of Pakistan

**Yasin Janjua and Mohammad Irfan**

**December 2008**

**Submitted to:**
**gtz Deutsche Gesellschaft für**
**Technische Zusammenarbeit GmbH**

**Submitted by:**
**SEBCON (Pvt) Limited**
**Socio-economic and Business Consultants, Islamabad**

**TABLE OF CONTENTS**

## LIST OF TABLES

## LIST OF FIGURES



## LIST OF ANNEXES

**LIST OF MAPS**

## CURRENCY EXCHANGE RATES

(As of 13 December 2008)
Currency Unit – Pakistan rupees (Rs)

Re1.00 = US$0.013
Re 1.00 = GBP0.0085
Re 1.00 = Eur0.0095
$1.00 = Rs78.72
£1.00 = Rs117.99
∈1.00 = Rs105.34

In this report "$" refers to US dollars

Source: State Bank of Pakistan

## ACRONYMS AND LIST OF ABBREVIATIONS

| | |
|---|---|
| ABAD | Agency for Barani Area Development |
| ADB | Asian Development Bank |
| ADP | Annual Development Plan |
| ADSC | Agency Development Subcommittee |
| AEPM | Academy of Educational Planning and Management |
| AJK | Azad Jammu and Kashmir |
| APLAC | Asia Pacific Laboratory Accreditation Cooperation |
| ARTEP | Asian Regional Team for Employment Promotion |
| ATC | Apprenticeship Training College |
| AusAID | Australian Aid for International Development |
| BA | Bachelors of Arts |
| BBSYDP | Benazir Bhutto Shaheed Youth Development Program |
| BC | British Council |
| B-Com | Bachelor of Commerce |
| BISE | Board of Intermediate and Secondary Education |
| BoM | Boards of Management |
| BSc | Bachelors of Science |
| BTE | Board of Technical Education |
| B-Tech | Bachelor of Technology |
| B-TEVTA | Baluchistan Technical Education and Vocational Training Authority |
| CAD | Current Account Deficit |
| CBR | Crude Birth Rate |
| CBT | Competency Based Training |
| C-Com | Certificate of Commerce |
| CDR | Crude Death Rate |
| CDWP | Central Development Working Party |
| CIDA | Canadian International Development Agency |
| CLF | Civilian Labour Force |
| CMI | Census of Manufacturing Industries |
| CMTI | Construction Machinery Training Institute |
| CMTI | Construction Machinery Training Institute |

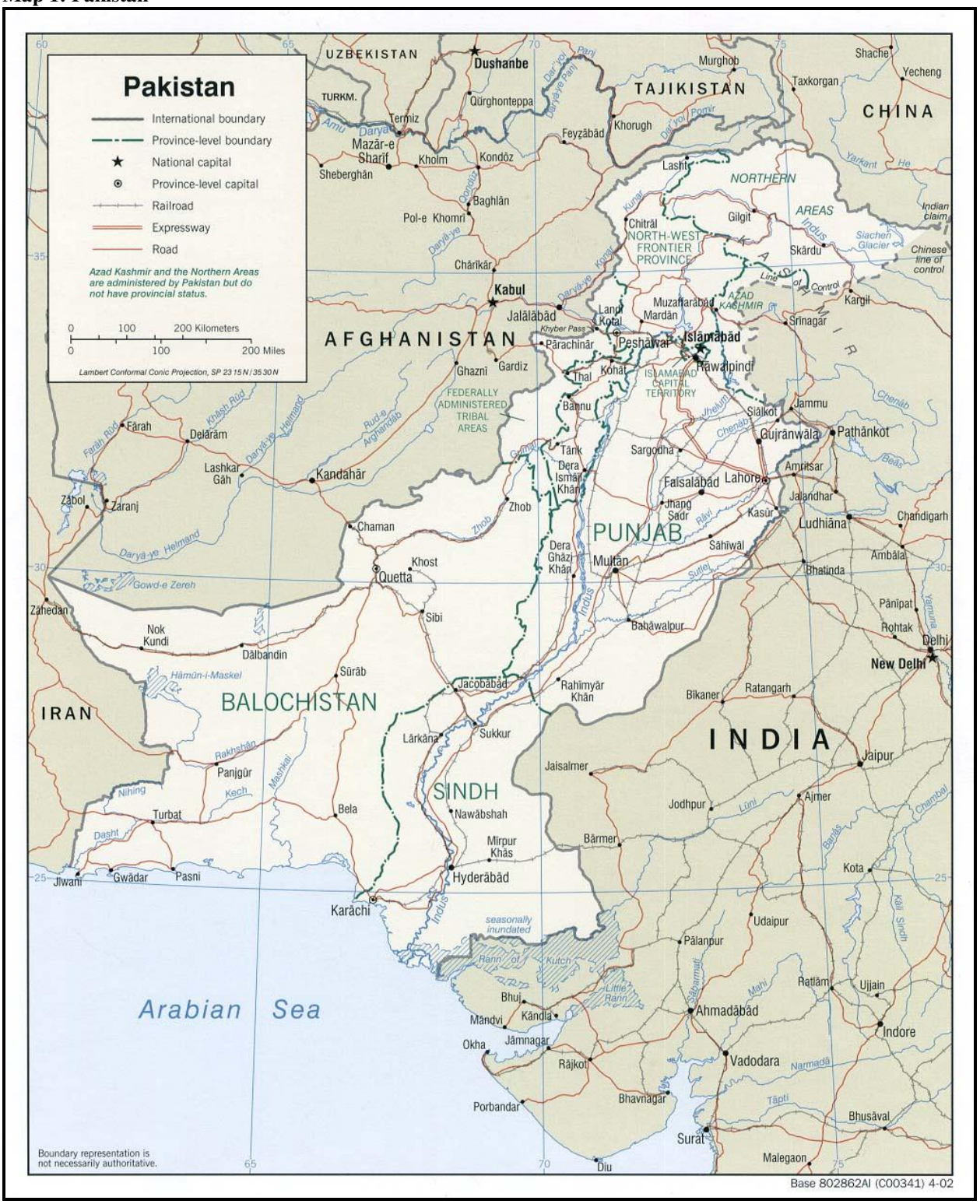
| | |
|---|---|
| CPI | Consumer Price Index |
| CSF | Competitiveness Support Fund |
| CTC | Commercial Training Centre |
| CTI | Commercial Training Institute |
| CTTI | Construction Technology Training Institute |
| DAE | Diploma of Associate Engineering |
| DCO | District Coordination Officer |
| D-Com | Diploma of Commerce |
| DFID (UK) | Department for International Development |
| DITE | Department of Industries and Technical Education |
| DMPT | Department of Manpower and Training |
| DTE | Department of Technical Education |
| DTEMT | Directorate of Technical Education and Manpower Training |
| DTT | Directorate General of Technical Training |
| DWE | Directorate of Workers Education |
| EC | European Commission |
| EFA | Education for All |
| EFP | Employers' Federation of Pakistan |
| ESRA | Education Sector Reform Assistance |
| EU | European Union |
| FANA | Federally Administered Northern Areas |
| FATA | Federally Administered Tribal Areas |
| FBS | Federal Bureau of Statistics |
| FCR | Frontier Crimes Regulation |
| FDA | FATA Development Authority |
| FES | Fredrich Eburt Stiftung |
| FFD | FATA Finance Department |
| FRDLA | Fiscal Responsibility and Debt Limitation Act |
| FSc | Faculty of Science |
| GCT | Government College of Technology |
| GDI | Gender Development Index |
| GDP | Gross Domestic Product |
| GER | Gross Enrolment Ratio |
| GGI | Gender Gap Index |
| GNP | Gross National Product |
| GoP | Government of Pakistan |
| GPI | Gender Parity Index |
| GPI | Government Polytechnic Institute |
| GPIW | Government Polytechnic Institute for Women |
| GTZ | German Agency for Technical Cooperation |
| GVI | Government Vocational Institutes |
| HDI | Human Development Index |
| HIES | Household Integrated Economic Survey |
| HRD | Human Resource Development |
| IAF | International Accreditation Forum |
| I-Com | Intermediate of Commerce |
| ICT | Information and Communication Technologies |
| ILAC | International Laboratory Accreditation Cooperation |

| | |
|---|---|
| ILO | International Labour Organization |
| IMCs | Institutional Management Committees |
| IMF | International Monetary Fund |
| IMS | Information Management System |
| IPSET | Institute for the Promotion of Science Education and Training |
| IS | Investment-Saving |
| ISCED | International Standard Classification of Education |
| IT | Information Technology |
| ITC | Industrial Training Centre |
| JICA | Japan International Cooperation Agency |
| KILM | Key Indicators of Labour Market |
| KLM I | Key Labour Market Indicators |
| KSE | Karachi Stock Exchange |
| LFP | Labour Force Participation Rate |
| LFS | Labour Force Survey |
| LHV | Lady Health Visitors |
| LMIA | Labour Market Information and Analysis |
| LPR | Labour Force Participation Rate |
| M. Phil | Master of Philosophy |
| M-Com | Masters of Commerce |
| MDG | Millennium Development Goals |
| MIIM | |
| MLMOP | Ministry of Labour, Manpower and Overseas Pakistani |
| MoE | Ministry of Education |
| MoL | Ministry of Labour, Manpower and Overseas Pakistanis |
| MTDF | Medium Term Development Framework |
| M-Tech | Master of Technology |
| NATO | Northern Atlantic Treaty Organization |
| NAVTEC | National Vocational and Technical Education Commission |
| NCE | National Census of Education |
| NEC | National Education Commission |
| NEP | National Education Policy |
| NER | Net Enrolment Rate |
| NGO | Non‐Governmental Organisation |
| NHA | National Highway Authority |
| NILAT | National Institute of Labour Administration and Training |
| NISTE | National Institute of Science and Technical Education |
| NPER | Net Primary Enrolment Ratio |
| NPO | National Productivity Organisation |
| NQF | National Qualifications Framework |
| NQP & IP | National Quality Policy and Implementation Plan |
| NSS | National Skills Strategy |
| NSTI | National Staff Training Institute |
| NTB | National Training Bureau |
| NTTC | National Teachers Training College |
| NVTP | National Vocational Training Programme |
| NWFP | North Western Frontier Province |
| OECD | Organization of Economic Cooperation and Development |

| | |
|---|---|
| OJT | On-the-Job Training |
| OPF | Overseas Pakistanis Foundation |
| PAC | Pacific Accreditation Cooperation |
| PC | Planning Commission |
| PCSIR | Pakistan Council of Scientific and Industrial Research |
| PES | Pakistan Education Statistics |
| PhD | Doctor of Philosophy |
| PIA | Pakistan International Airlines |
| PMSI | Prime Minister Skills Development Initiative |
| PNAC | Pakistan National Accreditation Council |
| PPAF | Pakistan poverty Alleviation Fund |
| PPP | Public Private Partnership |
| PPP | Pakistan Peoples Party |
| PSDP | Public Sector Development Program |
| PSIC | Punjab Small Industries Corporation |
| PSLM | Pakistan Social and Living Measurement |
| PTA | Parent Teachers Associations |
| PTB | Provincial Training Boards |
| PVTC | Punjab Vocational Training Council |
| PVTC | Punjab Vocational Training Council |
| RPL | Recognition of Prior Learning |
| Rs | Rupees |
| SBP | State Bank of Pakistan |
| SDC | Skill Development Council |
| SDP | Sustainable Development Plan |
| SME | Small and Medium Enterprises |
| SMEDA | Small and Medium Enterprise Development Agency |
| STR | Student Teacher Ratio |
| SUF | Student Union Fund |
| TE | Technical Education |
| TEC | Technical Education Council |
| TEVTA | Technical Education and Vocational Training Authority |
| TFR | Total Fertility Rate |
| TGR | Tax-to-GDP Ratio |
| TLR | Teaching Learning Resource |
| TNA | Training Needs Assessment |
| ToT | Training of Trainers |
| TREE | Rural Economic Empowerment |
| TSC | Technical School Certificate |
| TTB | Trade Testing Board |
| TTC | Technical Training Centre |
| TUSDEC | Technology Upgrading and Skills Development Company |
| TVE | Technical Vocational Education |
| TVET | Technical & Vocational Education & Training |
| TVT | Technical and Vocational Training |
| TVTC | Technical and Vocational Training Commission |
| UK | United Kingdom of Great Britain and Northern Ireland |
| UN | United Nations |

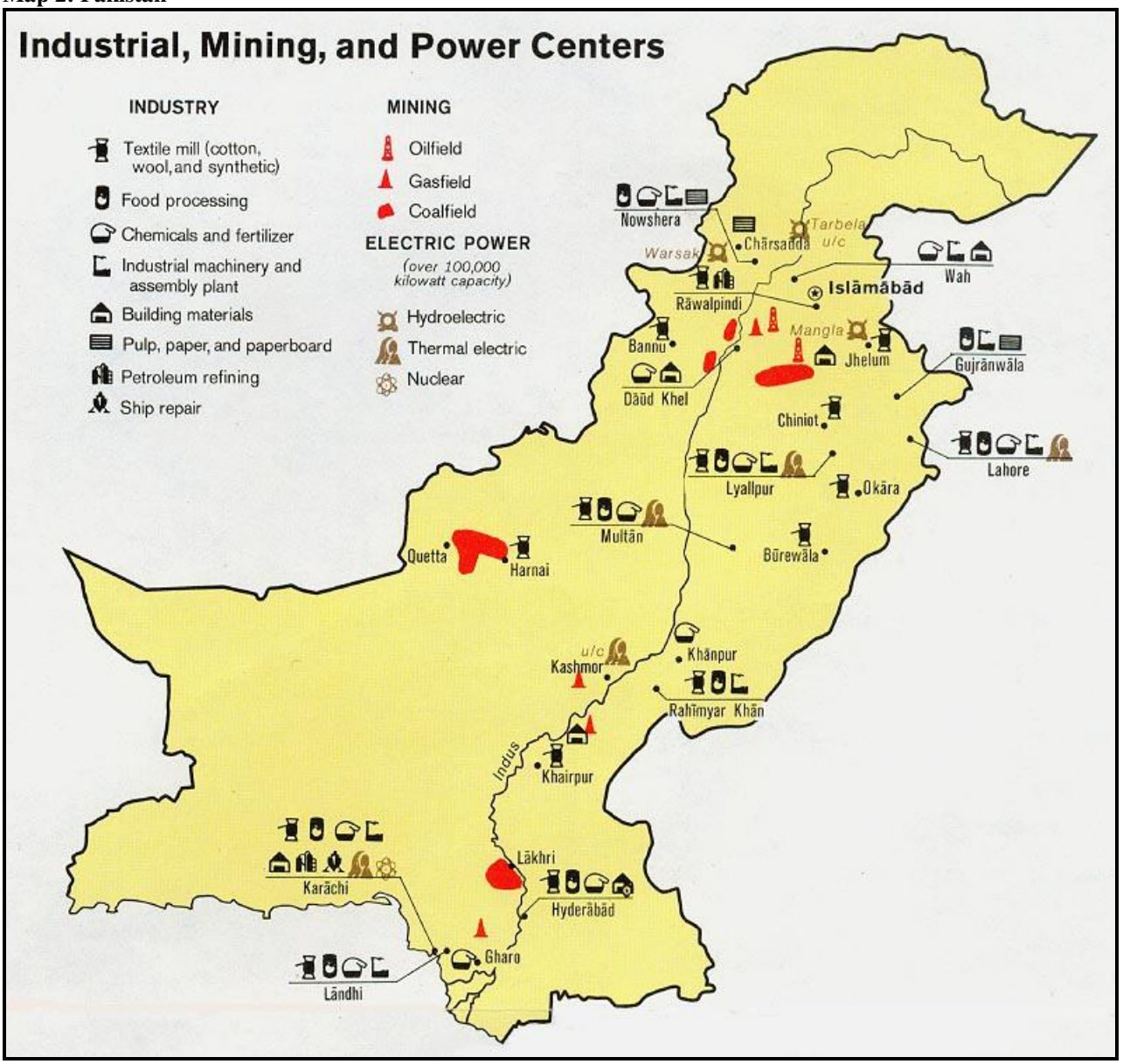
| | |
|---|---|
| UNDP | United Nations Development Programme |
| UNESCO | United Nations Educational, Scientific and Cultural Organisation |
| UNEVOC | International Centre for Technical and Vocational Education and Training |
| UNHCR | United Nations High Commissioner for Refugees |
| USAID | United States Agency for International Development |
| USD | United States Dollar |
| VET | Vocational Education and Training |
| VTC | Vocational Training Centre |
| VTE | Vocational and Technical Education |
| VTI | Vocational Training Institute |
| VTP | Vocational Training Programmes |
| WAPDA | Water and Power Development Authority |
| WB | World Bank |
| WTC | Women Training Centre |
| YES | Youth Engagement Services |
| YVC | Youth Vocational Training |

**Map 1: Pakistan**




Source: http://www.lib.utexas.edu/maps/middle_east_and_asia/pakistan_pol_2002.jpg

**Map 2: Pakistan**




Source: http://www.lib.utexas.edu/maps/middle_east_and_asia/pakistan_ind_1973.jpg

The Map gives a quick idea about the geographic location and type of Pakistan's industry. However, it is outdated and does not show big industrial districts of Sialkot, Gujrat, and Peshawar.

# ACKNOWLEDGMENTS

The research team was led by Yasin Janjua[1] and included Kamran Sadiq, Dr. Mohammad Irfan, Shehryar Janjua, Shahzad Anwar, Arif Naveed, Shmyalla Jawad, Wajeeha Bajwa, Nazam Maqbool, Arif Naveed, Mohammad Younas, Naeem Gul, and Shafi Gul.

We gratefully acknowledge the guidance received from Elisabeth Baehr, Robert Palmer, Jutta Franz, Ute Hoffman, and Michael Gericke for comments which helped to improve upon the earlier version of the paper and to GTZ for financial support. Robert Palmer also helped in editing the final version of the paper.

The report draws on a variety of data sources and earlier studies. It also draws heavily on four working papers written by Janjua and his team. "A Study of the Informal Economy and Informal Skills Acquisition in Pakistan" by Yasin Janjua and Shehryar Janjua; "International Support to TVET in Pakistan: Past and Present" by Yasin Janjua, Shmyalla Jawad, Wajeeha Bajwa, and Nazam Maqbool; "NAVTEC's Current and Projected Activities and Capacity to Institutionalize and Implement Reforms" by Yasin Janjua and Arif Naveed; and "Costing and Financing of TVET in Pakistan" by Kamran Sadiq and his team at SEBCON (Pvt) Ltd.

Up to date information on TVET System is not readily available and data sources have gaps and inconsistencies in Pakistan therefore, some shortcomings are expected.

[1] The author is a development consultant and can be contacted at yasin.janjua@gmail.com. The section on labour force challenge is contributed by Dr. Irfan.

# EXECUTIVE SUMMARY

1. Pakistan is strategically located in the South Asia and is a frontline state in war on terror. The country made remarkable progress since 2004 in terms of GDP growth (averaged above 6%) and poverty reduction. The fiscal year 2007-08 has proved to be a difficult one as most of the economic activity regressed in the aftermath of judicial crisis, the assassination of the former Prime Minister Benazir Bhutto, and the international financial crisis. Stabilizing the economy is an uphill task in the backdrop of political instability, a stagnant economy, slowing down production, inflation, and a global financial crisis which is not only affecting the export oriented firms the most but the export of manpower as well. On the other hand increasing militancy in the NWFP and terrorism is a major threat to peace, stability, and economic performance in the region.

2. Pakistan's population is growing fast and is experiencing a demographic transition marked by a rapid transformation in the age structure of its population. The proportion of people in the younger age group (15-24) is likely to increase tremendously. At present (in 2007-08), almost 46 million people are estimated to be concentrated in the age range 15-24 years out of total population160.9 million. The Labour Force Participation (LFP) rate (44.2%) is relatively low compared to other developing countries. The cost of doing business is relatively high in Pakistan; therefore, the government is making efforts to rationalize labour laws and other hindrances in this regard. Another reason for low LFP rate is lack of Technical and Vocational Education and Training (TVET) opportunities for majority of the population. Sweeping reforms in Pakistan's TVET system are necessary to align it with growing demand for workforce in a knowledge based economy as well as in response to competitiveness in global markets. It is imperative for Pakistan to train its manpower in order to increase productivity, adopt and sustain technological change and innovation, and to promote complementarity between skills and capital. Keeping in mind the challenges ahead the government has vowed to train one million people through TVET system by year 2010. A national body, National Vocational Technical Education Commission (NAVTEC) for reforming TVET has been formed in late 2005. Similar setups are in making at provincial level. Among provinces and other federal territories the Punjab has taken a lead by forming Technical Education and Vocational Training Authority (TEVTA) in 1999 (even before NAVTEC was formed). There is not much progress on TVET in Federally Administered Tribal Area (FATA) and the Federally Administered National Area (FANA). The Azad Jammu and Kashmir TVET infrastructure had been destroyed in the earthquake of 2005 and is being rebuilt with donor help.

3. This study aims at providing situation analysis of Pakistan's economy; labour and demography, education; and present situation in the TVET system and employment sectors. This paper also provides information about knowledge gaps and makes recommendations for further analysis and studies. It also acts as a Stimulus for discussion with development partners on how best to support the implementation of the National Skills Strategy for Pakistan. The paper covers issues related to governance and provision of TVET, labour market context, state of education and information on access, equality and quality. In the context of Pakistan, consolidated, accurate, and up-to-date information on TVET is not easily available. The information for this paper has been collected from a numerous sources; however, significant gaps may remain which highlight the need for further data collection and research on Pakistan's TVET system.

4. Over the last five years Pakistan's GDP growth performance, above 6% on average, has been considered extraordinary but now the economy is preparing for a soft belly landing. The latest

SBP annual report on the state of the economy, released in December 2008, forecasts GDP growth at 3.5%, which is signalling that the economy is heading towards a recession. The over all inflation stayed around 8.0-9.0% until December 2007. However, since January 2008 the consumer prices continued to rise and for the last 6 months registered, on average, a higher than 20% increase. If growth in inflation remains unchecked, it will have a drastic impact on the incomes of the poor. In recent years, poverty did decline in Pakistan; however, it is feared that earlier gains in poverty reduction may be lost due to higher than 25% inflation which has prevailed since April 2008.

5. Pakistan's economy is more or less semi-agrarian in nature. Produce of agro-based industries, cotton textiles and related products dominate its exports. Industrial performance depends on good harvest of cotton and other cash crops. For almost the last four years, since 2005, both agricultural and industrial growth rates have been declining. While the services sector has continued to grow and contributes almost 50% to GDP, the declining overall economic growth rate suggests that the services sector does not provide a strong base to sustain the overall economic growth rate. The agriculture sector contributes less than 23% towards GDP; however, it absorbs more than 40% the labour force.

6. The latest annual report 2008 on the state of the economy by SBP reports that the fiscal deficit has risen out of proportion to 7.5% of GDP against a target of 4.2% of GDP for FY2007-08. The government monetized 85% of deficit and borrowed record sums of money from the central bank which is the most inflationary source of financing. A low TGR is seemingly responsible for increases in the size of the fiscal and the current account deficit and has undermined the GoP's efforts to keep the revenue deficit close to zero. Currently, the tax-to-GDP ratio (TGR) is approximately close to 10%. The government continued to borrow excessively from the State Bank of Pakistan and touched a record of Rs. 688 billion in FY 2007-08. This has revealed the vulnerability of the fiscal framework in Pakistan which has rendered the implementation of monetary policy increasingly challenging for the State Bank of Pakistan (SBP). A smaller TGR may also limit the government's ability to generate the pro-poor fiscal space that is necessary to continue its poverty reduction programme. One of the key challenges for policy makers is domestic resource mobilization. The domestic savings have continued to register a declining trend as a percentage of GDP. According to provisional estimates, it is as low as 11.7% in 2007-08. The long-term economic growth is unsustainable without bridging domestic investment-savings gap. The external balance of payment is continually deteriorating and poses a major challenge for country's policy makers.

7. Pakistan's population has been growing fast. The annual population growth rate has been around 3% during 1970-90, which is now claimed to have declined to 1.9% (LFS 2005-06). At this rate the population is expected to double its size in 2045, hence further straining the resources, infrastructure and compounding the problems like poverty, and unemployment. The social sector expenditures are the lowest in South Asia. In recent years, the government has increased spending on education and health, yet this remains low as a percentage of GDP. As noted earlier, the expenditure on education is hardly 2% of GDP. The Government has pledged to gradually increase public expenditure on education up to 3% of GDP. Most of the public expenditure is devoted to basic education as well as higher education in Pakistan. Very little amount is allocated for the promotion of TVET. The existing Net Primary Enrolment Ratio (NPER) and primary school completion rate shows that almost 48% children do not participate in primary school education. Out of 52% who are enrolled in primary school, only 72% are able to complete 5 grades which subsequently means more than 50% children of school going age are either denied education (especially females) or unable to complete primary grades due to unfavourable circumstances. It

may be noted that the health sector is not receiving its due share either. Pakistan is already lagging behind other South Asian notions when it comes to four key health indices included in MDGs.

8. The informal sector is the largest sector of the economy not only in terms of absorbing the majority of labour force but also in terms of providing skills training to majority of the illiterate especially in the absence of any formal skills training opportunities. According to the Labour Force Survey 2006-07, the informal sector employs 72% of all workers outside agriculture while entire agriculture activity is also characterised as informal due to absence of organized corporate farming; therefore, agriculture sector is excluded from LFS. The labour force participation rate has also increased from 30.4% in 2003-04 to 31.8% in 2006-07. The youth forms a major proportion of the population. The Youth unemployment rate almost doubles the adult unemployment rate. If the economy fails to provide jobs for its youth it will give rise to serious social and moral problems. Given the changing nature of world economy Pakistan must invest in human resource development and enable its younger population to find reasonable employment in the new knowledge based economies for which acquisition of relevant skills is imperative.

9. The sectoral (industrial) employment composition underwent a change with the transformation of the economy. The industrial employment structure for males differs substantially from that for females. Almost two-thirds of the latter are engaged in agriculture compared with 38% of males in rural areas. In general, however, there is concentration of females in agriculture in rural areas and services in urban areas. The unemployment rate has been on the rise. It was 5.9% in 1997-98 rising to 8.3% in 2001-02, experiencing a modest decline to 7.8% in 2003/04 with further decline to 6.3 in 2005-06. The ILO Key Indicators in Labour Market (KILM) information system considers the sum of contributing family workers and own-account workers as vulnerable because they are less likely to have formal work arrangements. A large proportion of workers in vulnerable employment is indicative of a large subsistence-oriented agricultural sector, a lack of growth and subsequent job opportunities in formal economy, wide spread poverty, and increasing informalisation of the economy. Lack of market relevant skills acquisition could be one of the important factors behind the large size of vulnerable employment.

10. According to LFS, only 0.87% of the population (age group 10 years and above) have ever completed any technical and vocational training. A relatively higher proportion of males in contrast to females have reported technical and vocational training; 1.32% males in contrast to female 0.41%. Out of those technically and vocationally trained almost 80% joined labour force (male participation being 89% while female corresponding percentage is 48.8%). The service sector is the largest employer of technically trained population. Services combined with wholesale & retail trade and transport and storage employs 63.67% of the TVET Population in Pakistan. Moreover, the services sector is the largest employer of TVET female population; it employs 60.22% of the female TVET population. The non-relevance of informally obtained skills in new knowledge economy is another concern regarding mismatch of skills with the market demand.

11. TVET has been on policy and development planning agenda of the government of Pakistan ever since country's birth in 1947. Significant and visible expansion has occurred in Pakistan's TVET landscape during 1970s and 1990s with the help of major donors like the World Bank, the Asian Development Bank, JICA, UNESCO, and ILO. In 2005, the Medium Term Development Framework (MTDF) 2005-10 set up an annual training target of 950,000 students in TVET institutions of which 700,000 are expected to attend courses in the public sector while 250,000 are expected to be in the private sector training institutions. In this respect the NAVTEC has developed

a vision for the National Skills Strategy (NSS) also known as "Skilling Pakistan" The NSS vision document proposes to reform Pakistan's TVET system in order to provide the demand driven (market relevant) skills.

12. Pakistan's education system did not change much since independence. The education system can be divided into two streams; the general and technical and vocational education stream (This is defined by the Ministry of Education in education policy documents). The general education stream covers professional education as well. The TVET system in Pakistan is divided into technical education and vocational training aimed at preparing trainees for middle level technicians and lower level work force, respectively. General education is provided in schools, colleges, universities and professional colleges while technical and vocational education and training is provided in institutions which are specifically setup for this purpose. The majority of the technical labour is trained and supplied by technical institutes in the public sector; however, the private sector also plays an important role. The vocational training programmes are administered by federal and provincial agencies, NGOs and the private sector. However, now all training programs are being consolidated under the provincial TEVTAs. Many large scale public sector organisations like Pakistan Steel, Heavy Mechanical Complex and Private Multinationals meet their needs by designing their own formal training programmes. Similar programmes are also administered by various autonomous bodies and agencies.

13. National Census of Education (NCE) 2005-06 reports 3,059, registered and non-registered, TVET institutions in Pakistan of which 916 are in public sector while 2143 are in the private sector. The presence of a large number of private TVET providers emphasizes the role of private sector in TVET provision in Pakistan. Total enrolment in all institutions is reported as being 238,687, of which the majority is enrolled in vocational institutions. Almost 74% students in Pakistan's TVET system are enrolled in vocational institutions while 23% are enrolled in polytechnic and only 2.4% in monotechnics (The monotechnic institutes teach course in one discipline only, e.g. civil, mechanical, or electrical). The student teacher ratio (STR) ranges from 14-18.4 which is close to international norms for similar programmes. The proportion of female enrolment in TVET increased from 23% to 38% from 2001 to 2005, respectively. There are proportionately more girls enrolled in rural areas (43%) as compared to urban areas (36%).

14. The marginalized areas have particularly low proportions of girls enrolled not only in primary and secondary education but TVET as well. Pakistan's TVET system is underutilized, has high drop out rates, and the output is much less than the intake capacity and enrolment. Recently, the National Productivity Organization (NPO) has also completed a capacity utilization study of the Pakistan's TVET facilities in the public sector according to which the capacity utilization in TVET institutions is far below expectations. For instance capacity utilization of polytechnic institutes is around 65% in Punjab, 52% in Sindh, and approximately 68% in NWFP. Over the years Pakistan's TVET system has been plagued with problems that range from outdated technologies, outmoded curricula, and governance, etc. Less than 1% of the total students of relevant age group (0.6% in fact) are enrolled in TVET institutions. The enrolment in TVET system is the lowest compared to emerging economies of the region. This led King (2007) to assert that Pakistan has fallen behind the regional and international competitors in the production of highly skilled and mobile labour.

15. It has been noted earlier that despite growth in the number of TVET institutions the TVET system is highly fragmented and there are governance issues as well. The teaching staff lacks quality and do not have practical experience. There are no industry apprenticeship training

opportunities for teaching staff to bridge the gap between academic teaching and skill utilization. Majority of the staff of the TVET institutions are also graduates of problem infested TVET institutes which reinforces the vicious circle of poor training and subsequent teaching. The students do not have access to internship opportunities in a credit based system. The training certification and accreditation standards are not aligned with international standards. This may create setbacks in manpower exports as Pakistan is a big supplier of manpower to other countries especially in Middle East which is adopting technology at a faster pace. India, a competitor in skilled manpower export, on the other hand, has an edge over Pakistan with better trained workforce and is filling the gap in Middle East job market. India is also attracting outsourced jobs which are helping it boost the economic activity and employment opportunities. There has been less focus on making TVET more responsive to industry demand and labour market needs. The technologies and curricula in vogue in Pakistan is outdated and hence creates a mismatch in skills supplied to the labour market against the demand. Realizing the need for skills up-gradation, some multinational corporations have come up with their own in house training programs to overcome the shortage in skilled manpower. There has been a greater focus on delivery as compared to quality of TVET education.

16. An IFAD (2001) study has pointed out that the notion of demand driven courses is different among men and women in Pakistan. In case of women, the demand by prospective trainees to learn a particular skill was considered for introducing a TVET course in a local setting. It was discovered that the desire to learn a skill among women was influenced by their traditional roles and activities rather than income generating potential or market demand. Therefore, it is concluded that the demand-led approach to TVET also requires awareness among prospective trainees to understand the economic implication of their skill acquisition choices.

17. There are several TVET providers in public sector under different federal ministries and provincial departments. Besides, there are several other stakeholders as well. The following stakeholders are considered important in Pakistan's TVET landscape on the supply side: The Pakistan National Accreditation Council (PNAC), National Institute of Science and Technical Education, Directorate of Workers Education, Ministry of Labour, Manpower and Overseas Pakistanis and its Labour and Manpower Division, National Staff Training institute, Skill Development Councils, Ministry of Youth Affairs, National Institute of Labour Administration and Research, National Training Bureau and National Training Board, Overseas Pakistanis Foundation, The Punjab Vocational Training Councils, Technology Up-gradation and Skills Development Company. The providers and stakeholders lack coordination. However, after the creation of NAVTEC in 2006 and the provincial and regional TEVTAs, it is hoped that the consolidation of fragmented TVET may occur. The NAVTEC is created with an objective to regulate, facilitate and provide the coordinated & integrated policy direction for TVET. It is also supposed to enhance the role of private sector in the TVET implementation and management; and to make the TVET system responsive to the new technologies, trades and training methods. How successfully it has achieved its objectives almost after two years of its inception is a tricky question that needs to be assessed based on NAVTEC's ongoing activities against its mandate. It may be useful for the reader to know that NAVTEC's mandate lies in its Ordinance through which it came into existence.

18. So far the Punjab province has a taken a lead in establishing TEVTA and involving the private sector in designing TVET projects. Similar bodies are in the process of establishment in other provinces; however, there is sufficient evidence to suggest that private sector is not being given its due role in Sindh and NWFP. The TVET institutes in provinces have access, quality and equality issues. The Gender Parity Index (GPI) in TVET is approximately 0.40 which indicates

limited access for female population. However, in terms of vocational education and training the GPI is relatively better. The Student Teacher Ratio (STR) is comparable to international norms in Punjab, Sindh and NWFP while Baluchistan, AJK and FATA lag behind on this indicator.

19. In Pakistan, transition for a student from TVET to general education is not easy as TVET has often been associated with stigmas that obstruct personnel and skill acquisition and development. One has to do lot of effort to overcome these hurdles in order to move upward along the skill path to reach the pinnacle of skill pyramid. For example, the pathways leading to technical training from vocational are not clear and obstructed by several factors such as quotas in higher technical education colleges, unrecognized certification, etc. There are non-formal training opportunities as well in the form of On-the-Job (OJT) training opportunities.

20. Besides, formal and non-formal pathways to skills acquisition informal pathways to skills learning and training are also active. The most notable are *ustad-shagird* (Master-Apprentice) system. Another informal and sometimes non-formal pathway to learning is through Islamic Schools (Madrassahas) which are mostly unregulated. These schools cater for the marginalized and disadvantaged who cannot afford to pay for schooling. However, sometimes children from well off families also adopt this path due to family aspirations and socio-religious philosophies.

21. Under informal training arrangements there are no covenants in vogue in the informal sector of Pakistan. There are no pre-conditions for entering the skill acquisition arrangement in an *ustad-shagird* system such as minimum education or a binding contract, or minimum level of prior skills in the same or related discipline. Skills acquisition in family enterprises is the second most prevalent source of skill transmission. Children are expected to learn the skills of their parents, and their peers in the family. On-the-Job training (OJT) is also known to be an important mode of skill acquisition. This mode of skill transmission is also very common in both the formal and informal sector.

22. An important feature of Pakistan's TVET programme is training and apprenticeship programmes run by the public sector companies such as Pakistan International Airlines (PIA), WAPDA, Pakistan Telecommunication Corporation, Pakistan Railways, Taxila Heavy Industries, Pakistan Steel, Pakistan Television Corporation, Wah Ordinance Factories, etc. Some large firms and multinational corporations do provide substantial training to their new recruits. They also cooperate with the government on the Apprenticeship programmes setup under Pakistan Apprentice Ship ordinance 1962. Most training is conducted on-the-job within industries and through private institutions. The Government of Pakistan instituted an apprenticeship programme through Apprenticeship Ordinance, 1962. It was further supplemented with Apprenticeship Rules, in 1966. Under the ordinance all manufacturing firms / enterprises employing fifty or more workers are required to recruit one apprentice for every five skilled workers. Though it sounds like a good initiative; however, some analysts suggest that it has increased the cost of doing business.

23. There is no doubt that the financing of Pakistan's TVET scene is fraught with difficulties in terms of improper resource allocation and utilization of funds. There is not much consolidated information regarding the financing of the TVET system in Pakistan. The budget records are available with TEVTAs and NAVTEC. A detailed analysis of per unit costs in public sector technical and vocational training institute is not available. Therefore, there is a dire need for budget analysis for benchmark and costing purposes. A working paper was commissioned to provide some latest information on costing and financing of TVET in Pakistan and the Section V of this report

heavily draws on it. The unit costs in vocational training institutes are relatively higher than technical training institutes.

24. While the provision of technical education is mentioned in the constitution of Pakistan, however, in the past the government has not allocated enough funds for its promotion. Several TVET initiatives were started with the help of donors but the reform agenda is unfinished. Sweeping reforms in Pakistan's TVET system at all levels are necessary due to the dire need to align the TVET system with growing demand for workforce in a knowledge based economy as well as in response to competitiveness in global markets. The reform in TVET system is also imperative because of ongoing changes in demographic patterns and subsequent shift in labour markets.

# I

# PAKISTAN SOCIO ECONOMIC PROFILE

## 1. Introduction

> *There is an immediate and urgent need for training our people in scientific and technical education in order to build up our future economic life…*
> *Father of the Nation Quaid-i-Azam Mohammad Ali Jinnah (1947)*[2]

The country is strategically located at the cross roads of the famous silk and spice route of the South and Central Asia. It is bordered by India to the East, the Arabian Sea in the South, China in the North, Iran in the West, while Afghanistan borders Pakistan to the West and a small strip of land in the Northwest, called the Wakhan corridor, in Afghanistan's Badakhshan province (less than 10 miles wide in places) separates it from Tajikistan.

The country is strategically located and is a frontline state in the war on terror. The Federally Administered Tribal Area (FATA), serving as a buffer zone between Pakistan, has become a controversial safe haven for militants from across the world. They are not only skirmishing with Pakistan's armed and security forces, Northern Atlantic Treaty Organization (NATO) troops in Afghanistan but at times fighting wars with each other as well. This militancy has destabilised the whole region and is spreading to the adjacent areas in the North Western Frontier Province (NWFP)[3]. In order to quell militancy and enforce the writ of the state, Pakistan's military has stepped up its operations in the FATA and some sensitive areas of the NWFP against foreign and local militants and rebels, respectively[4]. This has proved to be a disabling environment in an economy which is already suffering from political and economic instability, inefficiency in production, and declining productivity. The terrorism continues to be a major threat not only to foreign investment but to domestic commerce as well.

The country has made remarkable progress in terms of economic growth over the past five years from 2003-04 to 2007-08; the GDP growth rate averaged above 6% annually over this period. However, the fiscal year 2007-08 has proved to be a difficult one as most of the economic activity regressed in the aftermath of judicial crisis and the assassination of the former Prime Minister Benazir Bhutto which subsequently resulted in emergency rule during which press freedom, basic

[2] http://www.pakistan.gov.pk/Quaid/speech13.htm

[3] If it is not almost impossible, it is certainly very difficult to continue employment generation and livelihood activities in a hostile environment. However, by leaving everyone at the mercy of such a disabling environment, it makes matters worse for those who are seeking livelihood in a war torn economy in which there is less to offer in terms of rehabilitation programmes. Though the entire country has borne the brunt of war on terror, the NWFP and the FATA have suffered the most. There are militants and there are warrior tribes in FATA who switch sides (See Ahmad Rashid 2008). Even when there was no militancy the tribes fought with each other under collective responsibility doctrine of punishing the entire tribe or clan for the crime of a single individual. The government has given them a protection through Frontier Crime Regulation law of 1910 under which they resolve the collective responsibility through Jirga. If the resolution is not accepted by the parties they are allowed to go to Pakistan's court system; however, they don't! Instead fighting is sometimes considered best to settle issues.

[4] This has resulted in a fresh wave of suicide attacks not only in all the four provinces but federal capital as well. Recently, a five star hotel, the Marriot Islamabad, has been completely gutted by fire in a suicide blast which resulted in at least 60 deaths and 257 injured (See http://www.thenews.com.pk/updates.asp?id=55845 )

human rights, and civil liberties were severely impacted. Elections were held in early 2008; however, the political instability continued. Lawyer's movement and strike calls by political parties almost paralysed business activities in major cities. Pakistan is certainly facing an uphill task in stabilizing the economy in the backdrop of stagnant economy, slowing down production, rising inflation, and a global financial crisis which is affecting the export oriented firms the most. A continued progress in poverty reduction and improving the lot of poor may become a daunting task.

**Table 1: Pakistan Country Profile**

| | | Data year |
|---|---|---|
| **Official name** | The Islamic Republic of Pakistan | |
| **Capital** | Islamabad | |
| **Provinces and Regions** | 4/4 | |
| **Distircts/Tehsils/Blocks/Villages** | 127/366/26696/50589 | |
| **Languages** | Punjabi, Sindhi, Siraiki, Hindko, Pashtu, Urdu, Balochi, Others | |
| **Population** | 160.9 Million | Calculations based on Economic Survey (2007-08) |
| **Gender Ratio** | 104.5 males per 100 females | |
| **Area** | 796,096 sq km | |
| **Population Density** | 166.3 persons per sq km | |
| **Geographical Location** | $33^0$ 40' N, $73^0$ 08' E | |
| **Religion** | Sunni Muslims (77%), Shia (20%) Others (3%) | |
| **Life Expectancy** | M 64 years, F 66 yrs | (2005-06) |
| **TFR/CBR/CDR/*** | 3.62/8.0/26.9 | |
| **School Age Population** | 24Mn (Male 12.8 Mn; Female 11.95Mn) | |
| **Literacy Rate** | 55% (Male 65%, Female 42%) | (2005-06) |
| **Literacy (Population 10 years and above)** | 55% (67%M, 42%F) | (2007-08) |
| **Primary Retention/Dropout Rate** | 61% (62.9%; Female 75%) / | (2005) |
| **Poverty** | 22.3% (Urban 13.1%, Rural 27.0%) | (2005-06) |
| **Expenditure on Education** | 2.3% of GNP | (2007-8) |
| **Labour Force** | 50.33 Million | (2006-07) |
| **Labour Force Participation Rate** | 31.8% | (2006-07) |
| **Unemployment Rate** | 5.2% | (2006-07) |
| **Industry Structure** | Textile (garments, bed linen, cotton cloth, yarn), Sports goods, Surgical goods, Leather and Leather Products, Rice, Chemicals, Carpets and Rugs, and agro based industries are leading exporters. Auto industry is establishing a strong base, so is the SME and cottage industry. SMEs contribute 30% to GDP and 25% to national exports. 20% SMEs are in Manufacturing business. | Economic Survey (2007-08) |
| **HDI** | 0.527 (Rank 135) | 2005 |
| **GDI/GGI**** | 135 out of 174 / 127 | 2008 |
| **Per Capita Income** | $1085 | (2007-08) |
| **GDP Growth Rate** | 5.8% against the target of 6.8% | (2007-08) |

*TFR/CBR/CDR refers to Total Fertility Rate/Crude Birth Rate/Crude Death Rate
**GDI = Gender Development Index / GGI = Gender Gap Index / HDI = Human Development Index
Source: Economic Survey of Pakistan and
http://www.statpak.gov;
http://en.wikipedia.org/wiki/Geography_of_Pakistan
http://www.worldatlas.com/webimage/countrys/asia/pk.htm

Pakistan's population has been growing fast and youth forms major portion of the population – according to some estimates almost 46 million people (out of 160.9 million total) are concentrated in the age range of 15-24 years out of which 45.2 million are part of the labour force with a Labour Force Participation Rate (LPR) of 44.2 percent[5]. In order to increase the pool of skilled manpower in the country, the government has adopted a two prong strategy for skill acquisition and development by reforming the TVET system and overhauling the labour laws[6]. A new labour policy in 2002 is aimed at rationalizing the labour market laws in order to decrease the cost of doing business[7]. Pakistan ranks 77 in the World for ease of doing business; however, it ranks 134 when it comes to employing workers among other comparable economies. It costs 12.1% of Gross National Income (GNI) per capita to start a business in Pakistan as compared to 0.0% in New Zealand which has ranked 1 in ease of doing business (WB 2008).

In the above context, it is imperative to come up with a programme that focuses on providing an enabling environment for learning, skill acquisition, and livelihood. It is widely accepted among labour market experts that a well designed Technical Vocational Education and Training (TVET) programme to train manpower combined with complementary policies to support the utilisation of skills is the key not only to overall economic growth but to supply well trained and equipped manpower to the modern sectors of the economy. To this end, the government of Pakistan has formed a national body tasked with reforming the TVET system - The National Vocational & Technical Education Commission (NAVTEC) established in late 2005, has assumed a central role in skilling Pakistan. Similarly, Technical Education and Vocational Training Authorities (TEVTAs) are proposed at provincial levels. In this respect, the Punjab province has taken the lead in 1999, long before NAVTEC's establishment, and similar bodies are in the making in other provinces.

## *1.1 The purpose and organisation of the background paper*

This paper has the following objectives:

- To provide information on Pakistan's economy, labour and demography, education, and present situation in the TVET system and employment sectors;
- To provide information about knowledge gaps and to make recommendations for further analysis and studies; and
- To act as a Stimulus for discussion with development partners on how best to support the implementation of the National Skills Strategy for Pakistan.

The Paper briefly covers areas and issues in Pakistan's TVET system – its governance and provision, labour market context, state of education and information on students. It also highlights a number of issues for further discussion. The paper is written under the assumption that readers are familiar with the Government of Pakistan's commitment to improve the TVET system in Pakistan, the NAVTEC and its Vision for skilling Pakistan. Consolidated, accurate, and up-to-date information on TVET is not easily available. The information for this Background Paper has been collected from various sources and the authors acknowledge that significant gaps remain.

[5] According to the Pakistan economic Survey 2007-08, the current size of population is 160.9 million. The youth aged 15-24 years formed 28.69 percent of the population and 28.09 percent of the labour force in 2006-07. At the time of labour force survey the size of population was estimated at 158.17 million. The size of youth is calculated with an assumption that proportion of youth in total population has not changed over one year period.
[6] The Economic Survey of Pakistan 2007-08
[7] ILO (2007 )

The paper is organized in seven sections. Section one provides introduction and overview of Pakistan's economy; section two discuss the general education and TVET system; section three covers governance of TVET system in Pakistan while sections four, five, and six discuss skill formation in and outside the formal system, financing of TVET, and major TVET initiatives. The section seven presents conclusion.

## *1.2. Overview of Pakistan's economy*

### 1.2.1 Development Visions and Frameworks

In Pakistan development planning has a long history. It took off in 1950 when Pakistan became signatory to 'Colombo Plan' and a six year development plan was launched at that time. In the years that followed, Pakistan continued to make five year perspective plans. In the 1950s and 1960s, the World Bank (WB) had financed major infrastructure development projects, e.g., Indus basin development project. The 1970s is considered era of nationalization during which Pakistan also ramped up trade protections. A pivotal shift towards public private partnerships occurred in the policy later during 1980s with the beginning of deregulation and privatisation which continued through 1990s. However, in the backdrop of political instability, successive governments hardly remained in business for two or more years, due to which development planning lacked continuity. A development policy review by the World Bank in 2002 revealed that the reform process did not achieve its objectives to the fullest due to a number of factors which included corruption and populism among political class, civil service, police, and judiciary[8].

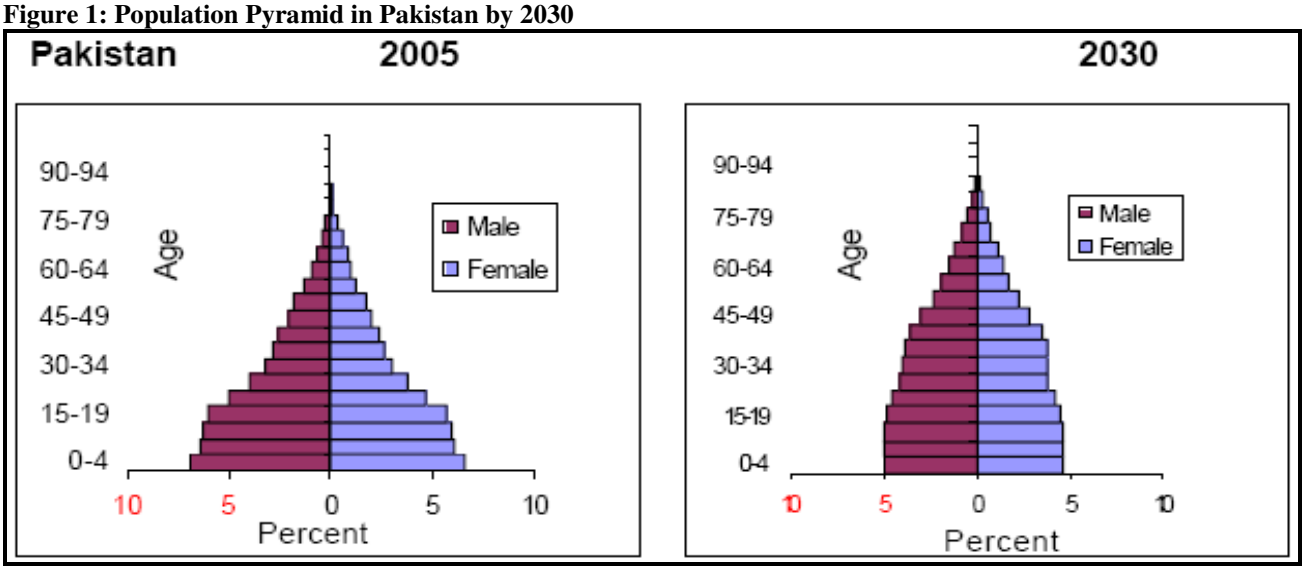
The new millennium brought a renewed approach to development planning. In 2001, the government of Pakistan launched vision 2010 under Mr. Nawaz Sharif's regime in the year 2000[9]. However, realizing much bigger challenges ahead in terms of demographic dividend (see Figure 1 below), as well as in the context of Millennium Development Goals (MDGs), the need for a real long term vision was felt which gave birth to the "Vision 2030." Why "Vision 2030"? It is argued that roughly 44% of Pakistan's population is below the age of 15 and, by the year 2030, an overwhelming majority (60 million people) will enter economically productive age group[10]. Almost 45% of the population with no education has already entered into new millennium without any opportunities for formal skill acquisition. Therefore, in order to harness the potential of demographic dividend it is imperative to come up with a long-term perspective plan which focuses on socio-economic development and all inclusive economic growth that provides equal opportunities for everyone in a knowledge economy.

In order to achieve the targets set in the Vision 2030, a number of Medium Term Development Frameworks (MTDF) will be developed. The MTDF 2005-10 is focusing on the first phase of the Vision and has set up an annual training target of 950,000 students in TVET institutions of which 700,000 are expected to attend courses in the public sector while 250,000 will be in the private sector training institutions. It is interesting to note that the National Education Census 2005-06 reports 916 TVET institutions in the public sector compared to 2,143 institutions in the private sector. This implies that the government's vision to train only 250,000 students in the private sector

[8] See Pakistan Development Policy Review by the World Bank page 2.
[9] A study titled Pakistan 2010 was commissioned by the government in 1995 financed by the Asian Development Bank.
[10] See Vision 2030 Page 16.

TVET institutions against 700,000 students in the public sector institutions is unrealistic. The government is not prepared to fully exploit the potential of the private sector[11].

**Figure 1: Population Pyramid in Pakistan by 2030**




Source: GoP, Vision 2030.

The Vision for National Skills Strategy (NSS) also known as "Skilling Pakistan" prepared by NAVTEC carries forward the MTDF agenda. It envisaged Pakistan being a knowledge-based economy and is aware of the fact that TVET has not received adequate attention in the past. The NSS vision is based upon the following three main components:

- Provision of relevant skills for industrial and economic development
- Improving access, equity, employability
- Assuring quality for skills development

The NSS vision document proposes to reform Pakistan's TVET system in order to provide the demand driven (market relevant) skills so as to promote and sustain industrial development and economic growth which ensures access, equity and equal opportunities for employment for everyone. The NAVTEC is preparing an implementation plan for its vision in consultation with international donors and other stakeholders. The vision and the implementation plan together will form the complete National Skills Strategy (NSS). The NSS will provide the guidelines for reform in TVET (an educational sub-sector) and also hopes to provide a platform for donors and the private sector to agree on and coordinate their contributions.

### 1.2.2 Macroeconomic Performance in recent years

Over the last five years Pakistan's GDP growth performance, above 6% on average, has been considered extraordinary but now the economy is preparing for a soft belly landing (see figure 2 below). The real GDP growth rate that touched an impressive figure of 9.0% in 2005 has plummeted to 5.8% in 2008 vis-à-vis a target of 7.2% due to a slowdown in agricultural and industrial productivity; lack of competitiveness coupled with a global recession that has resulted in a decrease in demands for Pakistani exports; high energy prices which pushed up the cost of production; and high inflation. The latest SBP annual report on the state of the economy, released in

[11] See MTDF

December, forecasts GDP growth at 3.5%, which is signalling that the economy is heading towards a recession and may erode consumer confidence and investor optimism.

**Figure 2: GDP Growth Rate and Inflation**


Source: Based on data reported in the economic survey of Pakistan 2007-08

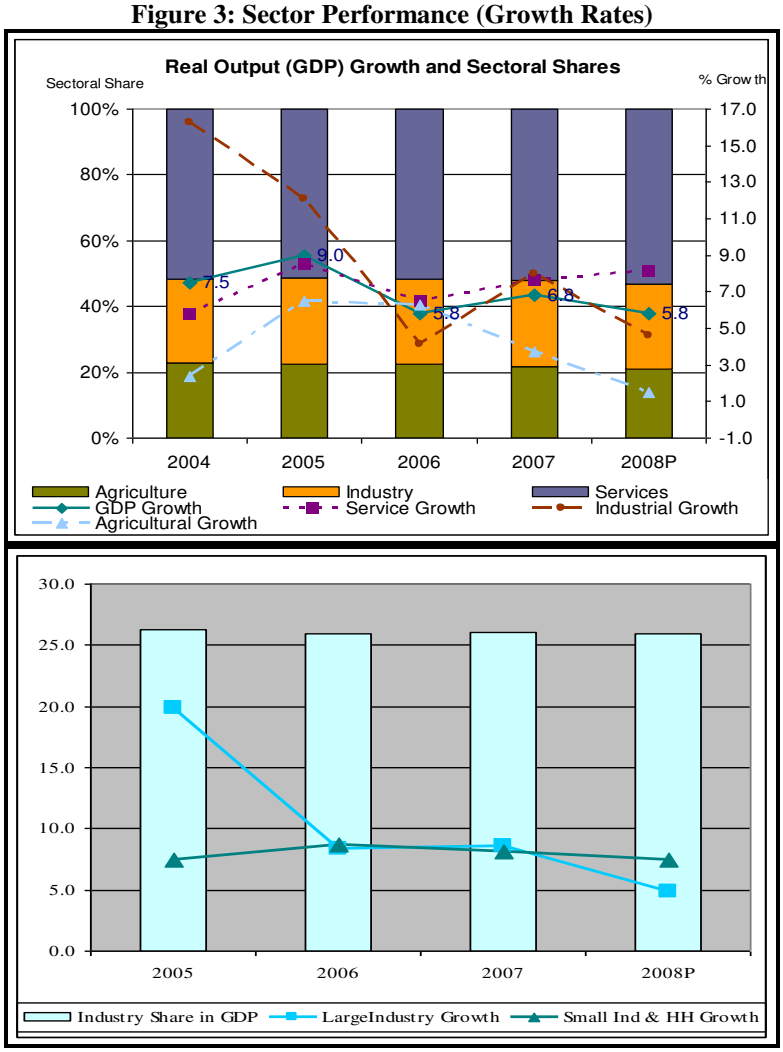
The over all inflation stayed around 8.0-9.0% until December 2007. However, since January 2008 Consumer Prices continued to rise and for last 6 months registered, on average, a higher than 20% increase. Meanwhile foodstuffs have seen a much higher increase; on average above 30% over the last six months. A tight monetary policy which was pursued until mid October 2008 did not help much in bringing inflation down. If inflation continues to grow, it will have a drastic impact on the incomes of the poor. Especially for people living below the poverty line and those who were marginally above the line[12]. In recent years, poverty did decline. However, it is feared that earlier gains in poverty reduction may be lost due to higher than 25 percent inflation which has prevailed since April 2008 (see figure 2 above). This is expected to have implications for household budgets as they will be faced with a trade off to meet essential food expenditures or to spend on education, health, shelter, clothing, and other basic necessities. The international oil prices and increase in prices of agricultural commodities were the main causative factors behind the outburst of inflation.

[12] The latest estimate of national poverty line is measured as Rs. 944.47 per adult equivalent per month

### 1.2.3 Sector wise Growth Performance

The share of agriculture in Pakistan's economy has decreased to almost 22% (from almost 40-50% during its formative years 1947-1965). The services sector comprises more than 50% of the economy's output while the industrial sectors share is stagnant at 25-26% (see figure 3 below). Though a strong industrial base is emerging, Pakistan's economy is more or less semi-agrarian in nature. Produce of agro-based industries, cotton textiles and related products dominate its exports. Industrial performance depends on good harvest of cotton and other cash crops. For almost the last four years, since 2005, both agricultural and industrial growth rates have been declining. While the services sector has continued to grow, the declining overall economic growth rate suggests that the services sector does not provide a strong base to sustain the overall economic growth rate.

**Figure 3: Sector Performance (Growth Rates)**



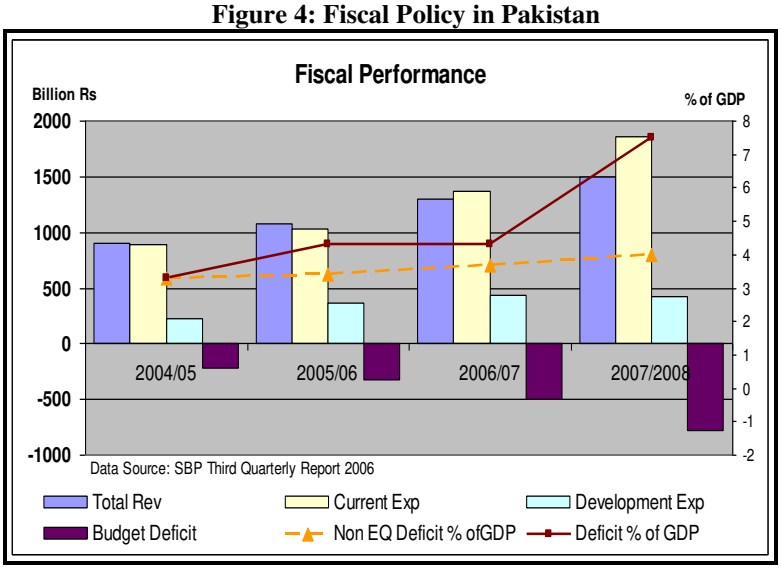

Source: Based on data reported in the economic survey of Pakistan 2007-08

### 1.2.4 Fiscal Discipline and Public Debt

The fiscal responsibility act of 2005 made it binding upon the government to adopt prudent fiscal policy measures; for example: a reduction in the revenue deficit to zero in absolute terms; a reduction in budget deficit to 3% of GDP; an increase in total pro poverty expenditure to 4.5% of

GDP[13]; a limit to total borrowing requirements to 2% of GDP; and a reduction of total debt to GDP ratio to less than 60%[14]. After the earthquake of 2005, the expenditure needs have gone up — increasing the budget deficit to 7.5% of GDP in 2007-08 (see figure 4 below). A low tax-to-GDP ratio has undermined the GoP's efforts to keep the revenue deficit close to zero. Currently, the tax-to-GDP ratio (TGR) is close to 10%. A smaller TGR may limit the government's ability to generate the pro-poor fiscal space that is necessary to continue its poverty reduction programme.

**Figure 4: Fiscal Policy in Pakistan**




Source: based on data reported in the economic survey of Pakistan 2007-08

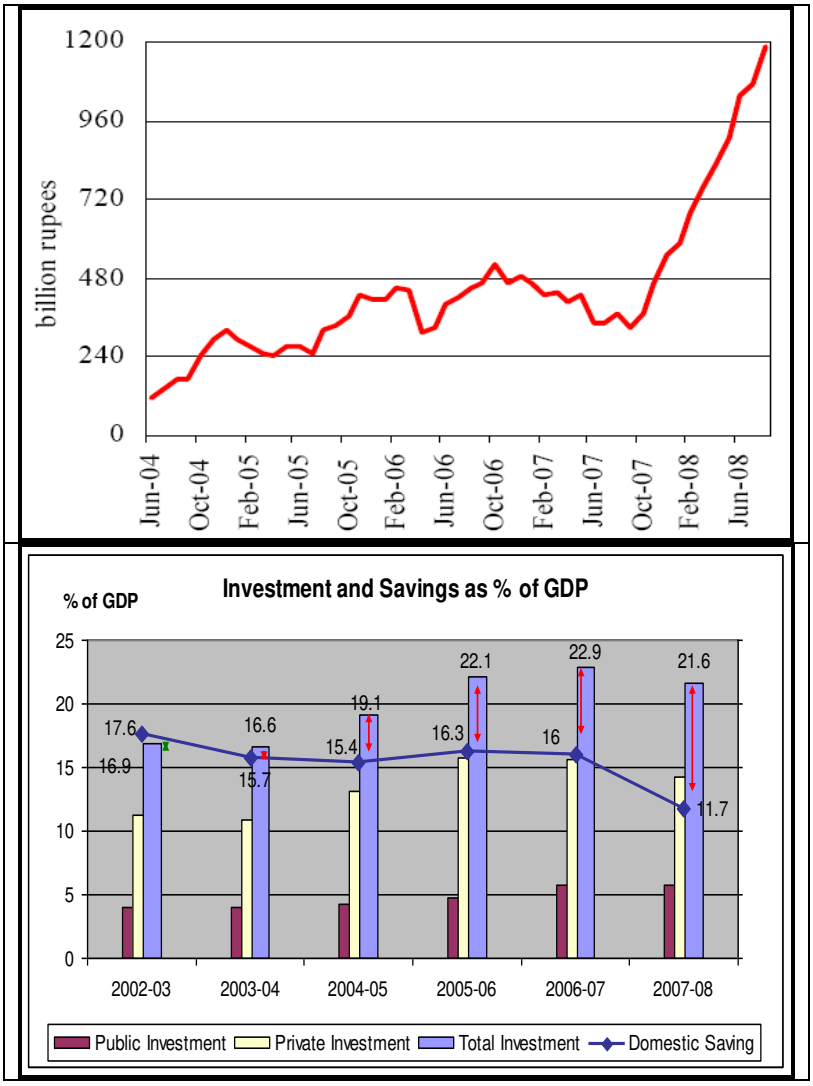
### 1.2.5 Monetary Policy

Against the backdrop of global financial crisis, implementing monetary policy has become increasingly challenging for the State Bank of Pakistan (SBP)[15]. In order to subvert the impact of inflationary pressures, which continued to build up due to supply shocks and rising demand, the Central Bank used contractionary monetary policy as far as the private sector was concerned. However, it failed to restrain the government from monetizing its fiscal deficit. The latest annual report 2008 on the state of the economy by SBP reports that the fiscal deficit has risen out of proportion to 7.5% of GDP against a target of 4.2% of GDP for FY2007-08. The government monetized 85% of deficit. The government borrowed record sums of money from the central bank which is the most inflationary source of financing[16]. This has resulted in rising inflation which has subsequently resulted in unbounded inflationary expectations, eroding the purchasing power of the masses and the profit margins of businesses[17]. The government continued to borrow excessively from the State Bank of Pakistan and touched a record of Rs. 688 billion in FY 2007-2008[18] (see figure 5 below). This has revealed the vulnerability of the fiscal framework in Pakistan. If the

[13] The revenue deficit is defined as revenue minus current expenditure (excluding development expenditure).
[14] The development budget mostly pertains to public investment in infrastructure.
[15] In the backdrop of financial crisis the SBP mulled rescue packages for commercial banks which would have resulted in soft monetary policy measures; however, the Bank tightened monetary policy again because of a new agreement with IMF and its conditionality.
[16] SBP 2008.
[17] At the time of finalizing this paper it is learnt that the government was again gearing up to reverse its decision of easing monetary policy and will gradually tighten it so as to meet IMF conditionality. The government is signing an agreement with the IMF to get support in order to prevent a default on its international debt.
[18] State Bank Quarterly Report: Third Quarter FY08

government is going to rely on financing its expenditures through public borrowing interest rates will increase and may crowd out private investment.

**Figure 5: Stock of Net Budgetary Borrowings from SBP and Resource Mobilization in Pakistan**




Source: Budgetary Borrowings from SBP 2008 and
IS gap based on data Reported in economic survey of Pakistan.

## 1.2.6 Investment and Savings Gap

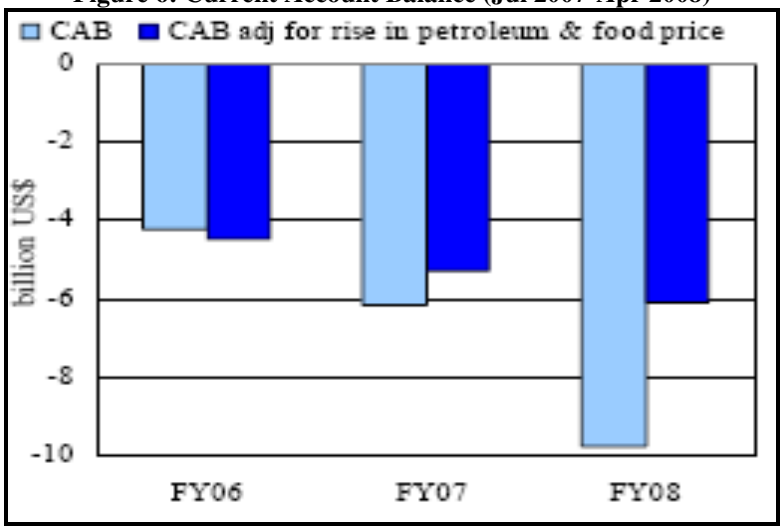
One of the key challenges for policy makers is domestic resource mobilization. However, domestic savings have continued to register a declining trend as a percentage of GDP and, according to provisional estimates, is as low as 11.7% in 2007-08 . Widening domestic investment-savings gap is not sustainable for long-term economic growth. In terms of GDP, total investment stood at 21.6 % in FY07-08 (see figure 5 above). The investment-savings (IS) gap has continued to increase (The widening IS gap is indicated in the graph below with double head spears in red colour). The government must introduce innovative measures for domestic resource mobilization to overturn the financial repression which has been exacerbated due to global financial crisis. Recent declines (in 2008) on the Karachi Stock Exchange (KSE) index indicate that investors are wary of the current economic and political conditions.

### 1.2.7 Balance of Payments

The external balance of payment in Pakistan is continually deteriorating which poses a major challenge for country's policy makers. The country's foreign exchange reserves have dropped to US$11.5 billion and the Pakistani currency is depreciating rapidly against all major currencies. Just four years ago Pakistan had a surplus in its current account. The Current Account Deficit (CAD) has increased drastically (see figure 6 below). Though the State Bank of Pakistan's quarterly report on the economy is hopeful of increasing Pakistan's exports in IT services and tourism, it seems unrealistic given the situation of human resource development and continued threats from on going terrorism, respectively[19].

.

**Figure 6: Current Account Balance (Jul 2007-Apr 2008)**




Source: State Bank of Pakistan's Third Quarterly Report FY08

### 1.2.8 Challenges and Risks

Based on the above discussion one can summarise key challenges and risks for Pakistan's economy; namely: (a) to maintain a robust growth rate while controlling for inflation; (b) to mobilise domestic resources; (c) to contain current fiscal and account deficit; and (d) to limit the size of its increasing trade deficit. In order to meet the growing challenges, the government must protect the economy against the following risks: (a) supply shocks that may become adverse in the presence of demand led-inflation; (b) monetizing of fiscal deficit that is not being sustained by domestic revenues; and (c) default on public and foreign debt which is becoming obvious due to the increasing current account deficit and shortage of foreign exchange reserves. Although State Bank of Pakistan (SBP) had been pursuing a tight monetary policy, it is very cautious so as not to derail the economic growth. However, under current economic scenario a growth target of 5.5% for next year (2008-09) seems too ambitious.

### 1.2.9 Performance in Provinces

Among four provinces only the Punjab and Sindh have strong industrial bases to sustain their economies. Due to the vast expanse of thinly populated land and narrow industrial base the Baluchistan province cannot generate enough funds to finance the necessary infrastructure

[19] An influx of foreign tourists is considered export of tourism services.

development. The NWFP is fraught with rising militancy and extremism which has literally halted business activities in several areas. The ongoing militancy in the NWFP and Baluchistan has added to the vulnerability of the economies in these provinces. Baluchistan has continued to borrow excessively from the SBP to finance its expenditures. Public financing of deficits by the federal and provincial governments has put tremendous pressure on available resources.

## *1.3. Population Challenge, Poverty and Social Sector Performance*

### 1.3.1 Population Challenge

Pakistan's population has been growing fast. The annual population growth rate has been around 3% during 1970-90, which is now claimed to have declined to 1.9%[20]. At this rate the population is expected to double its size in 2045, hence further straining the resources and infrastructure. Currently the population of Pakistan is estimated around 160.9 to 164.7 million (estimates vary)[21], which is almost ten fold increase since 1901. While Pakistan's population contributes only 2.5% to the world population, it is the sixth most populous country in the world with a population density of 166.3 people per square kilometre. The age structure of the population is changing which poses a challenge for policy makers. If the demographic potential is not harnessed properly it may create frustration among youth and result in social unrest. A population explosion is expected to compound the problems like poverty, and unemployment. Improvement in socio-economic indicators which have been witnessed over the past few years due to strong economic growth has become vulnerable in the light of approaching recession and high inflation. As compared to other South Asian countries Pakistan still lags behind in the provision of housing, education, health, sanitation, livelihood and social protection to the weak and marginalized.

### 1.3.2 Poverty

Poverty measurement in Pakistan is mired in controversies due to different methodologies in use and the limitations of the available datasets[22]. The table reported in this section gives government's official poverty statistics. According to ADB's Country Assistance Programme Evaluation (2007), poverty in Pakistan rose during the 1990s, and into the early part of the new millennium, the gap between rural and urban poor kept on widening over1993 to 2002, from 7 percentage points to more than 16 percentage points, respectively. The prevalence of poverty peaked in the drought year (2001) while it dropped significantly in 2004 due to a good agricultural harvest. Good agricultural harvests, higher agricultural produce prices, and workers remittances subsequently raised per capita incomes to alleviate poverty in Pakistan during 2001-2005 (see table 2 on next page).

[20] LFS (2005-06)

[21] The last census took place in 1998 and a new census is due in 2008. The population projections use parameters available through the labour and demographic surveys of the Federal Bureau o f Statistics (FBS), the National Institute of Population Studies (NIPS) and the National Institute of Health (NIH).

[22] The head count poverty measure is highly sensitive to the reference poverty line of Rs. 944.47. Therefore, it is imperative to understand the methodology behind these estimates. The poverty line in year 2001 was estimated at Rs. 723 which has been estimated as Rs 878.6 in 2005 after adjustment for inflation variation (7-8% per annum at that time) and is reported as Rs. 944.47 in 2006. Nevertheless, inflationary pressures coupled with declining economic growth are expected to undercut the hope of causing a significant dent in poverty in coming years. It is expected that the ongoing inflation rate (CPI based) of above 20% has pushed at least 40% of the population below the poverty line in recent months, according to some independent estimates.

Pakistan's recent growth was deemed to be pro-poor as Pakistan made significant progress in decreasing head-count poverty rate during years of economic progress. The population living below the $1 a day poverty line decreased from 31 percent in 2002 to 17 percent in 2006[23]. According to the government of Pakistan's calculations, based on their methodology applied to Household Income Expenditure Survey (HIES) conducted by the Federal Bureau of Statistics (FBS), the percentage of population living below the so called income poverty line, calculated on a need based approach, declined from 34.46% in 2001 to 23.94% in 2005. Rural poverty levels remain much higher than urban levels.

**Table 2: Poverty in Pakistan**

| | Head Count | | | Poverty Gap | | | Severity of Poverty | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2001 | 2005 | 2006 | 2001 | 2005 | 2006 | 2001 | 2005 | 2006 |
| **Urban** | 22.69 | 14.94 | 13.1 | 4.55 | 2.87 | 2.1 | 1.35 | 0.84 | 0.5 |
| **Rural** | 39.26 | 28.13 | 27.0 | 8.04 | 5.64 | 5.0 | 2.44 | 1.77 | 1.4 |
| **Overall** | 34.46 | 23.94 | 22.3 | 7.03 | 4.76 | 4.0 | 2.13 | 1.48 | 1.1 |

Severity of poverty explains the inequality among poor while the 'Poverty GAP' Index measures the depth of poverty.
Source: The Economic Survey of Pakistan 2007-08

### 1.3.2 Pro-Poverty Expenditure

In recent years, the government has increased pro-poverty expenditure; however, spending on education and health, yet this remains low as a percentage of GDP[24]. The education budget is hardly 2% of GDP, which may not be enough to pursue the elusive goals of Education for All (EFA). The total education budget allocation, at Rs 220 million, has grown by almost 38% in 2007-08 over 2006-07; however, it is only 2.3% of GDP (see table 3). The ministry of finance, only recently, started giving a breakdown of allocation for primary, secondary, tertiary, and higher education but allocation for technical and vocational education are not given explicitly in the budget document.

**Table 3: National Education Expenditure as percentage of GNP**

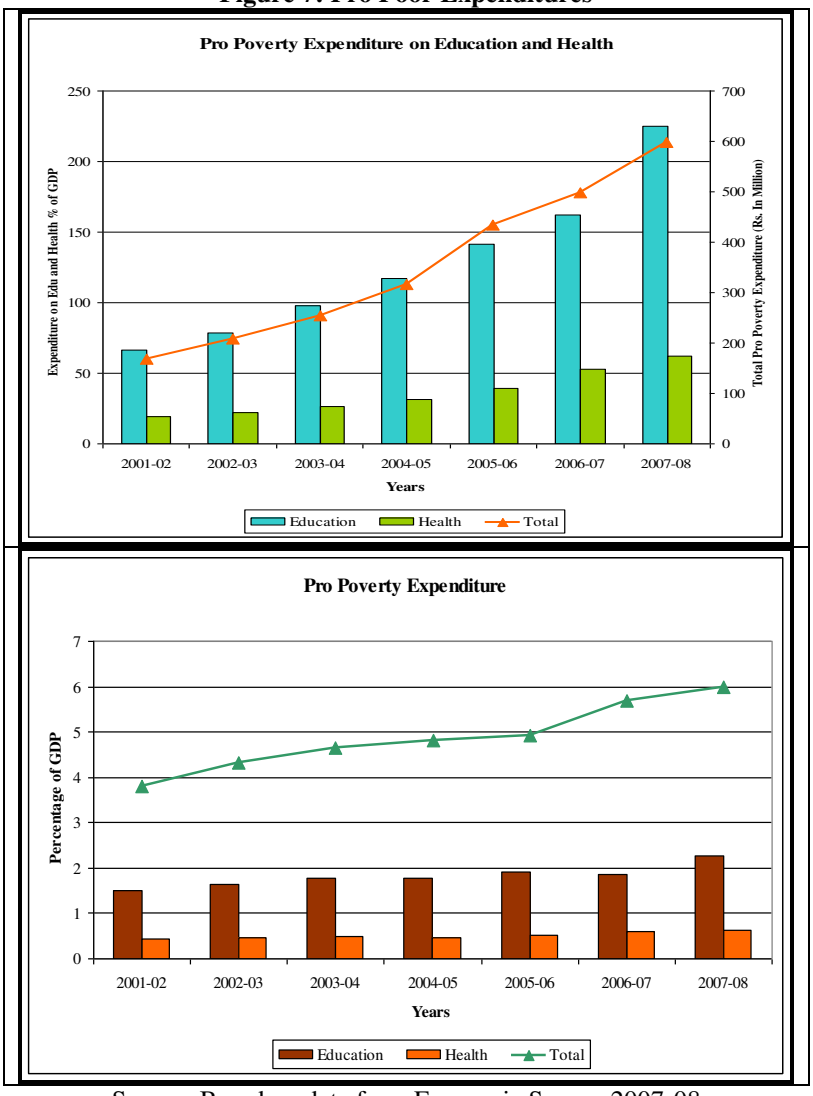
| | 1999-00 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 | 2007-08 |
|---|---|---|---|---|---|---|---|---|---|
| **% of GDP** | 1.6 | 1.7 | 1.9 | 1.7 | 2.1 | 1 | 1.9 | 2.4 | 2.3 |

Source: Source Economic Survey 2007-08, Ministry of Finance, GoP.

The Government has pledged to gradually increase public expenditure up to 3% of GDP. Most of the public expenditure is devoted to basic education as well as higher education in Pakistan. Presumably very little amount is allocated for the promotion of TVET[25]. While allocations are specifically made for pre and primary education, secondary and tertiary education, TVET does not receive due recognition in federal budget allocations (see snapshots of federal budget in Annex)[26].

[23] UNDP Human Development Reports various issues
[24] The pro-poverty expenditure as defined in the Fiscal Responsibility and Debt Limitation Act, 2005 (FRDLA) includes expenditure on: education, health, highways, roads and bridges, water and sanitation, population planning, social security and other welfare, natural calamities, irrigation, land reclamation, rural development, food subsidies, sub-ordinate judiciary, law and order (only the development aspect), village electrification & food support programmes.
[25] Also see King (2007) on politics of Skill and the Challenge of Supporting TVET
[26] It is interesting to note that only two public corporations, the Water and Power Development Authority (WAPDA) and the National Highway Authority (NHA), have their allocations mentioned in the FY2008-09 budget while the budget for NAVTEC, incorporated as a corporation, is not mentioned in the Table 27 of the federal budget 2008-09 document which gives the size of the Public Sector Development Program (PSDP)

**Figure 7: Pro Poor Expenditures**




Source: Based on data from Economic Survey 2007-08

### 1.3.3 Education Sector Performance

The government has stepped up its efforts to ensure Education for All (EFA), yet Pakistan's net primary enrolment ratio, survival rate to grade 5 and literacy rate is lagging behind both the MTDF 2009-10 and MDG 2015 targets. In 2004-05, Net Primary Enrolment Ratio (NPER) stood at 52%. The MTDF requires NPER to increase by another 50% - so as to attain a target of 72% while under MDG a 100% NPER must be achieved by 2015. It is becoming obvious that Pakistan may not be able to achieve the targets; same is true about expected completion rate to grade 5 and literacy rate in Pakistan (see Table 4 below). The existing NPER and primary school completion rate shows that almost 48% children do not participate in primary school education. Out of 52% who are enrolled in primary school, only 72% are able to complete 5 grades which subsequently means more than 50% children of school going age are either denied education (especially females) or unable to complete primary grades due to unfavourable circumstances. There are not many technical and vocational education and training opportunities to help them with skills acquisition. Therefore, majority of dropouts may become part of vulnerable labour force which is discussed later is section 1.4.4.

**Table 4: MTDF and MDG Education sector targets***

| Indicator | 2004/05 | MTDF target 2009/10 | MDG target 2015 | Status |
|---|---|---|---|---|
| **Net primary enrolment ratio** | 52% | 72% | 100% | Lagging |
| **Completion rate to grade 5** | 72% | 80% | 100% | Lagging |
| **Literacy rate** | 53%<br>M:65, F:40 | 77%<br>M:85, F:66 | 88%<br>M:89, F:87 | Lagging |

*MTDF= Medium Term Development Framework; MDG= Millennium Development Goals
Source: State of Education in Pakistan 2003-04, Ministry of Education

### 1.3.4 Expenditure on Health

For the past one decade, public spending on health remains less than 1 % of GDP. This is likely to affect country's performance in achieving MDG goals regarding health. A healthy and prosperous population is more able to actively pursue educational and livelihood goals. The maternal mortality rate and infant mortality rate have declined considerably in Pakistan since 2000; however, Pakistan is already lagging behind other South Asian nations when it comes to four key health indices included in MDGs[27].

## *1.4. Labour Force and Employment Situation*

Labour Force and Employment data are collected by a number of surveys and censuses, such as decennial Population Census, Labour Force surveys (generally conducted every year) and Household Income and Expenditure Survey (HIES)[28]. The Large scale manufacturing employment has been estimated previously through Census of Manufacturing Industries (CMI), the latest available being for the year 2000. Variations in the concepts and definitions of the measures used, sample sizes and enumeration methodology mar consistency and make it difficult to have comparison inter-temporal or across the surveys. Reliance generally has been made on Labour Force Survey (LFS) for discussing the labour force participation rates, employment levels and structures as well as wages because LFS is regarded as better source than others for the study of these particular aspects. According to LFS, the labour market in Pakistan grew by more than 4% during the 1990s. The unemployment rate has decreased by 1.1 basis points over a six year period from 1999-2000 to 2005-06 (ILO-KILM 2007). However, the Labour Force Participation (LFP) rate is relatively low and rates vary across provinces (see Annex 1).

The informal sector is the largest sector of the economy not only in terms of absorbing the majority of labour force but also in providing skills training to majority of the illiterate especially in the absence of any formal skills training opportunities for marginalised target groups (see Janjua and Janjua 2008). If there are more formal training opportunities it is possible that the formal sector may expand and become leading job provider. According to the Labour Force Survey 2006-07, the informal sector employs 72% of all workers outside agriculture while entire agriculture activity is also characterised as informal due to absence of organized corporate farming; therefore, agriculture sector is excluded from LFS[29]. With regard to the non-agricultural segment of the economy, the informal sector covered in LFS encompasses a diverse range of activities ranging from manufacturing to services, and retail and wholesale trade. All the self employed, and employment in

[27] SBP 2008.
[28] HIES is now part of Pakistan Social and Living Measurement-PSLM
[29] The Labour Force Survey (LFS) of Pakistan is the only source which provides statistical information on the informal sector.

the enterprises having less than 10 employees are counted as informal while the remaining non-agricultural employment is defined to be part of the formal sector. The share of the informal sector in absorbing non-agricultural labour force has increased from 64.6% in 2002 to 72.9% in 2006. However, declining economic activity, stagnant industrial activity, declining small scale and household based industry growth (see graph above), and increasing international competition in the export markets may reduce the capacity of the economy to create more jobs. The non-relevance of informally obtained skills in new knowledge economy is another concern regarding mismatch of skills with the market demand.

### 1.4.1 Key Trends in Pakistan's Labour Market

The measurement of labour force participation rates in the LFS though suffers from imprecision, rendering labour market analysis a fairly daunting task. The inappropriateness of the concepts used to measure labour supply and data inadequacies that can encapsulate labour market realities have been widely discussed in the literature both internationally and in Pakistan. In the context of a pervasive household enterprise system, it is difficult to demarcate economic and non-economic activities; besides household enterprise activity is characterized by the absence of any formal or explicit employment contract. Survey respondents can either get recorded as unpaid family helpers or self employed, imparting a great deal of arbitrariness to the classifications of 'employed', 'unemployed' and 'out of labour force'. The categorization of labour as working or not working in such a fluid situation tends to generate results which at times appear to be related to definition and data cleaning issue. For instance, shares of agriculture in total employment, size of the unpaid family helpers and female labour force participation rates move somewhat in tandem. The data can be misinterpreted, out of the 4.5 million increase in the employment during 2003-04 and 2005-06 yielded by LFS nearly more than half of this was due to increase in the unpaid family helpers in the total employment. Keeping in view these limitations the activity rates, employment structure and unemployment is discussed below.

### a) Labour Force Participation Rates

The labour force participation rate has also increased from 30.4% in 2003-04 to 32.2% in 2005-06. The increase has also been recorded in both male and female participation rates and is comparatively higher in age group 40-44 (reported around 60.1%)[30]. Agriculture remains the largest job providing sector; however, its share in GDP is declining. Service, finance, transport, trade, manufacturing and electricity have larger proportions of regular employees. The proportion of casual and piece rate workers is higher in agriculture, mining, and construction. According to some estimates the share of working age population (15-59 years) has increased from 51 percent in 1998 to over 57 percent in 2006[31].

The labour force participation rate in Pakistan is lower than other countries. Recent Labour Force Survey 2006-07 has rather shown a decrease in labour force participation rate to 31.8% over last year LFS 2005-06. This could be attributed to a number of factors. In NWFP, the reduction in labour force participation is disquieting as militancy and terrorism is rising which has no doubt affected businesses and employment opportunities. Off course, this could be one of the factors; however, it must be noted that the decline in LFP in all the four provinces indicates that decline in

[30] LFS 2005-06
[31] The State Bank of Pakistan Annual Report 2006-07.

one province is not offset by an increase in the other one. Therefore, one can conclude an overall decline in economic activity.

### b) Crude Activity Rates

The labour force, defined to be the sum of employed plus unemployed was estimated to be 50.78 million for the year 2006-07 in a population of close to 160 million, giving a worker to population ratio of 0.32 referred to as the crude activity/participation rate (Pakistan Economic Survey 2007-08). A fluctuating trend over the years in the crude activity rate, partly because of the changing age structure, rising educational enrolment and varying definitions is yielded by the data. The overall low level of crude activity rate is mostly because of low representation of women in the workforce; since they have principal responsibility for the housework – including feeding and tending of cattle, tailoring, weaving, i.e., provision of many goods and services that are either purchased from the market or supplied by paid employees in developed countries. It is only through deeper probing that these activities get recognized as work which is also reported by LFS generally termed as augmented labour force participation rate but not utilized for further analysis of labour market data.

### c) Age-specific Labour Force Participation Rates

The age specific activity/labour force participation rates which iron out the age structure effect, summarized in Table 5, indicate that the overall refined activity rate for those aged 10 years and above experienced a rise from 43.3 in 2001-02 to 46.9 in 2005-06. An inter-temporal comparison is reflective of a rise in the activity rates of females and teenagers as well as youth during 2001-02 to 2005-06. It is not possible to comment on the extent to which it is a response error, but, as discussed already, the share of the unpaid family helper in total employment has also risen in 2005-06 in comparison with the situation in 2001-02. Thus rising activity rate during the past few years could be possibly due to rise in the share of unpaid family helper.

**Table 5: Age-specific Labour Force Participation Rate 2001-02 – 2005-06**

| | | 2001-02 | 2003-04 | 2005/06 |
|---|---|---|---|---|
| **10 years and over** | Both | 43.3 | 43.7 | 46.9 |
| | Male | 70.3 | 70.6 | 72.0 |
| | Female | 14.4 | 15.9 | 18.9 |
| **10-14 years** | Male | 17.2 | 18.5 | 20.68 |
| | Female | 6.3 | 6.7 | 9.21 |
| **15-19 years** | Male | 57.6 | 59.0 | 60.87 |
| | Female | 13.8 | 14.5 | 16.91 |
| **20-24 years** | Male | 87.0 | 85.7 | 87.63 |
| | Female | 15.9 | 18.1 | 20.67 |
| **25-34 years** | Male | 96.6 | 96.2 | 97.03 |
| | Female | 16.1 | 18.3 | 21.62 |
| **35-44 years** | Male | 97.5 | 97.4 | 97.57 |
| | Female | 19.9 | 21.0 | 25.07 |
| **45-54 years** | Male | 95.6 | 95.6 | 96.37 |
| | Female | 19.4 | 20.9 | 24.76 |
| **55-59 years** | Male | 88.2 | 89.7 | 90.62 |
| | Female | 14.5 | 18.6 | 22.84 |
| **60 years & above** | Male | 56.6 | 58.4 | 59.38 |
| | Female | 11.4 | 12.9 | 14.09 |

Source: Labour Force Survey

Disaggregated by gender we notice substantial variations. An overwhelming proportion of adult males in the age group 25-59 years are found to be active with an activity rate higher than 90% while those in the age group 10-19 and elderly (60 years and above) display lower activity rates (see table 5 below). This curvilinear relationship between age and the labour market participation is depicted mostly by males. In case of the females there are differentials but not very sharp, both teenagers and the elderly (over 60 years of age) exhibited participation rates lower than those of prime aged females. However, the female activity rates generally varied in a narrow range from 9% (for 10-14 age group) to 25% for the age cohort 35-44 years in 2005-06. The refined activity rate for females aged 10 years and over has risen from 14% in 2001-02 to 19% in 2005-06; an escalation shared by all age cohorts, which in case of teenager is somewhat puzzling given the claims of rising female school enrolment. It may be noted that one fifth of the male children (10-14 years) and 9% of the female children are in the labour force indicating a disturbing level of child labour.

### d) Employment Structure

Employment, according to LFS has risen from 39.6 million in 2001-02 to 48 million in 2007. It may be added that both the activity rate and data on population size which are used to arrive at the absolute size of employment are not problem free. Given the widespread household enterprise system and the dominance of informal nature of activities, some employment categories such as unpaid family helpers and self- employed may simply mask the non-utilization of labour wherein they are not in fact productively engaged but are reported as working in the survey. Distribution by employment status indicates a relative stability in case of employers being 0.88% of total employment in 2005/06. In contrast there was a decline in the share of wage employees from 39.85% in 2001-02 to 37% in 2005-06. The share of unpaid family helpers rose from 20% to 26% during 2001-2006. A rise of the relative share of unpaid family helper males could be on account of difficulties in classifying responses or simply reflects their non-engagement in ex-house activities due to non-availability of job opportunities though unpaid family helpers can be utilized in the activities like dairy and livestock activities in rural areas, the rise in the size of urban family enterprise has to be investigated further. One finds a decline in the share of self employment from 38.50% in 2001-02 to 35% in 2005-06.

### e) Industrial Composition

The sectoral (industrial) employment composition underwent a change with the transformation of the economy. Pakistan's experience has not been any different. During the period 1950-70 employment grew with a persistent decline in the share of agriculture in total employment from 65% to 55%, 50% in 1993-94, 47.25% in 1997-98 and 43% in 2006-07. Compared with its share of 21% of GDP in 2007, a less than average productivity work opportunity is being offered by agriculture. The share of mining and manufacturing in total employment displayed a rising trend during 1950-70 from 9% to 15.6%. Since then as a fraction of total it has declined, during 1990's from 12% to 10% subsequently, rising to 13.8% of the total employment in 2006-07 in contrast to its 19 percent contribution to the GDP. Sectors of the economy, other than agriculture and manufacturing, registered a continuous rise in their shares, accounting for 43% of total employment in 2006-07 (in contrast to 27% in 1969-70); though for the recent sub-period (see table 6 below) there is relatively stability of the industrial structure of employment.

The industrial employment structure for males differs substantially from that for females. Almost two-thirds of the latter are engaged in agriculture compared with 38% of males in rural areas. In

general, however, there is concentration of females in agriculture in rural areas and services in urban areas.

**Table 6: Distribution of Employed Persons of 10 Years Age and Above by Major Industries**

| Years | Agri-culture | Mining & Manufacturing Construction | Cons-truction | Electricity & Gas Distribution | Trans-Port | Trade | Others |
|---|---|---|---|---|---|---|---|
| **2000-01** | 48.42 | 11.55 | 5.78 | 0.70 | 5.03 | 13.50 | 15.02 |
| **2001-02** | 48.42 | 11.55 | 5.78 | 0.70 | 5.03 | 13.50 | 15.02 |
| **2002-03** | 42.09 | 13.91 | 6.05 | 0.81 | 5.90 | 14.85 | 16.39 |
| **2003-04** | 42.09 | 13.91 | 6.05 | 0.81 | 5.90 | 14.85 | 16.39 |
| **200405** | 43.05 | 13.80 | 5.83 | 0.67 | 5.73 | 14.80 | 16.12 |
| **2005-06** | 43.05 | 13.80 | 5.83 | 0.67 | 5.73 | 14.80 | 16.12 |
| **2006-07** | 43.37 | 13.93 | 6.13 | 0.66 | 5.74 | 14.57 | 15.49 |
| **2007-08** | 43.37 | 13.93 | 6.13 | 0.66 | 5.74 | 14.57 | 15.49 |

Source: Pakistan Economic Survey 2007-08

## f) Unemployment and underemployment

The 'unemployed' since 1990-91 redefined in LFS covers those without work or currently available for or seeking work. The unemployment rate has been on the rise (see table 7 below). It was 5.9% in 1997-98 rising to 8.3% in 2001-02, experiencing a modest decline to 7.8% in 2003-04 with further decline to 6.3 in 2005-06. This fall could be rendered as a statistical puzzle because of the increase in the share of unpaid family helpers. Still the level of unemployment was higher in 2005-06 than early 1990s.

**Table 7: Unemployment and Underemployment Rates, 1993-94 to 2005-06**

| Period | Unemployment Rate | | | Underemployment Rate |
|---|---|---|---|---|
| | All Areas | Rural | Urban | Working Less than 35 hours/week – all areas |
| **1993-94** | 4.8 | 4.2 | 6.5 | 13.2 |
| **1994-95** | 5.4 | 4.8 | 6.9 | 12.2 |
| **1996-97** | 6.1 | 5.7 | 7.2 | 11.5 |
| **1997-98** | 5.9 | 5.0 | 8.0 | 12.9 |
| **2001-02** | 8.3 | 7.6 | 9.8 | 13.4 |
| **2003-04** | 7.7 | 6.7 | 9.7 | 14.9 |
| **2005-06** | 6.2 | 5.4 | 8.0 | 15.1 |

Source: Labour Force Surveys.

Unemployment rates in general have been higher in urban areas than in rural, though the numbers of unemployed are much larger in the latter than the former. Similarly one finds a higher level of unemployment among the females than the males. There was substantial variation in the unemployment rates by gender which suggests that 5.4% of males and 9.3% of females were recorded as unemployed in 2005-06 (see table 8 below). Age specific unemployment rates yielded a high level of unemployment among teenagers and the elderly (60+) for males. In the case of females the unemployment rates rose up to the age of 24 and then declined and again rose to an alarming 36% for those 60 years and above. Overall, the unemployment rates are high among teenagers (entering the labour market) and the elderly (beyond retirement age). This U-shaped relationship, wherein almost one thirds of the unemployed are teenagers, suggests stability during adult working life as well as lack of mobility as a manifestation of the nature of job scarcity. Table below provides age specific unemployment rate for 2001-2006.

**Table 8: Age-Specific Unemployment Rates (%) by Gender 2001-2006**

| Age group | 2001/02 | | | 2003/04 | | | 2005/06 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | Both | Male | Female | Both | Male | Female | Both |
| **10-14** | 13.6 | 10.4 | 12.8 | 16.3 | 17.5 | 16.5 | 8.8 | 5.7 | 7.9 |
| **15-19** | 12.8 | 14.9 | 13.2 | 15.4 | 23.9 | 16.2 | 10.0 | 9.8 | 10.0 |
| **20-24** | 9.3 | 15 | 10.3 | 9.1 | 20.6 | 10.9 | 6.9 | 9.4 | 7.4 |
| **25-29** | 6.1 | 12.5 | 7.1 | 5.1 | 13.2 | 6.3 | 4.3 | 7.3 | 4.9 |
| **30-59** | 2.9 | 8.7 | 4.0 | 2.7 | 11.4 | 4.2 | 3.8 | 11.7 | 5.3 |
| **60 +** | 10.3 | 44.2 | 14.5 | 8.9 | 45.6 | 13.7 | 10.2 | 36.0 | 14.2 |
| **Total** | 6.6 | 12.8 | 7.7 | 6.7 | 16.6 | 8.3 | 5.4 | 9.3 | 6.2 |

Source: Tabulations based on Labour Force Survey data.

Unemployment rates for adult male were lower in 2005-06 compared with the situation in 2001-02. In the case of females, the unemployment rates ran contrary. The composition of the unemployed suggested that around half of them belonged to the age cohort 15-24 (the youth) whereas the share of the elderly was 12%. In fact, the youth, particularly the educated among them, suffer from a disproportionately higher burden of unemployment.

## g) Educational Profile of the Employed

According to Labour Force Statistics (LFS), 2005-06, 53.1% of the labour force is considered literate while literacy stands at 43.95% in rural and 69.8 % in urban areas. Therefore, the majority of illiterate labour force is concentrated in the rural areas. Approximately, 65% of male and 40.6% of female respondents were reported as literate. The educational profile of the employed is suggestive of a decline in the share of illiterates from 60% in 1993/94 to 47% in 2005-06. All the remaining educational categories experienced a rise in their relative shares during the recent sub period. Those with matriculation (10 years of schooling and higher educational attainments) increased their relative share from 15% in 1993-94 to 21.7% in 2005-06 in the total employment.

**Table 9: Unemployment Rates by Gender and Level of Education**

| Education Level | 2001/02 | | | 2003/04 | | | 2005/06 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Both | Male | Female | Both | Male | Female | Both | Male | Female |
| **Illiterate** | 6.6 | 5.2 | 11.0 | 7.5 | 5.6 | 15.0 | 5.7 | 4.6 | 8.0 |
| **Primary** | 7.4 | 5.8 | 20.2 | 8.0 | 7.0 | 20.0 | 6.0 | 5.5 | NA |
| **Middle** | 9.8 | 8.6 | 16.2 | 9.3 | 8.6 | 22.7 | 5.8 | 5.4 | NA |
| **Matric** | 10.4 | 9.3 | 21.2 | 9.7 | 8.1 | 25.3 | 7.6 | 7.0 | 14.62 |
| **Intermediate** | 12.5 | 9.7 | 21.9 | 10.0 | 8.3 | 20.3 | 8.1 | 7.0 | NA |
| **BA & above** | 8.8 | 6.9 | 23.0 | 8.9 | 7.7 | 16.5 | 7.0 | 6.2 | 12.5 |

Source: Tabulations based on Labour Force Survey data.

## h) Education Specific Unemployment Rates

In case of females, the data for 2001-06 suggest a positive association between the level of education and the rate of unemployment, in contrast to 8% unemployment rate of the illiterate females the matriculates and the graduate females were suffering from 14.62% and 12.5% respectively for the year 2005-06 (see table 9 above). Similarly male graduates and post-graduates exhibited higher levels of unemployment compared to illiterates in 2005-06. This association between levels of education and unemployment rates is yielded by all the labour force surveys as reflected by the table below. An inter-temporal comparison indicated a curtailment in the unemployment rate of the educated male, during 2001-06. While 9% of the graduates were reported to be unemployed in 2001-02 the corresponding proportion for 2005-06 was 7%. For the year 2005-

06 the unemployment situation for the educated eased somewhat, compared to 2003-04 there was a decline in their unemployment rate as given below in the table.

### 1.4.2 Youth Labour Force

In the context of Pakistani labour market youth is defined as persons aged between 15 and 24 years. The share of youth in workforce is increasing as well. The Youth age group constitutes about 20% of the labour force. However, they make up for almost half of the countries unemployed. Even though Youth unemployment has been declining ever since 2001-2002, the Youth unemployment rate almost doubles the adult unemployment rate. The provincial distribution of Youth labour force in 2007-08 is estimated to be as follows: Punjab 58%; Sindh 24%; NWFP 14%; and Baluchistan 4%. Official estimates of labour force exclude children working under 10 years of age; however, many enter the labour force by the age of 10 years or less[32]. Moreover, majority of children work in the rural areas in agriculture sector and the urban informal sector (see Jilani). This may also be supported by the fact that primary and secondary dropout rates especially for males, who are considered sole bread earners in cultural context, are higher than females[33].

### 1.4.3 Informality of the Labour Market

In case of non-agricultural segment of the economy, all the self employed, and employment in the enterprises having less than 10 employees are counted as informal while the remaining non-agricultural employment is defined to be the formal sector. There appears to be a rise in the relative share of the informal sector being 64.6% in 2001-02 to 72.9% in 2005-06. This rise has been experienced by both the genders in rural as well as urban areas, though the share of formal sector is higher in urban areas than in rural. In terms of industrial classification almost one-fifth of the informal employment is accounted by manufacturing, in case of female this is the largest single employer where 57.1% of the female informal employment is provided in 2005-06. One third of the informal employment is generated in the trade sector where males dominate (see table 9).

**Table 10: Informal Sectors Workers – Distribution by Major Industry Divisions**

| Major Industry Division | 2001/02 | | | 2005/06 | | |
|---|---|---|---|---|---|---|
| | Total | Male | Female | Total | Male | Female |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |
| **Manufacturing** | 20.9 | 17.3 | 57.5 | 21.3 | 17.0 | 57.1 |
| **Construction** | 13.9 | 15.1 | 1.3 | 13.8 | 15.3 | 1.7 |
| **Wholesale and Retail Trade** | 34.0 | 36.5 | 7.6 | 34.5 | 37.6 | 8.9 |
| **Transport, Storage and Communication** | 11.7 | 12.7 | 1.0 | 11.1 | 12.3 | 0.9 |
| **Community, Social and Personal Services** | 18.9 | 17.6 | 32.4 | 17.7 | 16.1 | 31.2 |
| **Others (includes mining, quarrying; electricity, gas & water, finance, insurance, real estate & business services** | 0.7 | 0.8 | 0.2 | 1.6 | 1.7 | 0.2 |

Source: Labour Force Surveys

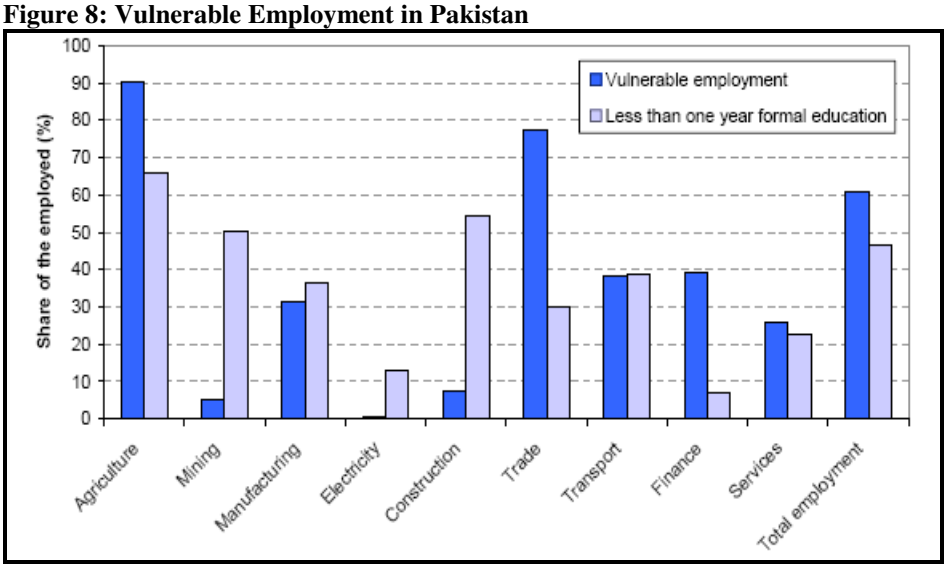
[32] Though the government has stepped up its efforts to eradicate child labour, the informal sector remains the biggest employer of children. The government and donor agency funded programmes to eliminate child labour mostly focus on formal sector or industries where informal sector has strong linkages with the formal sector (mainly in the exports goods products because the government and private sector both do not want a restriction on their exports by importing countries).

[33] The Pakistan Child Labor Survey –PCLS (1996) reveals that the majority of child labor is among boys and it increases with age. Male child labor is higher in contrast to female child labor in both urban and rural areas. The Punjab province ranks the highest in child labor followed by NWFP.

### 1.4.4 Vulnerable Employment in Pakistan

The ILO Key Indicators in Labour Market (KILM) information system considers the sum of contributing family workers and own-account workers as vulnerable because they are less likely to have formal work arrangements. A large proportion of workers in vulnerable employment is indicative of a large subsistence-oriented agricultural sector, lack of growth and subsequent job opportunities in formal economy, wide spread poverty, and increasing informalisation of the economy[34].

**Figure 8: Vulnerable Employment in Pakistan**




Source: ILO Key Issues in the Labour Market (2007).

The share of illiterate and working poor is also significantly large in Pakistan; reported at 46% in the 2005-06 LFS. While the overwhelming majority (almost 60%) of the workforce in Pakistan are vulnerable, almost 47% of the workforce has less than one year of formal education (see: ILO-KILM 2007). Hence they are neither able to seek employment in the formal sector nor do they have the relevant skills. Almost 90% of labour in agriculture is associated with vulnerable employment and 65% of employees in this sector have less than one year of formal education. Similarly, the labour force in the trade and transport sector together, which employs almost 20.4% of the labour force in 2005-06 (LFS), is characterized as being the second and third highest vulnerable employment categories, respectively. The Majority of the workforce with less than one year formal education is concentrated in agriculture, mining, construction, manufacturing and transport.

Lack of market relevant skills acquisition could be one of the important factors behind the large size of vulnerable employment. Why people with less than one year of formal education form a large proportion of labour market needs to analysed from two important perspectives; a) to reform the education system in general; and b) to institute a process of Recognition of Prior Learning (RPL) so as to design reforms for the TVET system which will provide equal opportunities for skills acquisition. Identification of the vulnerable sectors of the economy has important implications for TVET reforms for both the formal and informal sectors.

[34] The LFS 2005-06 shows that the distribution of non-agriculture workers in the formal economy decreased from 30% in 2003-04 to 28.1% in 2006-07.

### 1.4.5 Labour Market Information System

It has been mentioned earlier, the Federal Bureau of Statistics (FBS) is responsible for collecting and processing information on Pakistan's labour market. It has been conducting a labour force survey for the last 40 years. The FBS has been producing a comprehensive report on Pakistan's labour market. However, the labour force survey does not cover the labour force employed in the agricultural sector. Apparently a lot of information is not processed for policy formulation. Similarly, information on technically and vocationally educated and trained labour force is not adequately covered. Although some information on TVET is collected in the survey, it is not processed to produce reports. An effort has been made in this regard and TVET information contained in LFS 2005-06 has been processed and reported in section 7 of this paper.

In June 2007, the Labour and Manpower Division within the Ministry of Labour, Manpower and Overseas Pakistani (MLMOP) launched the Pakistan Employment Trends Series under Labour Market Information and Analysis (LMIA) system. The information contained in Pakistan LFS is used to compile ten of the internationally renowned Key Indicators of the Labour Market with the help of the International Labour Organization (ILO) and UNDP. The LMIA Unit has published Pakistan Employment Trends reports namely: "Ten Key Labour Market Indicators (KLMI)" and "Skills Development." A third report on provincial and local labour market information and youth labour market issues is due for publication in 2008[35].

## *1.5 Profile of TVET Trained Work Force in Pakistan*

The FBS also collects information on technically educated and vocationally trained labour in its LFS module. In the module it is referred as Technical and Vocational Training (TVT) and the information is collected for all those who are aged ten years and above[36]. The tables reported here are extracted from LFS 2005-06 dataset and are not reported by the FBS in the LFS summary report.

**Table 11: Percentage of Population (Age 10+) who had TVET by Age Groups**

| S.No. | Age Group | Male | Female | Total |
|---|---|---|---|---|
| **1** | 10-14 | 0.03 | 0.05 | 0.04 |
| **2** | 15-19 | 0.72 | 0.47 | 0.60 |
| **3** | 20-24 | 2.11 | 1.05 | 1.57 |
| **4** | 25-29 | 2.42 | 0.58 | 1.46 |
| **5** | 30-34 | 2.12 | 0.54 | 1.28 |
| **6** | 35-39 | 2.46 | 0.27 | 1.32 |
| **7** | 40-44 | 1.85 | 0.36 | 1.12 |
| **8** | 45-49 | 2.05 | 0.20 | 1.17 |
| **9** | 50-54 | 1.04 | 0.07 | 0.57 |
| **10** | 55-59 | 1.13 | 0.18 | 0.69 |
| **11** | 60+ | 0.70 | 0.06 | 0.43 |
| **12** | Total | 1.32 | 0.40 | 0.87 |

Source: From LFS 2005-06 database

According to LFS, only 0.87% of the population (age group 10 years and above) have ever completed any technical and vocational training. A relatively higher proportion of males in contrast

[35] The Economic Survey of Pakistan 2007-08, page 201.
[36] It is worthwhile to note that FBS uses the term TVT instead of TVET in statistical data collection and reporting. The term TVT is followed here in this section so as to remain consistent with the FBS definition and methodology.

to females have reported technical and vocational training; 1.32% males in contrast to female 0.41%. Out of those technically and vocationally trained almost 80% joined labour force (male participation being 89% while female corresponding percentage is 48.8%). The age specific distribution of population who have ever received technical and vocational education and training is reported in Table 11 below. In 20 to 49 age range more than 2% of the male labour force is reported to have technical and vocational skills, while females are reported slightly higher than 1% in relevant age group (see table 11 below).

The level of education by gender of the population aged 10 years and above who have received TVET is reported in table 6. The proportion of population with TVET increases with the level of education. In 2005-06, LFS reports 46.9 percent of the population 10 years and above as illiterate; of which only 0.142 percent have TVET (see table 12 below). Similarly, only 0.28% of total illiterate male population and 0.06% of total illiterate female population has any technical and vocational training[37]. Almost 8.79% of total population has less than primary education; of which only 0.16% have TVET (see table 12 below). Moreover, 10% of the total population in relevant age group has education up to Matric but less than intermediate - of which 2.89% have acquired technical and vocational training.

**Table 12: Percentage of Population (Age 10+) who Received TVET by Level of Education and Gender**

| S.No. | Level of Education | Male | Female | Total |
|---|---|---|---|---|
| **1** | Illiterate | 0.28 | 0.06 | 0.14 |
| **2** | Less than primary | 0.17 | 0.15 | 0.16 |
| **3** | Primary but less than Middle | 0.59 | 0.19 | 0.43 |
| **4** | Middle but less than Matric | 0.73 | 0.73 | 0.73 |
| **5** | Matric but less than Intermediate | 3.43 | 1.95 | 2.89 |
| **6** | Inter less than BA | 5.64 | 1.83 | 4.17 |
| **7** | BA | 6.13 | 2.18 | 4.61 |
| **8** | MA+ | 5.52 | 3.53 | 4.87 |
| **9** | Professional | 6.26 | 2.27 | 5.37 |

Source: From LFS 2005-06 database

### 1.5.1 Demand for TVET Labour in Pakistan

It is important to find out the demand for technically and vocationally educated and trained population. The table below gives the distribution of formally trained labour population among major industries. The service sector is the largest employer of technically trained population. Services combined with wholesale & retail trade and transport and storage employs 63.67% of the TVET Population in Pakistan. Moreover, the services sector is the largest employer of TVET female population; it employs 60.22% of the female TVET population while the manufacturing, the second largest employer, absorbs 24.89% of the TVET female population. For male population the services, manufacturing, transport and storage, and wholesale and retail trade sectors are the biggest employers in order (see table 13 below).

Information on the type of technical and vocational training acquired is distributed among 43 codes in the LFS. Types of technical and vocation training received by males and females are reported in table given in Annex 2. A major limitation is that LFS survey does not ask if the training was obtained through formal, non-formal, or informal means. Only recently, in 2006-07 the LFS has

[37] The illiteracy rate is reported as 35% among males and 59.4% among female labor force which means 13 million male and approximately 6 million female labor force is illiterate.

started asking questions about the length of the training as well; however, our analysis is limited to 2005-06 dataset because the latest dataset was not readily available for analysis. Among all reported courses, computer courses rank the highest for both male and female while in case of female embroidery and knitting are the second most prominent training courses. For men, aside from IT, the top 10 courses include driving, electrician, draftsman and engineering related course. For women, aside from IT and embroidery, the top most courses include garment making, weaving, draftswoman, nursing, midwifery, and lady health visitor.

**Table 13: Distribution of TVET population Employed by Industry 2005-06**

| S.No. | Industry | Male | Female | Total |
|---|---|---|---|---|
| 1 | Agri. Fishery Hunting | 7.79 | 2.63 | 7.28 |
| 2 | Manufacturing | 20.41 | 24.89 | 20.96 |
| 3 | Electricity Gas and Water | 2.46 | | 2.16 |
| 4 | Construction | 1.69 | | 1.49 |
| 5 | Wholesale & Retail Trade | 13.02 | 6.01 | 12.17 |
| 6 | Transport & Storage | 15.83 | 1.61 | 14.10 |
| 7 | Financing Insurance & Rent | 3.93 | 3.64 | 3.89 |
| 8 | Services and other | 34.22 | 60.22 | 37.40 |
| 9 | Total | 100 | 100 | 100 |

Source: From LFS 2005-06 database

### 1.5.2 Employment Status of TVET population

The majority of the technically and vocationally trained wage employees are absorbed in the formal sector among which the public sector is a major employer which absorbs 40.27% of TVET labour force (see table 14 below)[38]. According to LFS only 26.28% of technically and vocationally trained population is absorbed in the non-agriculture informal sector. All self employed or family workers are considered to be employed in informal sector, by default LFS definition.

It must be kept in mind that LFS excludes the agricultural sector while it is the major employer of labour force. However, if any TVET are employed in agriculture they are considered to be employed in the informal sector as per FBS classification. Based on available statistical sources, it is impossible to find out the number and percentage of TVET population absorbed in this sector.

**Table 14: Percentage Distribution of Technically Trained Wage Employees by Type of Enterprise**

| S.No. | Type of Enterprise | Male | Female | Total |
|---|---|---|---|---|
| 1. | Formal Sector | | | |
| a. | Government | 39.56 | 44.62 | 40.27 |
| b. | Corporate Sector | 28.58 | 17.60 | 27.04 |
| c. | Formal (Unincorporated) | 5.58 | 3.91 | 5.35 |
| 2. | Informal | 26.28 | 33.86 | 27.34 |
| | Total | 100 | 100 | 100 |

Note: Information by Type of Enterprise is available only for wage employees.
Source: From LFS 2005-06 database

The table 14 reports the distribution of wage employees only. It excludes self employed and unpaid family helpers. Employment status of all TVET workers is reported in the table 15 below. Only 31.24% of TVET population seems to be self employed (1.62% are employers while 29.62% are own account workers who do not employ others). A Majority (71%) of TVET females work as

[38] The wage employees are those who receive monthly salaries both in the formal or informal sector.

employees which indicate that TVET helps them find employment opportunities. Only 24.54% are self employed as employer or own account workers. Hardly 6% work as unpaid family helpers.

**Table 15: Percentage Distribution of TVET population by Employment Status**

| S.No. | Employment Status | Male | Female | Total |
|---|---|---|---|---|
| 1 | Employee | 62.04 | 71.11 | 63.15 |
| 2 | Employer | 1.69 | 1.09 | 1.62 |
| 3 | Own account workers | 30.48 | 23.46 | 29.62 |
| 4 | Unpaid Family Helper | 5.79 | 4.35 | 5.62 |
| 5 | Total | 100 | 100 | 100 |

Source: From LFS 2005-06 database

The occupational choice of TVET population is reported below in table 16. The majority of the TVET population is employed as technician, craft workers, and machine operators. For males the occupational choice is ranked as craft workers, technicians, officials, plant operators, etc. For females the occupational choice is ranked as technicians (includes nursing, LHV etc.), craft workers, clerks and professionals.

**Table 16: Percentage Distribution of TVET Population by Occupation (2005-06)**

| S.No. | Occupation | Male | Female | Total |
|---|---|---|---|---|
| 1 | Senior Official | 16.06 | 1.38 | 14.26 |
| 2 | Professional | 5.12 | 8.40 | 5.52 |
| 3 | Technician and Related Works | 21.47 | 47.58 | 24.66 |
| 4 | Clerks | 5.45 | 8.51 | 5.83 |
| 5 | Services or Sale worker | 4.51 | 4.51 | 4.51 |
| 6 | Skilled Agriculture Labour | 6.10 | 3.63 | 5.79 |
| 7 | Craft and Related Worker | 22.94 | 21.53 | 22.77 |
| 8 | Plant or Machine Operator | 15.94 | 0.60 | 14.07 |
| 9 | Elementary Occupation | 2.41 | 3.86 | 2.59 |
| | Total | 100 | 100 | 100 |

Source: From LFS 2005-06 database

### 1.5.3 Supply of Pakistani TVET Labour to Overseas Markets

It is difficult to assess the demand for Pakistan's informally and formally trained labour in other countries; however, one can see the patterns of labour supply over past few years to get an idea of what is being demanded from Pakistan's labour pool. According to the available statistics casual labour, drivers, and skilled construction workers are in the highest demand and hence supplied to other countries by overseas recruiters. The distribution of Pakistan's labour force supplied to overseas markets is give in annex table 3 which is adapted from the World Bank (2007) report on infrastructure implementation capacity (The original table is also given in annex4). It is difficult to comment on the distribution of formally and informally trained labour force supplied to the international markets. However, 46% of the manpower exported from Pakistan in 2005 comprises casual labour, which might be either informally trained or has not received any training. The remaining 54% are assumed to be trained through formal training schemes and also in the informal sector. The drivers and construction workers seem to be in high demand.

# II

# GENERAL EDUCATION AND TVET SYSTEM IN PAKISTAN

## *2.1 General Education and TVET Policy in Pakistan[39]*

Education plays an important role in human capital formation. Not only does it opens up various earning opportunities but has positive externalities for economic growth as well. Though the founder of Pakistan had placed high emphasis on education Pakistan has not made much progress. He said the following in his speech in 1947:

> *There is no doubt that the future of our State will and must greatly depend upon the type of education and the way in which we bring up our children as the future servants of Pakistan. Education does not merely mean academic education, and even that appears to be of a very poor type. What we have to do is to mobilize our people and build up the character of our future generations. There is immediate and urgent need for training our people in the scientific and technical education in order to build up future economic life, and we should see that our people undertake scientific commerce, trade and particularly, well-planned industries. But do not forget that we have to compete with the world, which is moving very fast in this direction. Also I must emphasize that greater attention should be paid to technical and vocational education[40].*

The message did not carry through probably due to political upheavals that followed after his death. Neither general education nor the TVET have received much attention by successive governments. The state of neglect is evident from historical allocations for education in the overall budgets. The education budget has been the lowest in the region. The constitution of Pakistan also recognizes the need for technical education provision and states in Article 37 (b) & (c) that[41]:

> *"The state shall remove illiteracy and provide free and compulsory secondary education within minimum possible period; make technical and professional education generally available and higher education equally accessible to all on the basis of merit"*

This statement is emanating from the fact that the writers of the constitution did envision a knowledge economy. In knowledge economies countries with better human resources and high productivity have a comparative advantage over their competitors. Pakistan is far from reaching this elusive goal because it is still stuck with outdated technologies (King 2007). There are skill and technology gaps not only in industry but within the TVET system as well. Many training curricula, technologies, labs and machines are outmoded and training provided in TVET does not match market demand.

[39] In past policy documents used the word Technical and Vocational Education (TVE) only instead of TVET.
[40] http://www.pakistan.gov.pk/Quaid/speech13.htm
[41] http://www.na.gov.pk/publications/constitution.pdf

Realizing the plight of TVET, the government embarked upon a mission to train Pakistan's manpower to meet the challenges of the new Millennium. Given the historical shortcomings in TVET policy making the National Skills Strategy (NSS) vision prepared by NAVTEC may be considered the first 'thinking out of the box' policy on TVET in Pakistan. It may be worthwhile to mention that founders of Pakistan considered the establishment of Technical Education Council (TEC) in 1947, during first ever educational conference after independence[42]. Yet the vision materialized after almost 60 years in the form of NAVTEC.

In 1998, the government of Pakistan came up with National Education Policy (NEP) 1998-2010. Though it announced a 'no child left behind' policy and claimed that every child 6-12 years will be in school within five years, thus attaining universal literacy in 15 years; however, 10 years have passed to date (2008) and the results are far from impressive. The NEP did incorporate a component on TVET. The objectives of TVET policy were exhaustive; however, it lacked a visionary approach to achieve the targets set in the policy document. Later Vision 2030 document incorporated a rather ambitious policy for the TVET as a subsector of education. A medium term development framework was subsequently prepared to make progress on the Vision targets. It is imperative to mention that while past policy approaches to TVET considered it important for economic development, they could not come up with a strategy to disassociate the stigma attached to it. The NEP, in its paragraph 8.1.3, mentions that over 50% of students fail at the higher secondary education stage. Those who drop out and those who pass out with poor grades are unable to find jobs and need employable skills; therefore, there is a need for shift toward more powerful TVE[43] for human Resource Development (HRD) in Pakistan. TVET reform must, of course, be complemented with other reforms especially those concerning employment policy and those related to creating a favourable socio-economic environment within which skills can be used. TVET reform alone does not help to create jobs. As long as a mindset remains that considers technical education only for those who are unable to go forward in general education the development of TVET system will remain handicapped. There is a need to mainstream TVET in Pakistan to disassociate the stigmas attached to it. It must be understood that everyone may not be destined for white collar jobs as people are born with different abilities and talents. It is imperative to mention that an elaborate TVET system needs to allow good students to come on board learn skills and continue onwards for higher education and training. At present universities do not recognize certificates and diplomas of technical and vocational education stream students as they are not only associated with the stigma described above yet considered incompetent for the reasons aforementioned. It is better to spell out in policy documents that TVET policy focuses not only on those who are less inclined towards a structured general education programme but also for those who are keen in taking practical based learning path. It does not necessarily have to be for less gifted and dropouts only. ADB 1999 report contends that the training quality was ignored in courses because of undue attention to establishing training opportunities for disadvantaged segments of the population. This also ascertains the argument that the stigma attached to TVET is due to narrow focus of TVET polices in past.

It is claimed in policy documents that the TVE[44] in Pakistan is designed for dropouts from schools yet the curriculum is heavily focused on theory instead of practical. Therefore, the training component was ignored. Only recently the Vision for Skilling Pakistan has acknowledged the due role for training in TVET reform. Pakistan's TVET system focuses more on rote learning rather

[42] Shah 2004.
[43] The Education policy document refers to TVE instead of TVET which may imply that earlier policy makers were either aware of emphasis on training part or there were no TVET experts on the policy making panel.
[44] Shah (2004)

than hands on practical approach. Though government recognizes it as part of the overall education system, it is disconnected from the rest of the education system. There are hurdles to progression not only within the TVET stream but also from TVET to general stream of education. It has failed to cater for the needs of the growing knowledge economy because of its low-skills and low technology orientation. Such a system of education and training has far reaching impact on the economy and the nation. Manufactured products of a low skills and technology oriented system cannot compete with the rest of the world. Besides, the TVET system is supply oriented rather than being driven by labour market demand.

Since the 1970s, there has been immense growth in TVET providers in Pakistan's public and private sector; however, its characterization did not change. The expansion under the Agency for Barani Area Development (ABAD) project was mostly towards strengthening agricultural practices[45]. The ABAD helped to establish numerous agro-technical institutes across Punjab. However, the expansion in Pakistan's TVET system is not considered in line with the expansion and diversification in the job market[46]. The statistical information on Pakistan's TVET system is not credible. For instance, the UNESCO-UNEVOC (1996) reports more than 5000 TVET institutions while the most recent National Education Census (2005-06) reports only 3,059 TVET service providers in public and private sector (this differs from the statistics reported in Pakistan Education Statistics 2005-06). There is a consensus among TVET policy makers that a lot needs to be done in this regard.

### 2.1.1 The 1958 Commission on National Education

Munir (2002) provides a review of Pakistan's education policy. Historically, the Education policy addressed the TVET in the country. It is worthwhile to note that different government documents use the terms TVE, TVT, VTE and TVET interchangeably. Most documents seem to emphasize on TVE which raises a question about policy makers understanding of the role for training in TVET. As mentioned above, in the past, a major emphasis has been on rote learning in TVET and less on practical. For a successful TVET programme theoretical and training/practical component should be larger; if not 30:70 then at least 50:50. Although Hassan (2007) found a maximum of 50:50 composition; however, practical are not undertaken either due to lack of laboratory facilities, lack of qualified staff, or simply because of lack of raw materials.

The Commission on National Education (The Commission) was established in 1958 to reorient the educational system. The commission conducted extensive review of the education and TVET system in Pakistan and identified following four categories of technical and vocational training: a) at the lowest level -- the manual labour, b) the trained and skill labour who can operate machinery, c) technicians at supervisory level, and d) creative engineers and executives. In order to facilitate these four levels of trainings sweeping reforms were introduced. The pre-vocational, vocational, technical programmes were introduced at different levels. Subsequent policies reflected the agenda and the reform programme of the 1958 Commission[47].

[45] ABAD focused on rain fed areas of the Punjab province. Its objective is to develop medium scale infrastructure for development in rural areas and provides support to line agencies at district level on need basis which includes hiring staff on contract, provision of equipment, transport and training. It focuses on targeted poverty alleviation by funds to Women Community Organizations (WCO) and by promoting literacy through skills training (see ADB 2002).
[46] UNESCO-UNEVOC (1996)
[47] Munir (2002)

### 2.1.2 Education Polices since 1970's

The new education policy 1972-80 envisaged skills training for primary school dropouts. Special training courses were designed and introduced in primary schools and post-primary (middle) schools to meet the vocational training needs of students. Several polytechnics were further upgraded to colleges of technology to allow Diploma of Associate Engineering (DAE) to progress further into higher technical education and attain Bachelor of Technology (B.Tech). Many new courses and diplomas were also introduced in technical and vocational institutions. A massive shift occurred from general education to agro-technical education especially in rural areas[48].

The 1981-1991 era focused on Islamisation of education. Hence the educational syllabus and curricula at all levels were revised and Islamic education courses were introduced in general education and technical and vocational education[49]. The 1991 to 2002 period may be characterised as post Islamisation period due to shift in policies. After the death of General Zia-ul-Haq, the Pakistan Peoples Party (PPP) came to power in 1990 and revised educational policies implemented by the previous regime. The new education policy 1992-2002 recognized the sizeable growth in technical vocational and agro-technical institutions in country; however, it underlined the need for aligning the TVET system with the labour market. The policy acknowledged the necessity of reorientation of the TVET system and its linkage with general education. Under the new initiative technical teacher training colleges were established in all the four provinces. These colleges were linked with the National Teachers Training College (NTTC) at the federal level. The policy also realized the need for incorporating computer education in TVET curriculum.

The 1988-2001 was a period of political upheavals in Pakistan. None of the governments were allowed to complete their term. In 1997, the Nawaz Shairf government came back after the dismissal of Benazir Bhutto's government. The new government came up with a new education policy in 1998. The 1998-2010 education policy is the last known complete policy document on the subject with a long-term focus. However, the TVET component of education policy was the weakest part of the document and lacked an implementation plan. In 2005, the Ministry of Education (MoE) launched a review of the education policy and prepared a 'White paper' as well as so-called 'Green papers' on education policy and sector[50]. The 'White paper' acknowledged that the previous policy framework failed to provide guiding principles necessary for meeting the challenges of new millennium. In order to achieve the MDG and Dakar Education for All (EFA) goals as well as the challenges of globalization and new knowledge economies, a comprehensive review of the education policy is necessary so as to provide lessons learned and guidelines for formulating a new one. It is interesting to note that the Green paper 2006 and National Education Policy Review 2006 hardly mentioned TVET.

### 2.1.3. Phases in Pakistan's TVET Development

Hassan (2007) identifies six distinct phases in technical education policy in Pakistan based on changing patterns in policy objectives and its implementation. These phases are reported as follows:

| | | |
|---|---|---|
| Phase I | (1947-1958) | Initial Policy Formulation Stage |
| Phase II | (1959-1970) | Expansion and Development Period |

[48] Shah (2004)
[49] Munir (2002)
[50] GoP (2007)

Phase III (1971-1977) Experimentation Period
Phase IV (1977-1988) Second Expansion Period
Phase V (1989-1997) Quality Improvement
Phase VI (1997-2010) Good Governance for Self Reliance

The table 17 below reports all the six phases in TVET system development and is adopted from Hassan (2007).

**Table 17: Phases of TVET System Development in Pakistan**

| Phase | Educational Initiatives | Development Plans |
|---|---|---|
| **Phase I (1947-1958) Initial Policy Formulation Stage** | • Pakistan Educational Conference 1947<br>• Report of Technical Education Committee<br>• Survey of Technical Education, Ford Foundation 1955<br>• Development of first Polytechnic Curricula 1954-5 | Six-Year Development Plant (1951-57)<br>First Five-Year Plan (1955-60) |
| **Phase II (1959-1970) Expansion and Development Period** | • Reprot of Commission on National Education 1959<br>• Manual Standards for Polytechnics, 1962<br>• Report of Commission on Student Problems and Welfare 1966<br>• Manpower and Education Commission 1966<br>• Proposals for New Education Policy 1970 | Second Five Year Plan (1960-65)<br>Third Five Year Plan (1965-70) |
| **Phase III (1971-1977) Experimentation Period** | • Education Policy 1972-80<br>• Introduction of B-Tech Courses 1972<br>• Introduction of Metric Tech courses 1973<br>• Revision of Polytechnic curricula 1976 | Fourth Five Year Plan (1970-75) never implemented<br>Annual Development Plans<br>Development Perspectives (1975-85) |
| **Phase IV (1977-1988) Second Expansion Period** | • National Education Conference 1977<br>• National Education Policy 1978<br>• National Education Policy and Implementation Plan1979 | Fifth Five Year Plan (1978-83)<br>Sixth Five Year Plan (1983-88) |
| **Phase V (1989-1997) Quality Improvement** | • National Education Conference 1989<br>• National Education Policy 1992-2002<br>• Polytechnic Curricula Revised, 1996 (Annual System)<br>• Commencement of Second ADB Technical education Project (1996) | Seventh Five Year Plan (1988-98)<br>Eighth Five Year Plan (1993-98) |
| **Phase VI (1997-2010) Good Governance for Self Reliance** | • Development of Vision 2010 (1997)<br>• National Education Policy 1998-2010<br>• Vision 2030<br>• National Education Policy Review 2005<br>• NAVTEC Established in 2006<br>• National Education Policy 2008<br>• Vision of National Skills Strategy | Ninth Five Year Plan (1998-2003)<br>NSS and its Implementation Plan still in making |

Source: Adapted from Hassan (2007)

Recently (in 2008), the government has started work on a new educational policy. The draft education policy 2008 has pinpointed major deficiencies and recognised the existing gaps in resource commitment and plan implementation. The new policy document recognizes the need for strengthening skill development and innovation through technical and vocational education. The

document also recognizes the role of TVET in supplying skilled manpower to the country's labour market as well as the need for reforming of TVET to make it demand oriented rather than supply driven. The 2008 draft education policy document pinpoints the following problems in the existing TVET structure:

- General neglect of the TVET system in past
- No system of progression to higher level skills and education
- Low quality student intake into polytechnics
- Fragmented structure of governance in TVET system
- Lack of coordination between stakeholders
- Low standard of skills training
- Outdated and outmoded technologies and machinery in training centres
- Weak linkages with other education sectors and the labour market
- Supply oriented rather than demand led

The education policy document in fact provides a gist of the vision for NSS prepared by NAVTEC. The 2008 draft policy emphasizes the need for developing demand led TVET system. It suggests the following policy actions:

- Establishment of a competency based National Qualifications Framework (NQF) along with a changed TVET programme structure that encompasses all qualifications in the country, both academic and vocational/technical.
- The proposed NQF may involve all stake holders and international experts in development process. The fully developed system should allow for horizontal and vertical mobility between academic and applied streams, with clearly mapped out recognition of credit points for each competency level.
- Advisory role for business sector in advising on the course and programme content, internship and job opportunities for students in TVET stream.
- Strengthening of linkages between TVET institutions and the business sector for orientation on business needs and new technical requirements.
- Development of a coordination mechanism between higher education, school education and technical, vocational education to resolve governance issues[51].
- Government shall develop a suitable framework for technical and scientific education and training with close involvement of Chambers of Commerce and Industry.

The policy requires the government to establish the following:

- vocational training centre in every Tehsil where there is none
- Polytechnic institute for every District (Agency in FATA)
- Colleges of technology in each Province/Area on a needs basis.

## *2.2 General Education System and TVET*

Pakistan's education system did not change much since independence. The formal education system consists of primary education (classes 1-5), middle (6-8), secondary (9-10), and higher secondary (also known as intermediate or FSc) beyond which two more years of education may be acquired towards a graduate degree (BA/BSc) while universities offer Masters, M. Phil, and PhD degrees.

[51] The policy section on TVE in education policy 2008 is brief and there is more than coordination that needs to be done to improve governance.

Similarly, professional colleges and engineering universities are offering education to medical doctors and engineers beyond intermediate level. Recently, the participation of private sector has opened new avenues and in major cities private institutions have introduced a parallel system of education consisting O and A levels in affiliation with British universities. The exams are administered through the British Council of Pakistan. Similarly, four year bachelor degrees in general education stream have also been introduced. The technical education stream is embedded in some middle and secondary schools; however, institutions for vocational and technical education exist with little mobility from TVET to general education.

In Pakistan, the technical education as per UNESCO recommendations is considered, in theory, an integral part of general education which prepares students to accept a technical occupation or continue further education. However, in practice it is different. According to Shah (2004) technical education in Pakistan refers to industrial technology offered in polytechnic and mono-technique institutes, colleges of technology and technical colleges to train mid level technical professional (sub-engineers) for industry. The vocational education on the other hand prepares skilled workers.

**Table 18: Primary and Middle Gross Enrolment Ratio and Net Enrolment Ratio**

| | Male | Female | Both | | Male | Female | Both |
|---|---|---|---|---|---|---|---|
| **Ever attended school (10 years and above)** | | | | **Primary or Higher (10 years and above)** | | | |
| **Total** | 69 | 44 | 57 | **Total** | 56 | 35 | 46 |
| **Urban** | 80 | 66 | 73 | **Urban** | 48 | 23 | 36 |
| **Rural** | 63 | 32 | 48 | **Rural** | 70 | 57 | 64 |
| **Primary GER (ages 5-9)**[52] | | | | **Primary NER (ages 5-9)** | | | |
| **Total** | 99 | 81 | 91 | **Total** | 60 | 51 | 56 |
| **Urban** | 108 | 104 | 106 | **Urban** | 67 | 65 | 66 |
| **Rural** | 95 | 72 | 84 | **Rural** | 57 | 46 | 52 |
| **Middle GER (ages 10-12)** | | | | **Middle NER (ages 10-12)** | | | |
| **Total** | 57 | 44 | 51 | **Total** | 20 | 16 | 18 |
| **Urban** | 69 | 68 | 69 | **Urban** | 27 | 27 | 27 |
| **Rural** | 52 | 32 | 43 | **Rural** | 17 | 11 | 14 |

PSLM 2007-08

The latest source of information for education is the Pakistan Social and Living Standard (PSLM) survey 2006-07 and National Education Census (NEC) statistics 2005-06. According to PSLM, the Gross Enrolment Rate (GER) at primary level is 91% and for middle level is 51% (see table 18 above). Yet the drop out rates are high and the Net Enrolment Rate in primary education is 56% and in middle level is 18%. It is interesting to note that among South Asian countries, Pakistan has made relatively slower progress towards increasing literacy over the last twenty years[53]. The overall literacy rate in Pakistan is reported as 54% (65% for males and 42% for females) in 2005-06. According to Academy of Education Planning and Management of the Ministry of Education (MoE) the retention rate in primary school for grade 1 to 5 is only 61% (62.9% for males and 75% for females in 2004-05. However, the NEC 2005-06 reports an overall dropout rate of 31.3% for grade 1 to 5; for males a drop out rate of 40.2% is quite high in contrast to females which is 19.2%. There is no-brainer about the need for increasing enrolment in primary and secondary education; however, given high dropout rates, the design of a new technical and vocational education and training system must address more than 50% of the school going children who drop out from the

[52] The EFA initiative ensures equal access to primary schooling for children aged 5-9 and considers the primary education as compulsory.
[53] Source: Riboud World Bank

school at various levels and enter informal training arrangements for skills acquisition to enter the labour force.

## 2.3 Mapping of General and TVET System in Pakistan

The education system can be divided into two streams; the general and technical and vocational education stream[54]. The general education stream covers professional education as well. The TVET system in Pakistan is divided into technical education and vocational training aimed at preparing trainees for middle level technicians and lower level work force, respectively.

General education is provided in schools, colleges, universities and professional colleges while technical and vocational education and training is provided in institutions which are specifically setup for this purpose. The majority of the technical labour is trained and supplied by technical institutes in the public sector; however, the private sector also plays an important role. The vocational training programmes are administered by federal and provincial agencies, NGOs and the private sector. A few years ago the Technical Training Centre (TTCs) and Apprenticeship Training Centres (ATCs) were administered by the provincial labour departments. The In-Plant Training Programmes are administered by the provincial Directorates of Manpower and Labour Training under the guidelines of the Apprenticeship Training Ordinance of 1962[55]. However, now they are being consolidated under the TEVTAs.

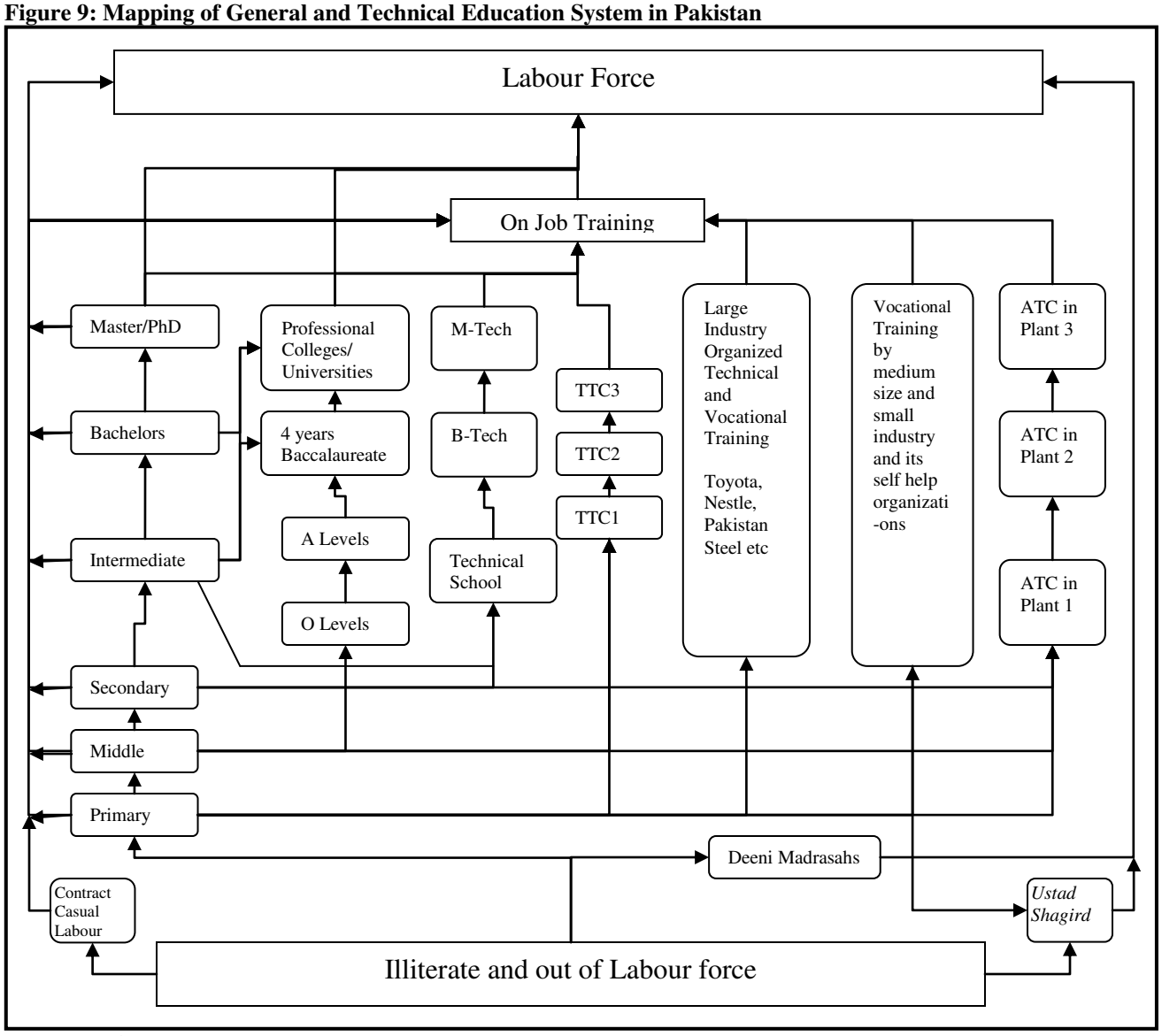
The technical and vocational education was introduced as a sub-system and Pakistan does follow International Standard Classification of Education (ISCED)[56]. However, the typology of TVET by ISCED 1997 is not properly documented[57]. The UNEVOC (2006) reports on ISCED 3 and 5B for Pakistan[58] (for ISCED definitions of general and vocational education please refer to annex 5 and for comparison between general and technical education refer to annex 7). In order to make it an integral part of general education, vocational education was initially introduced in some secondary schools in the early 1970s. Students can continue further and go for a three year Associate Technical Education diploma in a trade and are allowed beyond to pursue a Bachelor of technology degree. However, mobility between general education and technical education stream is not easy. As noted earlier, public's attitude towards technical and vocational education is associated with a stigma as it is considered low level education of "Mazdoors" (the manual labour or blue collar class) while general education is considered education of "Babus" (the white collared class). The Figure 9 below provides a simplified mapping of general education and technical and vocational education in Pakistan[59] (For detailed mappings please refer to annex 6).

The NEC 2005-06 reports the presence of 251,134 educational institutions; 178,668 (71%) in public sector and 72,466 (29%) in the private sector. The private sector, including NGOs, plays an important role in providing general education in areas where government does not have access.

[54] This is defined by the Ministry of Education in education policy documents.
[55] Kardar (1997)
[56] The UNESCO has designed the ISCED in the early 1970s to simplify the compiling of statistical information. The system was approved by the International Conference in Geneva I 1975 and was subsequently endorsed by the UNESCO's general conference in 1978. The classification has been revised further and is now known as ISCED 1997. UNESCO encourages member state to apply these definitions and use for statistical reporting on education.
[57] The UESCO Institute of Statistics has redefined ISCED definitions See Annex 4
[58] See UNEVOC (2006) page 67
[59] It is adopted from UNESCO (1996).

Together they cater for 36,097,437 students; 67% in the public sector and 33% in the private sector. The distribution of students in all institutions is as follows: 19% in pre-primary, 46% in primary, 14.5% in middle, 5.9% in secondary, 2.4% in higher secondary, 5% in degree colleges and universities, 4.2% in Deeni Madarassahas, and 0.6% in vocational and technical colleges. The private sector is dynamic and provides education at all levels mostly in English medium while the quality of education varies across public as well as private sector institutions. Though education is not compulsory, the government policy endorses the educating for all (EFA) goals. At the operational level education services are provided by federal as well as provincial authorities.

**Figure 9: Mapping of General and Technical Education System in Pakistan**

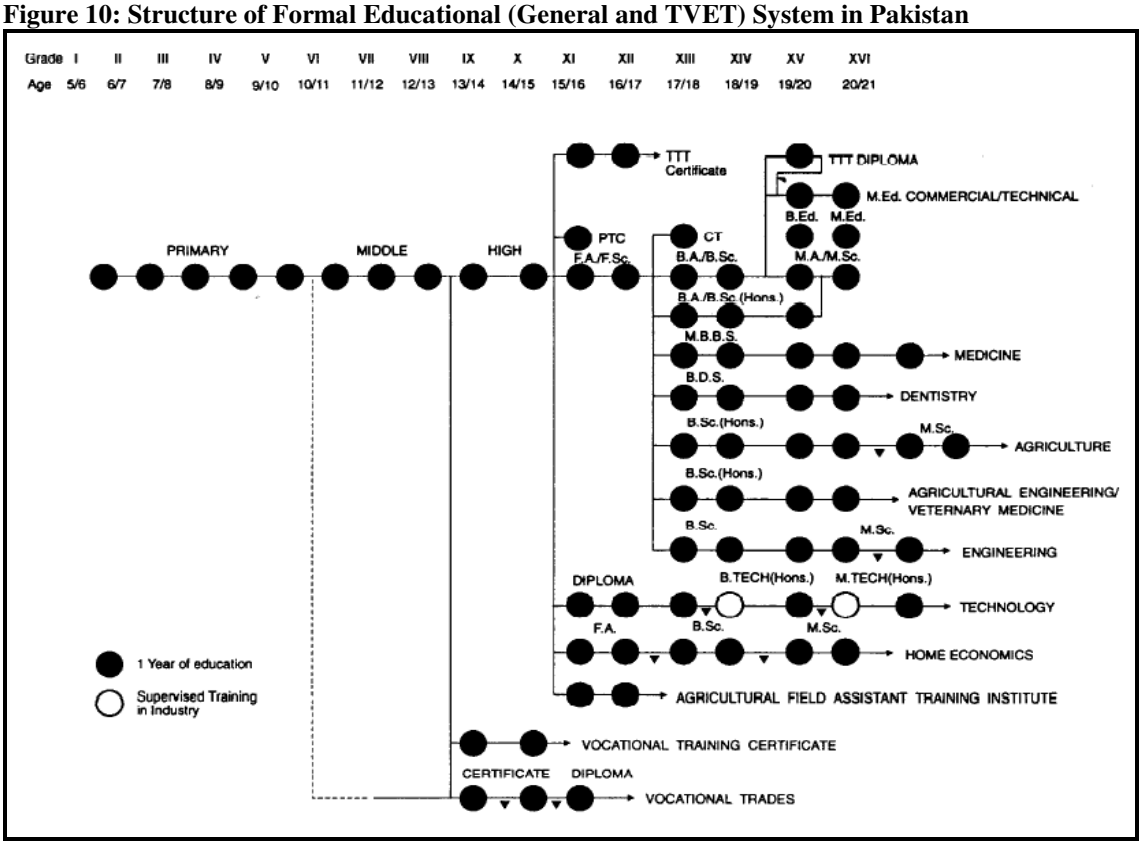



Source: Author

It is also important to understand the age dynamics of the youth in terms of schooling. The entry age for primary and middle schools is five and ten years, respectively. By the time students complete the middle school they are thirteen years old and are ready to enrol in the Matric vocational programmes as well. The entry age for the secondary and the higher secondary is thirteen and fifteen years, respectively. Further, the entry age for undergraduate and postgraduate is seventeen

and nineteen years respectively. The top bar in figure 10 below gives detail on grade and entry age in Pakistan.

**Figure 10: Structure of Formal Educational (General and TVET) System in Pakistan**




Source: UNESCO-UNEVOC 1996

Many large scale public sector organisations like Pakistan Steel, Heavy Mechanical Complex and Private Multinationals meet their needs by designing their own formal training programmes. Similar programmes are also administered by various autonomous bodies and agencies. The names of a few organizations are as follows[60]:

- The Overseas Pakistanis foundation
- Agency for Barani Areas Development (ABAD)
- Skills Development Council (SDC)
- Small Scale Industries Corporations
- The Pakistan Bedware Export Association
- Textile Institute of Pakistan
- National Institute of Leather Technology
- Pakistan School of Fashion Design
- Pakistan Council of Scientific and Industrial Research (PCSIR)

Besides, formal and non-formal pathways to skills acquisition informal pathways to skills learning and training are also active. The most notable are *ustad-shagird* (Master-Apprentice) system, On-the-Job (OJT) training. Another informal and sometimes non-formal pathway to learning is through Islamic Schools (Madrassahas) which are mostly unregulated. These schools cater for the

[60] Kardar (1997) and Semiotics (2006)

marginalized and disadvantaged who cannot afford to pay for schooling. However, sometimes children from well off families also adopt this path due to family aspirations and socio-religious philosophies.

**Table 19: Presence of Vocational and 5B Enrolments in Pakistan**

| | Entrance Age | Duration | Enrolment in all programmes All Programmes | Vocational Programme | Enrolment in Technical and vocational programmes (%) | | | | Vocational Gross Enrolment t Ratio | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vocational Education** | | | | | **MF** | **M** | **F** | **GPI** | **MF** | **M** | **F** | **GPI** |
| **Lower Secondary ISCED2** | na | na | 3,918,146 | - | - | - | - | na | - | - | - | na |
| **Upper Secondary ISCED3** | 15 | 1 | 1,816,147 | 83,000 | 5 | 6 | 2 | .32 | 2 | 4 | 1 | .23 |
| **Post Secondary non-tertiary (ISCED 4)** | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| **Technical Education** | | | | **5B Progra-mme** | | | | | | | | |
| **Post Secondary non-tertiary vocational Enrolments (ISCED 5), and tertiary Enrolments (ISCED 5B)** | .. | .. | 401,056 | 281 | .. | .. | .. | .. | 0 | 0 | 0 | .52 |

Source: UNEVOC (2006)

The UNEVOC (2006) has recently compiled a statistical resource which contains information on the TVET system in different countries. However, the information compiled is limited to formal TVET. The caveat remains that enrolment in private sector formal and non-formal TVET is much higher than the formal TVET in public sector. Therefore, the exact enrolment, typology of ISCED TVET, and degree of diversification in Pakistan's TVET system is not known as per UNEVOC diversification index. At the time of writing this report any document related to ISCED classification of Pakistan's TVET system was not known and available. The UNEVOC (2006) has also underlined the difficulty of establishing theoretical and practical distinctions between (a) general; (b) pre-vocational and pre-technical; and (c) vocational and technical education in developing countries. Pakistan may also be considered an example in this regard. The Table 7 above consolidates information on Pakistan's TVET as per UNEVOC statistical framework. There are information gaps which may need to be addressed for designing a future TVET system in Pakistan.

According to UNEVOC (2006), which is an initial statistical survey of countries regarding TVET, 3,918,164 students were enrolled in Lower Secondary (ISCED2); 1,816,147 in upper secondary and 401,056 in post secondary. Only 281 enrolments are reported in tertiary ISCED 5-B classification. However, it must be kept in mind that ISCED has its own limitations and classification of TVET programmes under ISCED is not straightforward. The typology of TVET is identified by the type of TVET implementing institution. Countries like Pakistan need to learn lessons from Japan and Sweden's TVET system[61] (see table 19 above).

[61] UNESCO-UNEVOC (2006) reports on ISCED and its relevance to the TVET system. It notes that the ISCED system of classification cannot provide a complete framework for classifying TVET across different countries due to operational difficulties. However, it nonetheless provides a basic framework for classifying the formal TVET programmes.

## 2.4 TVET Institutions

The size of TVET system in Pakistan is naturally dependant upon the formal and informal setups involved in the provision of the TVET across the country. Information on registered and to some extent non-registered public and private TVET institutions is available. National Census of Education (NCE) 2005-06 reports 3,059, registered and non-registered, TVET institutions of which 916 are in the public sector while 2143 are in the private sector (See Table 20)[62]. The presence of a large number of private TVET providers emphasizes the role of private sector in TVET provision.

**Table 20: Institutions and Enrolments in Pakistan's TVET System**

| Institutions Type | Institutions | Enrolment by Gender | | | Teachers | | | Student Teacher Ratio |
|---|---|---|---|---|---|---|---|---|
| | | Boys | Girls | Total | Male | Female | Total | |
| **Public** | 692 | 53,945 | 28,189 | 82,134 | 4,060 | 1,847 | 5,907 | 13.9 |
| **Other Public** | 224 | 12,564 | 9,054 | 21,618 | 924 | 494 | 1,418 | 15.25 |
| **Private** | 2,143 | 82,532 | 52,403 | 134,935 | 4,923 | 2,317 | 7,240 | 18.64 |
| **Total** | 3,059 | 149,041 | 89,646 | 238,687 | 9,907 | 4,658 | 14,565 | 16.39 |

Source: NCE 2005-06

It must be noted that all public institutions are registered with different government bodies related to TVET system while all private institutions are not. The Discrepancy in total number of TVET institutions reported by different statistical sources clearly underlines the presence of a huge TVET provider base in the private sector which is not registered or covered by formal TVET authorities[63].

## 2.5 Enrolment in Pakistan's TVET System

The NEC 2005-06 provides the most up-to-date information on the enrolment in Pakistan's TVET institutions. Total enrolment in all institutions is reported as being 238,687, of which the majority is enrolled in vocational institutions. Almost 74% students in Pakistan's TVET system are enrolled in vocational institutions while 23% are enrolled in polytechnic and only 2.4% in monotechnics[64]. The student teacher ratio (STR) ranges from 14-18.4 which is close to international norms for similar programmes (see table 21 below).

**Table 21: Enrolment by Type of TVET Institution**

| Level | Institutions | Enrolment | Teachers | STR |
|---|---|---|---|---|
| **Polytechnic** | 151 | 55,763 | 3,422 | 16.3 |
| **Mono-technique** | 49 | 5,923 | 396 | 15.0 |
| **Vocational** | 2,859 | 177,001 | 11,521 | 15.4 |
| **Total** | 3059 | 238,687 | 14,565 | 16.4 |

Source: NCE 2005-06

The Enrolment in Pakistan's TVET system is much lower than that of emerging economies of Asia and Middle East (See table 22 below).

[62] The figures reported in Table 4 exclude data on commerce colleges which are also registered with provincial TEVTAs.

[63] For example, many computer training colleges have mushroomed up across the country but all of them might not be registered or recognized by TEVTA. Though many new institutions might be in process of registering with the TEVTAs at any given time, it is possible that many stay out of the process. It is not known who accredits the certificates and degrees of such institutions.

[64] The monotechnic institutes teach course in one discipline only, e.g. either civil, mechanical, or electrical.

**Table 22: Countries Classified by Level of Enrolment in Vocational Education**

| < 2% | 2-5% | 5-10% | 10-15% | > 15% |
|---|---|---|---|---|
| **Myanmar, Bangladesh** | Malaysia | Brunei | Papua New Guinea | Thailand |
| **Oman, Kuwait, UAE,** | Hong Kong | Mongolia | Indonesia | Korea, South |
| **India, Pakistan** | Vietnam | Cyprus | Japan | Israel |
| **Cambodia, Saudi Arabia** | Lao | Iraq | China | Jordan |
| **Qatar** | Singapore | Syria | | Turkey |
| | Iran | | | |

Source: JANDHYALA B G TILAK (2002)

## 2.6 Current Situation in TVET: Equality, Access, Coverage

According to education for all mid decade assessment report almost 6.39 million children of secondary level age group (10-16) were enrolled in 2001-02 of which only 75,000 (1.2%) were enrolled in TVET institutions. In 2005-06, the enrolment in TVET increased to 238,000 (3.1% of total 7.68 million enrolment of relevant age group). TVET enrolment grew by 117% in four years. Therefore, demand for enrolment in TVET is increasing; however, Pakistan does not have enough TVET facilities. The Gender Parity Index of enrolment in TVET at the secondary education level has also improved from 0.31 to 0.64 percent. The total number of girls enrolled is 90,000 as compared to 150,000 boys. The proportion of female enrolment in TVET increased from 23% to 38% from 2001 to 2005, respectively. There are proportionately more girls enrolled in rural areas (43%) as compared to urban areas (36%). The marginalized areas have particularly low proportions of girls enrolled not only in primary and secondary education but TVET as well. The lowest percentage of girls enrolled in various educational programmes are reported as 28% in primary in FATA, (13%) in the secondary in Federally Administered National Area (FANA) (13%), and 31% for TVET in the NWFP[65]. Similarly, the total number of women teachers in TVET has increased by 150% from 2001 to 2005.

**Table 23: Gender Parity Index and Distribution of Teachers and Students per Institutions**

| Institutions Type | Students | Teachers | Per Institution | |
|---|---|---|---|---|
| | GPI | GPI | Students | Teachers |
| **Public** | 0.52 | 0.45 | 118.69 | 8.54 |
| **Other Public** | 0.72 | 0.53 | 96.51 | 6.33 |
| **Private** | 0.63 | 0.47 | 62.97 | 3.38 |
| **Total** | 0.60 | 0.47 | 78.03 | 4.76 |

Source: Author Calculations from NEC

The overall GPI for students is close to 0.60 with a relatively adverse rank of 0.52 in public institutions[66] (see table 23 above). A similar index is constructed for teachers which shows adverse overall female to male ration of 0.47 in all TVET institutions. There are more students and teachers per institute in public sector as compared to private sector. There are fewer teachers per institute in the private sector as compared to public sector. The private sector institutes have approximately 3.38 teachers per institute. This may affect quality of teaching in the private sector. Moreover, the STR in private sector is 18.64 which is the highest in Pakistan's TVET system and is above the international norms.

[65] See EFA Mid Decade Assessment Report GoP (2008).
[66] A gender parity index reveals female student and teachers' access to TVET institutions. A GPI of 1 indicates equal access and opportunities for females while a GPI of less than one indicates access of fewer females in contrast to males.

## 2.7 Capacity Utilization in Pakistan's TVET Institutions

The UESCO-UNEVOC (1996) provides information about capacity, enrolment and output of Pakistan's TVET providers. It is evident from the statistical information that Pakistan's TVET system is underutilized, has high drop out rates, and the output is much less than the intake capacity and enrolment. Recently, the National Productivity Organization (NPO) has also completed a capacity utilization study of the Pakistan's TVET facilities in the public sector. According to the NPO (2005), the capacity utilization in TVET institutions is far below expectations. For instance capacity utilization of polytechnic institutes is around 65% in Punjab, 52% in Sindh, and approximately 68% in NWFP. The courses offered give more weight to theoretical components compared to practical components. Students do not have access to latest machines and equipment.

## 2.8 Problems and Issues in Pakistan's TVET Institutions

Pakistan's first educational plan clearly outlined the need for TVET[67] and made it part of the general education system. However, no progress was made in subsequent years as compared to other countries[68]. Over the years it became plagued with problems that range from outdated technologies, outmoded curricula, and governance, etc. Less than 1% of the students (0.6% in fact) are enrolled in TVET institutions. Some of the most important and talked about problems of TVET system are as follows[69]:

- Policy environment and governance of TVET system
- Quality and access in Pakistan's TVET system
- Curricula and syllabus development
- Quality of teaching staff
- Low completion rates
- Occupational guidance and Job Search
- Management of TVET intuitions
- Trade testing and system of learning and assessment
- Outdated technologies
- Skills and technology gaps
- Linkages with Industry
- Labour legislations
- Sustainability and other factors

### 2.8.1 Policy environment and Governance of TVET system

The shortcomings of a system usually emanate from its policy environment and system of governance. A detailed discussion on Pakistan's education policy in general and TVET in particular is given above in section 2.1. Kardar (1997) stressed that the government policy environment was not conducive for private investment in skills development and establishing of Public Private Partnerships (PPP) in TVET[70]. Government policies created distortions discouraging private investment in this important sector of education and training. He stressed that the government

[67] It refers to technical and vocational education instead of TVET.
[68] Tilak (2002)
[69] For a detailed discussion see Kardar (1997)
[70] Earlier in the document PPP referred to Pakistan People Party

policies were implemented to favour certain pressure groups and lack objectivity. The system of import duties, excise taxes, favoured a few and discouraged others which stifled competition and discouraged technology up-gradation, investment in human capital, import of technology, and implementation of professional quality management frameworks. Lack of education has also made it difficult for society to adopt new technologies in production and management.

### 2.8.2 Quality and Access in Pakistan's TVET institutions

The education system is heavily subsidised in Pakistan. However, when the funds are earmarked for the general education and TVET the former receives preference because the unit cost per course in general education is much less than the TVET. As students do not have to pay much in terms of out of their pocket so a moral hazard remains as they take little interest in education while parents believe that the teachers are fully responsible for student's performance. The TVET delivery by faculty on the supplying end and by the students at the receiving end is far from satisfactory.

Kardar (1997) reports the findings of UNDP-ILO (ARTEP) evaluation of vocational training institutions in Pakistan[71]. A survey of 25 percent of the graduating students during 1983-87 was conduced which revealed that quality of education was not a major factor which had influenced a student's decision to enrol in a vocational programme. Majority took up this skills acquisition path because either the education was low cost (20%) or the courses were offered in the evening (61%) while only a few (14%) took into account the institution's and faculty's reputation.

In 1999, ADB conducted an evaluation of its TVET programme in Pakistan and conducted a survey in ADB funded and non ADB funded TVET institutions. It was reported in the survey that Pakistan's TVET institutes have average class size of around 50-100 while the STR of 19:1 is higher than the world accepted norm (15:1) for STR for technical courses. The attendance rate is found to be 50-80% in Punjab and NWFP while 30-60% in Sindh and Baluchistan. The non availability of equipment and materials in labs was a major factor in non-attendance. The pass rate (completion) is approximately 40% with some variation among provinces. The Punjab province has the lowest completion rate while the Sindh has the highest. Among female's polytechnic attendance is better; around 80-90 percent. In Pakistan 60% of the students are able to find jobs within six months while 18% may find jobs after a year. However, the new entrants are reportedly trained on-job for almost 3 moths as no internship programme exists for in school credit that help them prepare for the job market relevant skills[72].

### 2.8.3 Curricula and Syllabus Development

Some attempts have been made to update the curricula of TVET institutions. However, the curriculum remains heavily focused on theoretical and traditional technologies. There is a need to re-orient TVET curricula towards a competency based system. In a Competency Based Training (CBT) system the trainees can take a specified set of modules in a spatial manner and move on to next set of modules. At each step they obtain some sort of certification. Once all the modules are successfully completed the trainees can apply for full certification of their skills. Similarly, there are opportunities of becoming a master craftsman in a particular trade through CBT route.

[71] The SEBCON team has tried to get a copy of UNDP study however it was not available at the time of writing this report.

[72] In 1999 ADB conducted impact evaluation of its assistance to Pakistan's TVET project. A survey was conducted in project and non project TVET institutions. The findings reported here are from the ADB Impact Evaluation.

In order to design curricula or course syllabus there is no tradition of consulting industry and technology providers. Private sector has come up with its own initiative especially in the field of computer science, but also in manufacturing. For instance, many institutions have adopted curricula developed by foreign institutions. The teachers acquire certifications either through long distance learning or from short curses in foreign countries. Later, they provide training to students who obtain certification by passing exams administered by the technology provider through their designated agencies (The Cisco and Microsoft certifications and the City and Guilds system applied by TUSDEC are important examples in this regard).

The teachers in polytechnic institutes are not familiar with new advancements and CBT curricula in their field which are in vogue in major parts of the world. Mostly, the institutes follow curricula approved by the ministry of education and its recommended books. In advanced economies, teachers can use curricula to develop customized courses. Usually, they have the flexibility to incorporate advanced materials in their syllabus using Information and Communication Technologies (ICT). The system is inflexible in the sense that it is not designed to respond to industry demand by instituting new courses and developing relevant syllabi.

Recently, Hassan (2007) has analyzed the curricula for Diploma of Associate Engineering (DAE) in use in Punjab province against job requirements in three conventional technologies namely: the Electrical Technology, the Electronic Technology, the Mechanical Technology; and three emerging technologies namely the Food Technology, the Instrumentation Technology, and the Petroleum Technology. Only the curricula of Electrical, Electronics, Food, and Petroleum technologies were found to be in concurrence with the job market. However, he identified the need for aligning some courses in line with new and emerging changes in technology. The curricula of Mechanical and Instrumentation Technology were found to be in need for modification. According to Hassan (2007) the curricula for mechanical technology needs revision in the following key technology courses: Metallurgy, Applied Electricity and Electronics, Thermodynamics, and Energy Conservation. He recounts the history of curricula development in Pakistan and reveals that the curricula for polytechnics were developed in 1954-55 with the help of Ford Foundation and the United States Agency for International Development (USAID). These curricula underwent minor change in 1964-70 and remained in use for nearly 20 years.

### 2.8.4 Quality of Teaching Staff

The academic staff in TVET institutions can be classified into three categories; a) teachers of theoretical courses, b) teachers of practical classes; and c) teachers of general Maths, English, and Islamic studies subjects. The qualification of teachers and their skill varies among TVET institutions. The teaching staff at technical institutes is either DAE holders or B-Tech (Pass) and B-tech (Hons) holders. Many of them do not have industry experience and they only teach what they have learned themselves thorough bookish experience which makes their teaching not so relevant to market demand. Similarly, the teaching staff at various vocational training institutes is usually skilled in the relevant trade under a similar programme and rarely have an opportunity to learn new trades or up-grade skills which is highly essential for innovation and imparting cross-cutting knowledge to students. In order to manage change in line with the needs of new knowledge economy ICT must be made part of the teaching methodology in technical and vocational programmes.

The public sector technical teacher training institutes are supposed to cater for the needs of both private and public TVET providers; however, these institutes lack qualified teaching staff that has industrial experience as well. As these institutes are set up in public sector; therefore, the public service salary, promotion, and benefit structure does not provide a motivational framework and many qualified professional either do not consider teaching in these Training of Trainers (ToT) institutions or leave and opt for high paid jobs in other sectors. Those who are retained in the system are tenured and receive promotions based on length of tenure instead of performance[73]. Shah (2004) has reported that almost 30% of the teaching positions were vacant in 1988. A recent analysis is not available.

### 2.8.5 Occupational Guidance, Job Search

Occupational guidance at polytechnic institutes, colleges of technology, vocational training centres is informal in nature. Mostly teachers or peers help other students in referrals as well as guidance for job search. A formal system of occupational guidance and job search in TVET system in general and in institutions in particular is almost non-existent. However, provincial departments of labour and manpower have set up employment exchanges and vocational guidance cells which were found to be ineffective. Therefore, majority of graduates from TVET institutions remain unemployed for sometime. Kardar (1997) gives an account of TVET graduates in the job market[74].

> *"The results of the UNDP study were that 63 per cent of those trained were unemployed; the NWFP study had also discovered that 55 per cent of the polytechnic and 59 per cent of commerce diploma holders and 72 per cent of those with vocational certificates were unemployed. Nearly 40 per cent of the unemployed in the UNDP sample had been waiting more than two years for a job. Of those employed two-thirds were employees and one-third was self-employed. Almost 25 per cent of those employed had had to wait more than two years for a job and only 35 per cent found jobs within six months. The NWFP study revealed that 30 per cent found a job after two to three years, 28 per cent were unemployed for over three years, while 20 per cent were unemployed for a period of six months to one year. The dated and inflexible programmes in the training institutions have meant that workers emanating from this system cannot necessarily expect to have acquired the skills required for gainful employment."*

It is imperative to develop labour market services, platforms or forums which may provide vocational and occupational guidance inline with the job market demand.

### 2.8.6 Management of TVET intuitions

The management structure at TVET institutes is outdated. Most of the work is carried out by clerical staffs that lack professionalism. Prior to the establishment of provincial TEVTAs most institutions were running under the umbrella of different line departments of the government, councils, autonomous bodies, and directorate of ministry of education and labour departments. The system was characterised by lack of coordination. After the establishment of TEVTAs several institutions are consolidated under it in Punjab and similar operations are underway in other provinces. However, little has changed in the management structure at institution level. Kardar

[73] Kardar 1997
[74] www.lahoreschoolofeconomics.edu.pk/JOURNAL/Vol2-No2/Shahid.doc

(1997) asserts that TVET providers in the public sector have little or no control over hiring and firing of staff, salaries and career development, fee structure, academic standards, and resource allocation. It is mostly controlled by provincial boards or bureaus. Many decision making processes were fragmented under different authorities who made the job of initiating and managing change even more difficult. However, after the establishment of TEVTAs it is hoped that these difficulties will be removed. The school management is not dynamic and rather shy away from advanced management approaches. It is of paramount importance to take note of ADB (1999) study which points out that TVET institute management is reluctant to involve industry in running schools.

### 2.8.7 Trade Testing and the System of Learning Assessment

In Pakistan, the learning assessment for most courses taught in polytechnic institutes is done by the Board of Technical Education through annual exams. The colleges and institutions also conduct routine assessments throughout the year internally; however, students do not give it much importance and sometimes skip assignments as it neither contributes to the final grade nor does it affect their eligibility to enter the final exam.

An ADB (1999) evaluation of its TVET projects observed that there has been little emphasis on quality of the training and demand by the industry. There were no active trade testing bodies in Pakistan. The emphasis was rather on providing some sort of skill to marginalized or economically and intellectually disadvantaged population. Therefore, employability of the graduates and role of skills acquisition in promoting economic growth remains a distant objective.

In 2002, the government had amended further the National Training Ordinance 1980 - now known as the National Training (Amendment) Ordinance 2002[75]. Under the ordinance National Trade Testing Board was constituted by National Training Board. Similar bodies were formed in provinces as well[76]. Now Skill Development Councils (SDCs) also conduct trade tests.

### 2.8.8 Outdated Technologies

According to the 1998 Human Development Report for South Asia, the region is stuck with the technologies of past while many developing countries are seeking technologies of the future. Pakistan is not different from other countries of the region. The Pakistan TVET system has failed to evolve over the years from supply-oriented to demand-driven. There are very few skills training opportunities. The skills taught in existing TVET institutions run by the public sector are either irrelevant or obsolete for both domestic and global job markets. The institute and industry linkages are non-existent. The industry is reluctant to build linkages with public institutions due to a general perception that students trained in government institutes do not possess relevant skills as they are trained on outmoded machines and the syllabi are not relevant to the market. The industry does not trust new graduates and let them touch its machinery unless it trains fresh graduates. There are however a few industry driven TVET programmes which are offered by Modern Institute of Informatics & Management (MIIM), SDCs, and Punjab Vocational Training Council (PVTC).

[75] http://www.pakistan.gov.pk/divisions/law-division/media/II-2002.pdf
[76] For Sindh Trade Testing Board (STTB) information is available on web (http://www.sindhttb.gov.pk/ttb/ ).

### 2.8.9 The Skill and Technology Gaps

Skill and technology gap exists at many levels. Pakistani companies are far behind in the acquisition of modern technologies and the educational sector lags even further behind than industry. Flexible labour laws, regulations, and industry standards do not encourage large investment in formal technical trainings while strict industry standards implemented in other countries are becoming instrumental in substantial investment in formal training of labour force[77]. Besides, new knowledge based economies make it imperative that our labour force training curricula are up-to-date and the programmes focus on integrating labour into modern economy both in formal and informal sectors. In order to achieve competitiveness in all sectors of the economy need for trained manpower supply cannot be ignored. Studies on Pakistan's TVET system have reported that almost 27% of those who received training from TVET institutes faced problems in performing well on their jobs. Moreover, 32% of those who could not perform well reported to have inadequacy of training while others attributed the problem to training on outmoded equipment in TVET institutions. Only 51% reported to use same tools which were used in the training institutions. This clearly pictures the state of available technological base especially with public TVET service providers[78].

### 2.8.10 Linkages with the Industry

Most of the learning and training in Pakistan's TVET system is institution based which does increase the opportunity cost of training. The industry and institution linkages are either non-existent or very rudimentary in nature[79]. If part of the training is conducted in the industry for which students can obtain credit towards certification or graduation the cost can be brought down significantly. The industry-institution linkage is the weakest feature of most TVET programmes in Pakistan. The major employers are sometimes reluctant to hire graduates of the TVET institutes because their qualifications fall short of industry requirements. Therefore, a few major employers have preferred to design their own programmes in which they induct fresh trainees.

### 2.8.11 Labour legislation

In comparison to international standards labour laws, regulations, and legislations are excessive which subsequently increases the cost of doing business[80]. Kardar (2004) asserts that labour laws also discourage skills development. A reduction in hiring and firing cost is necessary. The time limit on trainees' contracts and procedural difficulties in appointments and firing of trainees under Apprenticeship Ordinance 1962 also imposes limitations. The employer must retain the apprentice for a specified period of time even if he/she is not performing well. The contract is signed by the Directorate of Apprenticeship and the industry does not have autonomy to dismiss non-performing trainees without prior approval of the regional directorate of apprenticeship. The redundancy based dismissal is also not easy in Pakistan's industrial set up due to governing legal frameworks. There is also a need to cut down compliance cost associated with labour laws and legislations.

[77] http://siteresources.worldbank.org/SOCIALPROTECTION/Resources/SP-Discussion-papers/Labor-Market-DP/0832.pdf
[78] Kardar (1997)
[79] Initiatives like Skills Development Council (SDC) in which industry and institution linkages are strengthened the only exceptions and are rare.
[80] World Bank (2008)

### 2.8.12 Sustainability and Other Factors

The sustainability of TVET programmes and reform requires federal and provincial governments to earmark adequate recurrent budgets. Many donor initiated TVET projects lacked sustainability component in the form of supporting covenants[81]. The ADB 2004 impact evaluation stresses the need for analysis of different problems of polytechnics, technical training centres (TTCs), and Vocational Training Centres (VTCs). It also points out that "Production-cum-service centres" also fail to provide incentives to private industry for its involvement. They rather compete with the private businesses in local industry.

The supply and demand of skilled workforce is fraught with excess gaps and shortages. There is lack of bridging courses and programmes that can prepare workers to switch to another occupation in case there are no demands for certain skills or in an industry. It has been reported in many TVET institution evaluations that the local industry does not either have the absorptive capacity for new graduates or the skills in demand are not taught in local TVET intuitions.

It is imperative to mention that the notion of demand driven courses is different among men and women in Pakistan[82]. In case of women, the demand by prospective trainees to learn a particular skill was considered for introducing a TVET course in a local setting. It was discovered that the desire to learn a skill among women was influenced by their traditional roles and activities rather than income generating potential or market demand. Therefore, it is concluded that the demand-led approach to TVET also requires awareness among prospective trainees to understand the economic implication of their skill acquisition choices.

## *2.9 Findings from a perception survey*

Shah (2004) conducted an assessment survey of TVET institution for his PhD dissertation. He asked questions to 35 institutional heads, 175 teachers and 350 students about the clarity of the objectives of TVET, availability of physical facilities, administrative facilities, curricula, co-curricula, staff development, assessment and evaluation, etc[83]. Findings of his research suggest the acceptance of the hypothesis that objectives of TVET are clear to students, teachers and administrators. The teachers play an important role in achieving the objectives, the physical layout of the laboratories was found satisfactory, and the facilities were properly utilized, and somewhat well equipped in the institutions in which the survey was conducted. The workshops were found to have proper raw materials while the hypothesis that facilities are well maintained was rejected. The computer facilities were also found to be adequate. Nevertheless the survey participants complained about lack of transport facilities and lack of first aid facilities, lack of disaster management facilities in case of fire or accident, lack of lodging facilities for teachers and students on campus; therefore, the research hypothesis failed. Though computers are available; however, online research and education facilities are non-existent and the hypothesis failed miserably. The findings suggested that the performance of administrators of TVET institutions was unsatisfactory which was also supported by the findings of other researchers. Though teachers were found to be performing satisfactorily given their expertise; however, they were not abreast with modern technologies and needed refresher course. Teachers were not competent enough to use modern instructional methods, e.g, audio video

[81] ADB (2004) Page 86 argues that there is no pledge by the government in the form of contract to carry these initiatives forward once the donor funding stops.
[82] IFAD (2001)
[83] He did not ask questions to industry.

technologies, etc. Nevertheless, insufficiency of funds was reported for staff development and teacher training programmes do not fulfil the objective of improving quality of teaching staff. The need for in-service teaching staff training and development was underscored by survey participants. There is lack of support from institutions in job search and placement and there are no facilities for guidance and counselling. The performance of the institutions is not periodically evaluated. The teachers, students, and principals support the idea that curricula used in training is outdated -needs revision-and is not at par with international standards. The curricula and teaching methodology does not promote critical thinking among students. The curricula fail to achieve the learning objectives. Participants of the survey agreed that the course materials and mode of instruction should be in English as well as Urdu.

In answer to a question about teacher quality the survey participants responded that the teachers are not doing enough to play the role of a mentor and their interest in students' character building was insignificant. On assessment and examinations it was revealed that students' practical work is not given much weight; rather, the emphasis is on written exams. The exam system was found to be ineffective in achieving course evaluation objectives and the system rather encourages rote learning. Participants of the survey believed that the annual exam system is not useful while a semester system was preferred by al participants.

Based on Shah's (2004) findings it is imperative to suggest that there is lack of coordination between institutes and industry and the need for employer advisory councils was widely accepted. The participants of the survey also felt that the state of existing TVET facilities and the quality of graduates does not meet industry demand and hence is also an important factor in lack of growth, expansion, and modernization among different industries. The industry does not expand and import modern technologies as they do not find qualified staff and the in-house cost of training for industry is very high. The disinterest of the government and lack of proper incentive structure in policies and subsequent implantation plans is missing. The development of Pakistani industry depends on a trained workforce with quality education. The survey participants ascertained that overall educational policy is inline with the objectives of literacy. However, policy for technical education is reported as non responsive to the needs of the industry, youth, and labour markets. Nevertheless, it is accepted that there are trained and committed people in policy formulating agencies but there are many other numerous factors which are responsible for policy failure. The policy targets are not thoroughly researched; therefore, the technical education policy and plans remain ineffective. Most of the policy objectives are unrealistic and are not achievable due to shortage of funds and lack of implementation capacity. The quality of technical education is not assigned a priority in development plans. Teachers, industry, students, and administrators of TVET institutions, and civil society are not consulted as stakeholders in policy formulation process. Those who are responsible for implementing the policy are not involved in plan preparation. The plan implementation process is fraught with difficulties and there exists lack of coordination among implementing agencies and stakeholders. The plans are not elaborated and many stakeholders remain unaware of the policy objectives before the plans are lunched. While insufficient funds are allocated for technical education they are not released in time, which is also one of the reason for policy and plan failure. A leakage of funds occurs during implementation due to corruption. Political interference and political instability is also an important factor for policy inconsistency and failure.

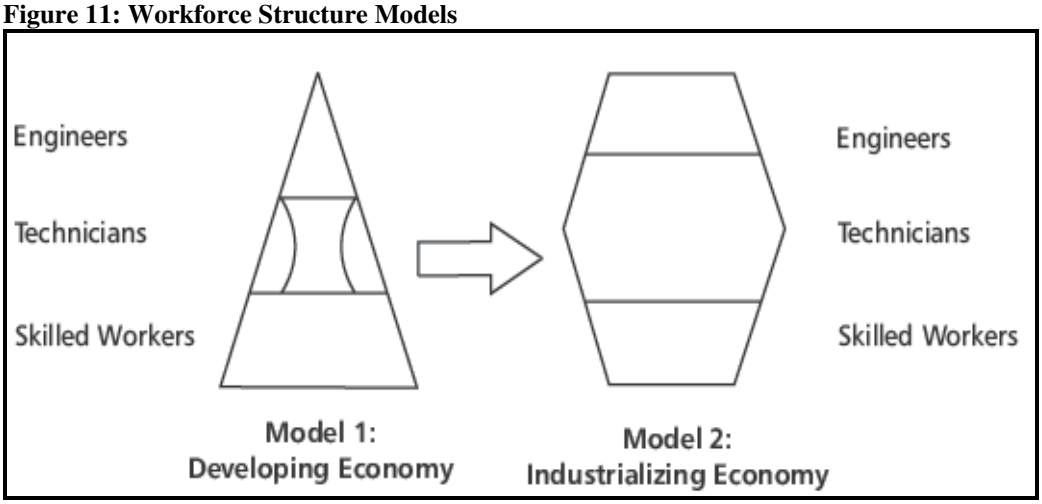
The survey results also confirm the stigma associated with blue collar jobs. The graduates of the TVET institutes are not given respect in the society and looked upon as incompetent and of lower

status. There is a consensus among general public that technical and vocational education and training in Pakistan is not developing properly and in right direction.

## 2.10 The Need for Reforming TVET System in Pakistan

As indicated earlier, sweeping reforms in Pakistan's TVET system at all levels are necessary due to the fact that there is a need to align the TVET system with growing demand for workforce in a knowledge based economy as well as in response to competitiveness in global markets. The reform in TVET system is also imperative because of change in demographic patterns and subsequent shift in labour markets. The TVET system must be able to not only meet the requirements of growing manpower but the changing pattern of demand as well. Though production processes are becoming capital intensive; however, trained manpower has also become a critical input in terms of human capital requirement of new knowledge economies (see figure 8 below).

**Figure 11: Workforce Structure Models**




Source: ADB 2004

Pakistan is a developing country and is making a concerted effort to become an industrialized nation. In order to meet the demands for an industrialized economy it needs to train its manpower. A trained manpower is necessary for increasing productivity, sustaining technological change and innovation, and promoting complementarity between skills and capital. A country deficient in skills will suffer in terms of low productivity, poor quality of products, and the poor performance in exports which will subsequently suppress per capita incomes. Therefore there is a need to balance supply and demand of skills in order to remove bottlenecks which impede growth[84].

## 2.11 Pakistan's Competitiveness in world economy and Role of TVET

The competitiveness in international market will be determined by the levels of skills an economy has. Globalization may also increase flow of funds for investment in those countries which may have technological resource base. Outsourcing of jobs to India by US is an important example in this regard. The Government of Pakistan has set up a Competitiveness Support Fund (CSF) under the Ministry of Finance in cooperation with USAID. The CSF has also indicated that it will help NAVTEC in TVET reforms so that the new initiatives help improve competitiveness of Pakistani industry and its products.

[84] For details see ADB 2004

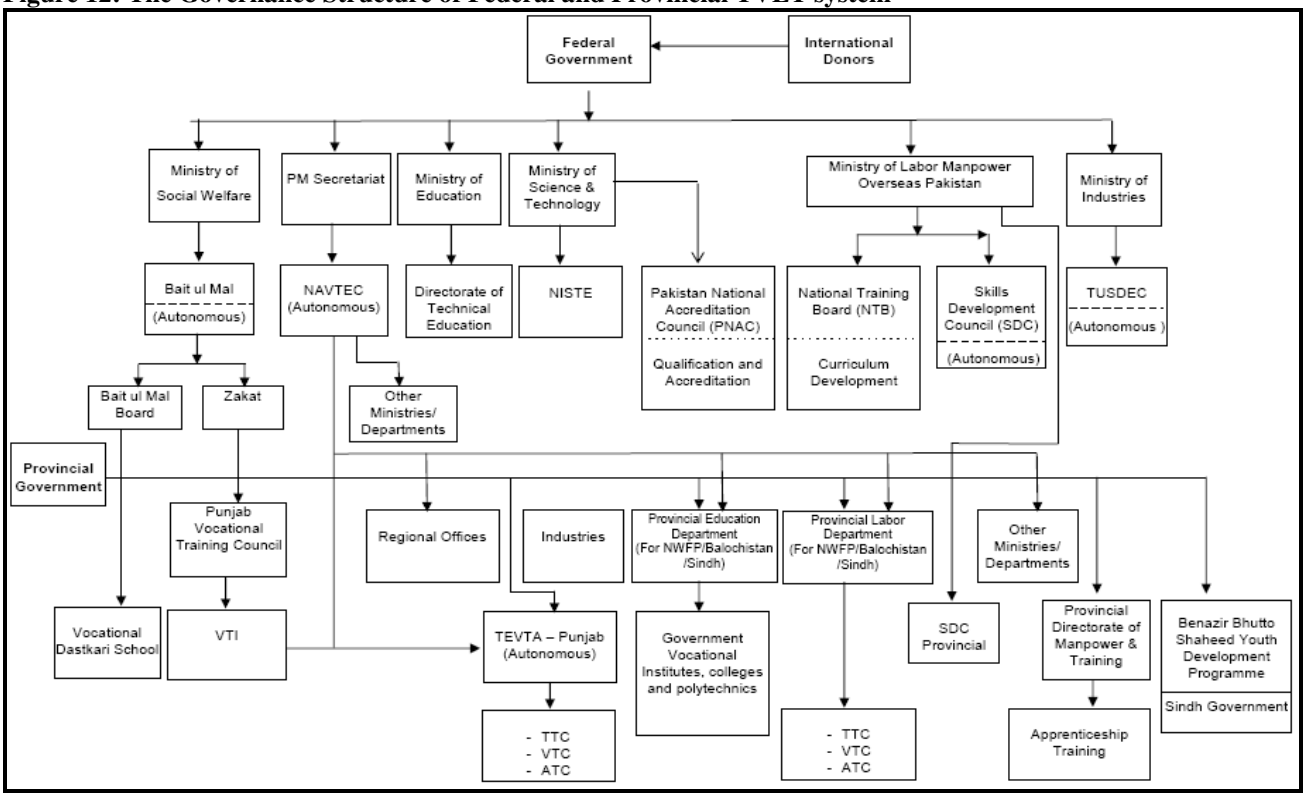
# III

# THE STRUCTURE AND GOVERNANCE OF TVET SYSTEM

It has been noted earlier that despite growth in the number of TVET institutions since the 1970s the system remained supply oriented and lacked dynamism to cater for the needs of growing industry at local as well as international level. After the creation of NAVTEC in 2006 it is hoped that the consolidation of fragmented TVET may occur. At the moment, the following ministries of the government of Pakistan are involved in the TVET scene at federal level (see Figure 12 below):

- The PM secretariat (NAVTEC)
- The ministry of Education
- The Ministry of Science and Technology
- The Ministry of Social Welfare
- The Ministry of Labour, Manpower and overseas Pakistanis
- The Ministry of Industries
- Ministry of Women's Affairs
- The Ministry of Agriculture and Livestock
- The Ministry of Tourism
- Other sector Ministries
- Provincial TEVTAs and Departments

**Figure 12: The Governance Structure of Federal and Provincial TVET system**




Source: Adapted from Sadiq 2008

A discussion about the role of each ministry is beyond the scope of this paper; however, their relevant sub-departments and institutes are covered under the key stakeholders in section 3.8.

## *3.1 Federal TVET Scene*

### 3.1.1 Ministry of Education

The ministry of education is responsible for formulating the educational policy of Pakistan. Though it is not fully rationalized in the overall educational system, the technical education is considered an important component. The NAVTEC and other provincial TEVTAs are supposed to carry out the implementation of the technical and vocational education and training part of the educational policy; however, there is no clear separation of mandates between the MoE and NAVTEC.

### 3.1.2 The NAVTEC

The NAVTEC is created with an objective to regulate, facilitate and provide the coordinated & integrated policy direction for TVET. It is also supposed to enhance the role of private sector in the TVET implementation and management; and to make the TVET system responsive to the new technologies, trades and training methods. How successfully it has achieved its objectives almost after two years of its inception is a tricky question that needs to be assessed based on NAVTEC's ongoing activities against its mandate. It may be useful for the reader to know that NAVTEC's mandate lies in its Ordinance through which it came into existence[85].

As discussed earlier, the NAVTEC Vision for National Skills Strategy (NSS) aims to train Pakistan's manpower to meet the challenges of the new millennium. It proposes to reform Pakistan's TVET system in order to provide market relevant skills so as to promote and sustain industrial development and economic growth which ensures access, equity and equal opportunities for employment for all.

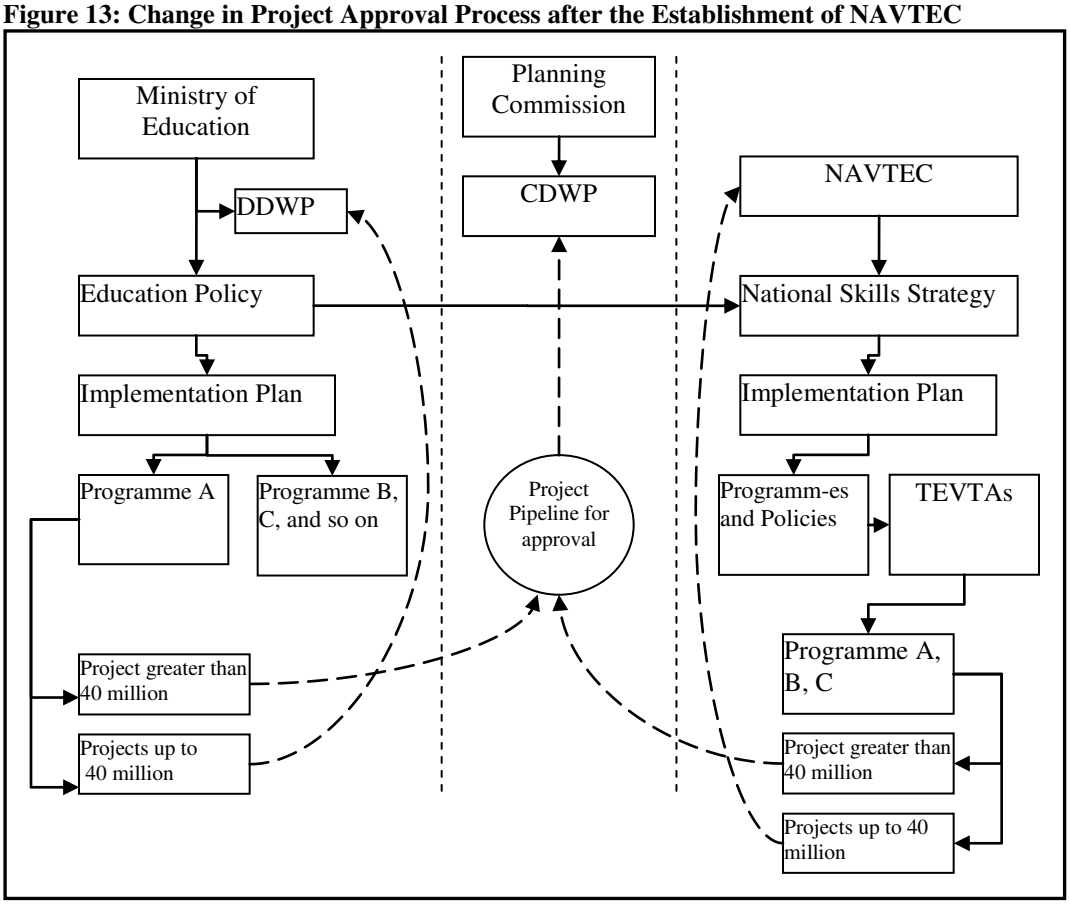
The NAVTEC is also reviewing existing polices, and developing strategies relating to human resource development with a focus on TVET. NAVTEC's role is also envisaged to include developing national occupational skills standards, facilitating revision of technical education curriculum, trade testing processes, and certification systems for all areas of technical education and vocational training. The NAVTEC will deliver its mandate by implementing the National Skills Strategy 2008 – 2012. The NSS, whilst strong on statements for desired outcomes, does appear to lack useful background papers describing the current situation, the size and segmentation of the overall training 'market', the size of the potential reach and so on. Not only would such data be useful in the process of setting meaningful policy goals and priorities, it would also allow a baseline for future review of achievements. This background paper is an attempt to fill some of the gaps in this regard.

Janjua and Naveed (2008) have critically evaluated NAVTEC's capacity to implement TVET reforms. It is important to note that the NAVTEC appears to lack capacity to implement TVET reforms. The total sanctioned strength of the NAVTEC staff, including head office and regional offices is 373. However, only 177 staff members are appointed so far. Thus total staff working at the NAVTEC is even less than 50% of the desired (and sanctioned) staff. The total deficiency of the

[85] See Janjua and Naveed (2008) for details

staff at NAVTEC regional headquarters is more than 50%. Moreover, gender composition of NAVTEC staff is not known at the time of writing this report. Currently, NAVTEC is involved in implementing the Prime Minister's Special Initiative (PMSI) and most of the regional offices seem to be set up solely for this purpose. It is worthwhile to mention that the NAVTEC is not required to stick to the government pay scales as the Ordinance gives the Commission power to make rules for the recruitment of its employees. Therefore, the Commission may use its powers to hire modern management professionals who are from outside the bureaucracy and have knowledge of private sector dynamics so as to bring dynamism to the NAVTEC team.

**Figure 13: Change in Project Approval Process after the Establishment of NAVTEC**




Source: Conceived by the Author

## a) TVET Project Approval Process

Prior to the establishment of NAVTEC, the policy making and project implementation related to TVET were assigned to the Ministry of Education. After the establishment of NAVTEC, the projects up to Rs. 40 million will be decided by the Commission. However, project greater than Rs. 40 million have to be approved by the Central Development Working Party (CDWP) of the Planning Commission (PC) of the Government of Pakistan. Therefore, the power to approve projects up to an amount of Rs. 40 million ensures a certain level of autonomy for the Commission which is considered necessary to carry out its mandate. Though the federal government is required to provide funds to the commission for all its expenses necessary to carry out its functions; nevertheless, the Commission's power to approve the project does not guarantee availability of funds. The funding comes from the ministry of finance and recently the Commission is looking towards international donors to finance its vision for skilling Pakistan.

## b) Financing of TVET

The Section 5.4 discusses the TVET budgets for different plan periods. There is no doubt that the financing of Pakistan's TVET scene is fraught with difficulties in terms of improper resource allocation and utilization of funds. The funds are allocated by the Ministry of Finance based on requests made by different departments. Each government department makes annual requests for its re-current and development budgets. The autonomous departments and ministries have powers to approve projects up to Rs. 40 million to Rs. 100 million depending on the powers of the organization. Projects greater that size are sent to Central Development Working Party of the Planning commission in the form of PC-I for approval[86]. Once the projects are approved they are included in budget allocations. The organizations decide about resource mobilization through government, cost recovery, and donor findings in project's design phase.

**Table 24: NAVTEC Budget Allocations and Expenditures (Rs. In Million)**

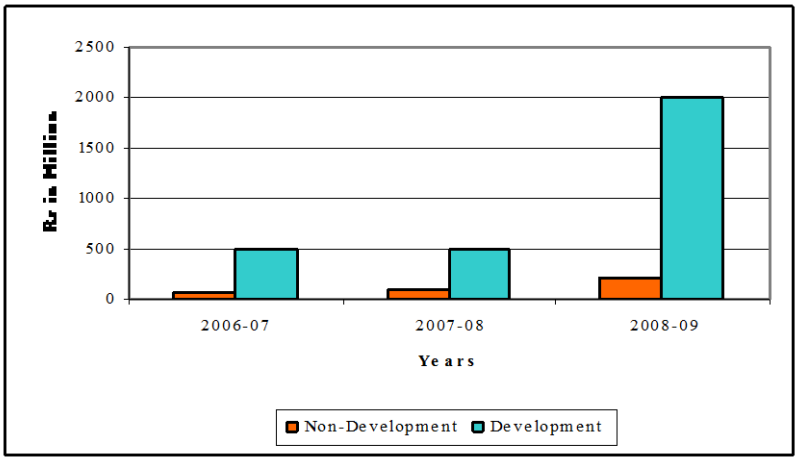
| | Non-Development | | | Development | | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Allocation | Expenditure | Utilization | Allocation | Expenditure | Utilization | Allocation | Expenditure |
| **2006-07** | 60 | 59 | 98.3 | 500 | 125 | 25.0 | 560 | 184 |
| **2007-08** | 106 | 106 | 100.0 | 510 | 510 | 100.0 | 616 | 616 |
| **2008-09** | 203.5 | 14.737 | 7.2 | 2000 | 150 | 7.5 | 2203.5 | 164.737* |

* First Quarter expenditure so far
Source: NAVTEC

## c) The NAVTEC Budget

There is not much consolidated information regarding the financing of the TVET system in Pakistan. The budget records are available with TEVTAs and NAVTEC. However, there is a dire need for budget analysis for benchmark and costing purposes.

**Figure 14: NAVTEC Development Vs Non Development Allocations**




Source: based on data reported in table 24

The distribution of development and non development budget is given in table 24 and Figure 14 above. A huge increase in NAVTEC's Development Budget is due to the implementation of the Prime Minister Skills Initiative (PMSI) programme, also known as Hunarmand Pakistani, and the

[86] PC-I is planning commission of Pakistan's approved project proposal format

full Tehsil coverage programme. The programmes are criticized by many other players just because these are not part of the NAVTEC mandate. As allocating funds and establishing endowments for projects and infrastructure development is part of the NAVTEC mandate; therefore, if it focuses on its role of funding agency and let the regional players implement these projects the criticism my subside.

### 3.1.3 The Capital Territory TVET Profile

The PES 2005-06 reports the existence of a polytechnic (for boys) and a monotechnic (for girls) 51 vocational training centres with a total enrolment of 3,612 students. The GPI in vocational institutions is 1.34. The student teacher ratio of 14.2 is inline with international norms (see table 25 below). It is worthwhile to mention that actual visit to capital territory technical institutes by the authors yielded a different picture. The boys polytechnic has been closed down while the women monotechnic had been accorded polytechnic status soon after its establishment. The enrolment capacity is also inaccurately reported. Hence, it is imperative to strengthen TVET management Information System in Pakistan without which the implementation of NSS will be difficult.

**Table 25: Islamabad Capital Territory**

| | Institutions | | | | Enrollments | | | | Teachers | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | Mixed | Total | Male | Female | Total | GPI | Male | Female | Total | GPI | STR |
| **Monotechnic** | | 1 | | 1 | | 183 | 183 | | | 19 | 19 | | 9.6 |
| **Polytechnic** | | | 2 | 2 | 183 | | 183 | | 6 | 7 | 13 | 1.17 | 14.1 |
| **Vocational** | 4 | 22 | 25 | 51 | 1388 | 1858 | 3246 | 1.34 | 94 | 129 | 223 | 1.37 | 14.6 |
| **Total** | 4 | 23 | 27 | 54 | 1571 | 2041 | 3612 | 1.30 | 100 | 155 | 255 | 1.55 | 14.2 |

Source: Academy of Educational Planning and Management (AEPM), Pakistan Education Statistics 2005-06

## *3.2 Punjab TVET Profile*

A statistical profile for the Punjab province is given in table 26 on next page. The TEVTA Punjab was established in 1999 through an ordinance under which several government departments involved in vocational and technical training were consolidated. TEVTA took control of polytechnics, commercial training institutes and colleges, training centres of Punjab Small Industries Corporation (PSIC), Apprenticeship Training Institutes, and other similar institutes. The Board of Technical Education is also put under TEVTAs control. The TEVTA after its establishment consolidated 406 public sector technical and vocational training institutes under its umbrella (see table 27 below). A large number of vocational training institutes still remain under the control of other public sector organizations; however, they are affiliated with the TEVTA so are the private sector institutes. Almost 710 public and private institutes are reported to be affiliated with TEVTA in 2002[87]. The structure of Punjab TEVTA and its affiliates is given in the figure 15.

In Punjab, private sector is playing a much larger role in TEVTA as compared to NAVTEC or other provincial TEVTAs. There are 16 board members and 75% belong to private sector and only 25% from Punjab government. The Chairman also acts as Chief Executive and is from the private sector

[87] Shah 2004.

(this is according to what is available on web; however, NAVTEC has claimed that they are also part of the board which is not confirmed from the website). TEVTA has formed district Boards of Management (BoM) in which local private industry representatives hold almost 75% seats.

**Table 26: Punjab Provincial Profile**

| Punjab Provincial Profile[88] | | Data year |
|---|---|---|
| **Official name** | The Punjab Province | |
| **Capital** | Lahore | |
| **Districts/Tehsils/Blocks/Villages** | 35/118/14871/26109 | 2006 |
| **Languages** | Punjabi, Urdu, Siraki, Hindko, Pothwari | |
| **Population** | 86.26 Million (55.3% of total) | 2006-07 |
| **Gender Ratio** | 101.7 males for 100 females | Calculated from economic survey 2007-08 |
| **Area** | 205,344 sq km (25.8% of total) | |
| **Population Density** | 420 people per sq km | |
| **Geographical Location** | 32°0'N 72°30'E | |
| **Religion** | Muslims, Shia, Others | |
| **Life Expectancy** | 64.3 M; 3.6 F | |
| **TFR/CBR/CDR** | 3.15/26.6/8.0/ | 2006 |
| **School Age Population (primary to secondary level)** | 20.6Mn (10.7Mn M;10Mn F)<br>14.3 Mn Rural (7.5 Mn M; 6.9Mn F)<br>6.3 Mn Urban (3.2 Mn M; 3.1Mn F) | 2006 |
| **Literacy Rate** | Overall 58; Male 67; Female 48 | |
| **Literacy (population 10 years and above)** | 46.4; 65.9 Urban/ 36.9 Rural | |
| **Primary Retention Rate** | 82.3% (76.1% M; 95.7% F)<br>80.0%Rural (72.6%M; 92.2%F)<br>92.2%Urban (95%M; 88.6%F) | |
| **Poverty[89]** | 12.1 Urban; 21.0 Rural | 2005-06 WB |
| **Expenditure on Education[90]** | Rs 83.97 Billion | 2006-07 |
| **Expenditure on Education by Districts[91]** | Rs. 50.6 Billion | 2005-06 |
| **Civilian Labour Force (CLF)** | 30.82 Million; 22.81Mn M; 8.01Mn F | |
| **CLF (Urban)** | 8.79Mn; 7.49Mn M; 1.30Mn F | |
| **CLF (Rural)** | 22.03Mn; 15.32Mn M; 6.71Mn F | |
| **Labour Force Participation Rate** | 47.4; 70.2 M/ 25.0 F | |
| **Unemployed** | 1.69Mn; 1.15Mn M; 0.54Mn F | |
| **Industry Structure** | Leather, Surgical, Textile, Sports Goods, Surgical Instruments, Cutlery, Automotive, Food Processing, Oil and Gas, Power Coal Generation, Agriculture, Fertilizer, Sugar, Chemical, Glass, Ceramics, Electrical, Electronics, Agricultural Implements, Tractors | |
| **HDI** | 0.557, 0.657 urban, 0.517 rural | 2005 |
| **GDP[92]** | Punjab's GDP accounts for 57% of Pakistan's total GDP growing at an average of 4.5% per annum over 1991-2002. Per capita income increased by only 2.1% per annum which may | |

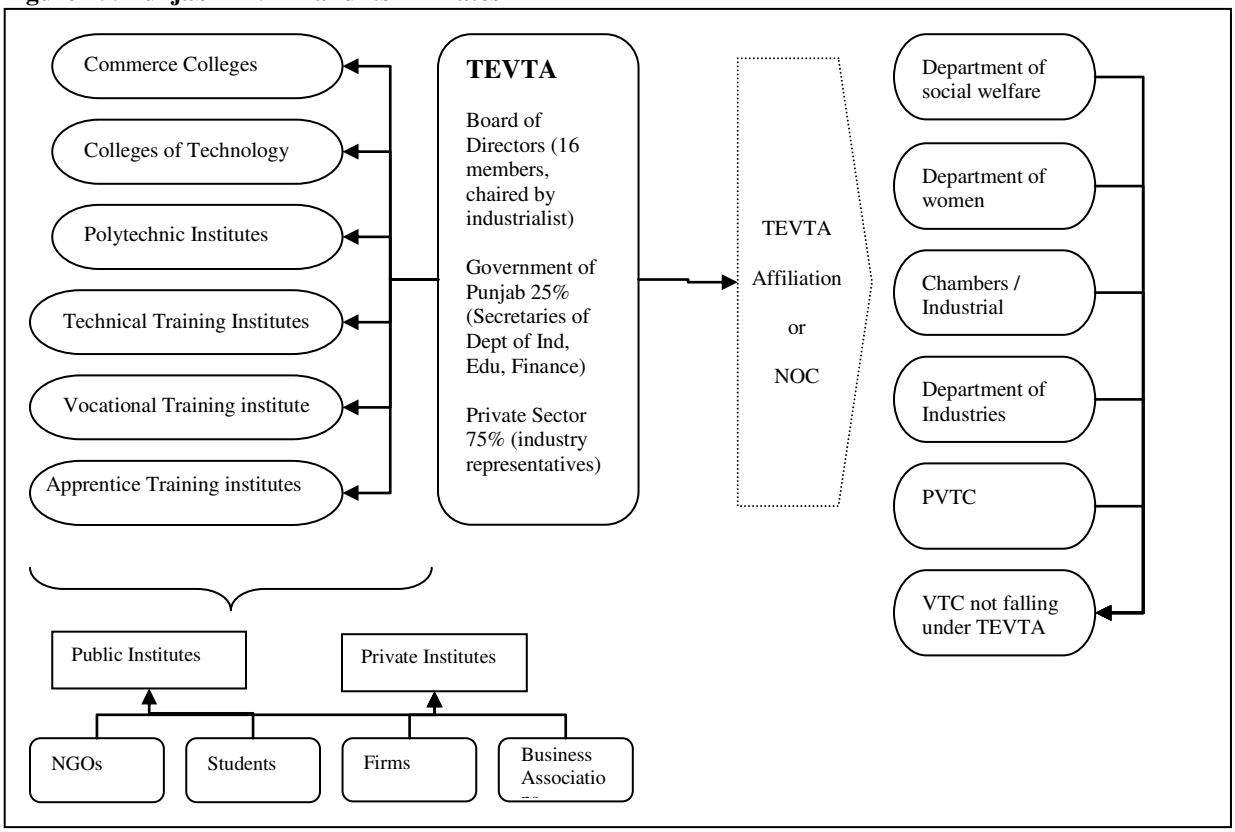
[88] Most of the Statistics is obtained from the Economic Survey of Pakistan 2007-08
[89] http://siteresources.worldbank.org/PAKISTANEXTN/Resources/Poverty-Assessment/361361-1216396471531/PAK_OPL.pdf
[90] Pakistan Education Statistics (2005-06)
[91] ibid
[92] Punjab Economic Report WB

be the root cause of poverty

Source: Academy of Educational Planning and Management, MoE, GoP

The organization has set up a help desk at Lahore Chamber of Commerce and Industries. According to TEVTA, the main idea behind the help desk is to assist and help the local industry by utilizing its vast network of training institutions, qualified and experienced faculty, and to achieve the objectives of providing technically trained manpower to the industry. TEVTA has three training cum service centres which are also involved in production: Government Polytechnic Institute (Glass and Ceramic), Shahdara; Institute of Blue Pottery Development, Multan; Wood Working Service Center, Gujrat. This helps them generate their funds as well.

**Figure 15: Punjab TEVTA and its Affiliates**




Some private institutions are working with TEVTA curricula and TEVTA is taking examinations in cases the institutions are registered with the Board of Technical Education. While Some of these institutions are, some are not registered with TEVTA, some are with a "no objections certificate" (NOC) of TEVTA. Source: conceived by the Author

The overall capacity utilization in Punjab TEVTA owned institutions is 90% (see Annex). The institutes in each district cater for less than 0.2% of the population. However, the statistics provided by TEVTA need to be carefully interpreted because the percentages seem to be out of total population and not out of relevant age group population. In commerce education stream, the enrolment in 2 year commerce diploma is the highest. In service centre based training courses DAE in agriculture, fishing technology, leather technology, glass and ceramics, textile and weaving are the most popular, while in short courses the AutoCAD, machinist, welder, and decoration have higher enrolments. Similarly, among technical education stream courses the highest enrolments are found in DAE of civil technology, chemical, electrical, electronics, auto & diesel, and mechanical engineering courses are the prominent as far as enrolment's are concerned; however, some new and emerging technology courses are also good performers with 100% capacity utilizations. Tailoring,

fashion design and dress making are more popular among girls. It must be kept in mind that judging success of programmes based on total enrolments may be misleading because some new courses are being offered only in a very few institutions. In vocational training courses AutoCAD, computer applications, computer hardware, electrician, fitter, machinist, refrigeration, welder courses have higher enrolments. In case of females popular choices are beautician, dress making, tailoring, and one year girl vocational training course have the highest enrolments.

**Table 27: Consolidation of TVET Institutions under the TEVTA in 2002**

| | | | |
|---|---|---|---|
| **Government Colleges of Technology** | 7 | - | 7 |
| **Government Polytechnic Institutes** | 13 | 4 | 17 |
| **DBA and Diploma of Commercial Education** | 102 | 12 | 114 |
| **Vocational Institutes / Short courses** | 8 | 101 | 109 |
| **Institutes of Labour and Manpower Departments** | 42 | 4 | 46 |
| **Institutes of Punjab Small Industries Corporation** | 51 | 6 | 57 |
| **Institutes of Agriculture and Barani Area Development** | 29 | 19 | 48 |
| **Institutes of Agriculture** | 7 | - | 7 |
| **Institutes of Cooperative Dept** | 1 | - | 1 |
| **Total** | 260 | 146 | 406 |
| **Percentage** | 64% | 36% | 100% |

Source: Shah (2004)

In 2002, almost 8,958 students were enrolled in TEVTA polytechnic institutes of which 1,438 (16.1%) dropped out on average. However, at institute level the dropout rates range from 3% to 52%. The authorities have summed up the reason for dropouts as wrong choice of courses or employment before finishing the course. However, staff competence to address student needs is also considered an important factor. The most important teacher technical teacher training facility in Punjab TTC Gulberg was found to be in need of revamping its strength and up-gradation[93]. It is worthwhile to note that the passing rate in Punjab TVET institutions is 72%. Shah (2004) also points out the need for improvement and rehabilitation of physical infrastructure, training labs in technical and vocational education training institutes. He conducted a survey of several facilities and reports that the equipment and facilities are outdated (see Hasan 2007 as well for similar conclusions). Under the 1995-2003 ADB technical education project new facilities and innovative demand led technology courses have been introduced; such as, glass and ceramics, bio-medical, and textile dyeing and finishing.

**Table 28: Punjab TVET Profile**

| | Male | Female | Mixed | Total | Male | Female | Total | GPI | Male | Female | Total | GPI | STR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Monotechnic** | 78 | 4 | 12 | 94 | 3287 | 730 | 33606 | 0.02 | 1666 | 114 | 1780 | 0.07 | 18.9 |
| **Polytechnic** | 8 | 2 | 7 | 17 | 1843 | 382 | 2225 | 0.21 | 181 | 15 | 196 | 0.08 | 11.4 |
| **Vocational** | 192 | 740 | 412 | 1344 | 39494 | 41087 | 80581 | 1.04 | 3249 | 2266 | 5515 | 0.70 | 14.6 |
| **Total** | 278 | 746 | 431 | 1455 | 74213 | 42199 | 116412 | 0.57 | 5096 | 2395 | 7491 | 0.47 | 15.5 |

Source: Academy of Educational Planning and Management (AEPM), Pakistan Education Statistics 2005-06

[93] ibid

According to Pakistan Education Statistics (2004-05) there are 1455 TVET institutions in Punjab of which 92.4% are vocational with a total enrolment of 116412 (69% in vocational institutes). The gender Parity Index ranges from 0.02 to 1.04 with more access for women in vocational training programmes (see table 28 above). A total of 7491 teachers are employed in 1455 institutes. The STR of 18.8 in monotechnics is slightly higher than international norms while in polytechnics 11.2, and in vocational institutes it is 14.61 is about right. The GPI is better in the case of vocational training institutes, which shows that more females are employed in vocational training centres as compared to polytechnics.

### 3.2.1 The Punjab TEVTA Budget

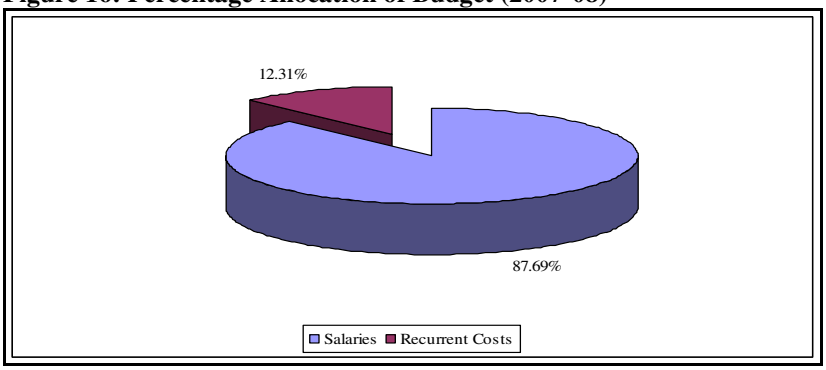
The budget allocations for Punjab TEVTA are reproduced here from Shah (2004). From 1999 to 2002 during the formative phase the growth in budget was 0%. However, in 2002 the budget increased by 8.6% (see table 29 below). The figures are nominal therefore it seems that the increase was in fact to accommodate the overall inflation rate instead of the size of operations (the authenticity of these budget allocations is not known at the time of writing this report). The institutions are dependent on government budgetary support and there is no mechanism of cost recovery. The cost recovery mechanism is rather a good feature in private sector programmes which allows them to work towards self reliance and sustainability.

**Table 29: TEVTA Budget**

| | | |
|---|---|---|
| **1999-2000** | 945,255,000 | 0% |
| **2000-2001** | 945,255,000 | 0% |
| **2001-2002** | 945,255,000 | 0% |
| **2002-2003** | 1034,255,000 | 8.6% |

Source: Shah 2004

**Figure 16: Percentage Allocation of Budget (2007-08)**




Source: based on data reported in table 29

**Table 30: Punjab TEVTA Budget Breakdowns**

| | | | | |
|---|---|---|---|---|
| **Salaries** | 1373.248 | 1454.693 | 2,030.391 | 87.69% |
| **Recurrent Costs** | 319.313 | 280.877 | 285.225 | 12.31% |
| **Total Costs** | 1692.561 | 1735.570 | 2,315.616 | 100.00% |

Source: TEVTA Punjab

The budget allocations for Punjab TEVTA for last three years are reported in Table 30. The findings suggest that almost 88% is spent on salaries while 12% is allocated for recurrent costs (see figure 16 above). The cost recovery through different types of fee is only 117 million (5.1%). This reveals that the training programmes offered by Punjab TEVTA public sector institutes are highly subsidized unlike private sector institutes. The rate of budget utilization was not available.

## *3.3 NWFP TVET Profile*

The table 31 below gives a brief statistical profile of the province of NWFP for curios readers.

**Table 31: NWFP**

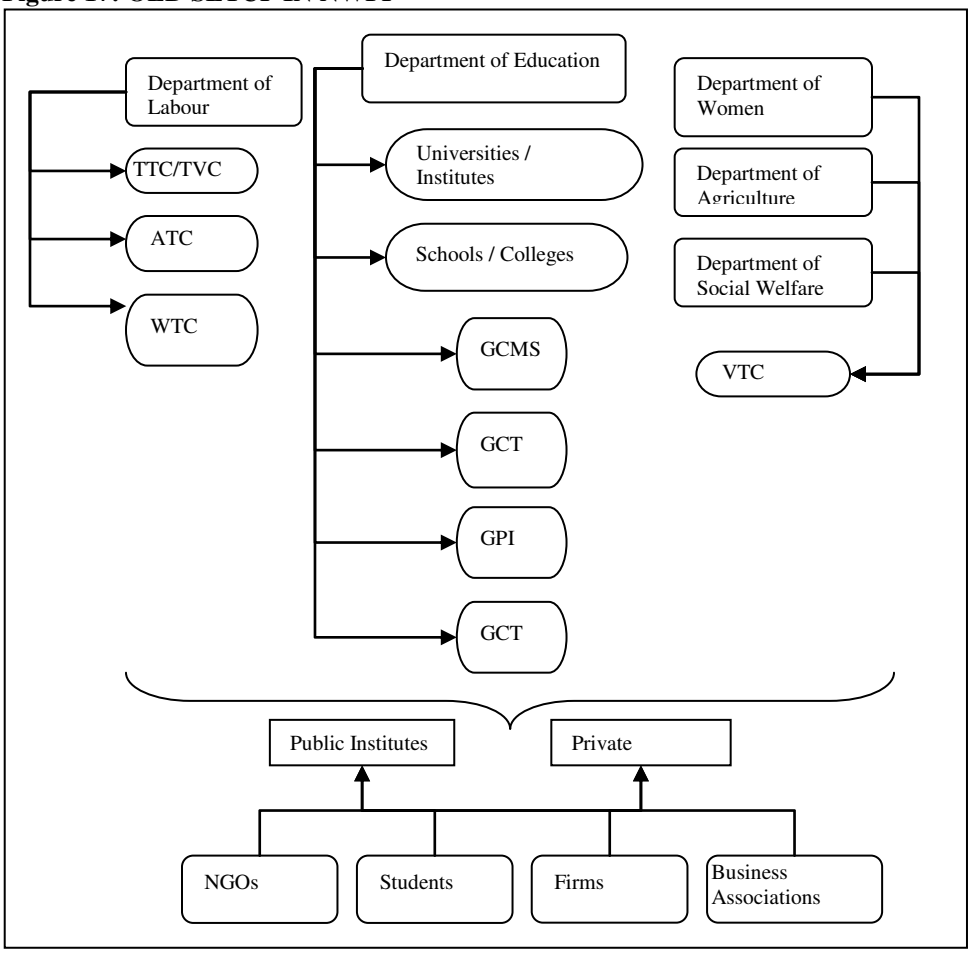
| | | |
|---|---|---|
| **Official name** | The North Western Frontier Province | |
| **Capital** | Peshawar | |
| **Districts/Tehsils/Blocks/Villages** | 24/36/1913/7337 | 2006 |
| **Languages** | Pashto, Hindko / Hazara | |
| **Population** | Million (13.5% of total) | 2006-07 |
| **Gender Ratio** | 101 males for 100 females (LFS) | Calculated from economic survey 2007-08 |
| **Area** | 74521 sq km (9.4% o total) | |
| **Population Density** | 287.1 | |
| **Geographical Location** | 34°0'N 72°0'E | |
| **Religion** | Islam (Shia, Sunni, Other) | |
| **Life Expectancy** | 63.1 M ; 63.6 F | |
| **TFR/CBR/CDR** | 4.15/31.1/8.1 | 2006 |
| **School Age Population (primary to secondary level)** | 5.2Mn; 3.1Mn Male; 2.15 Mn Female<br>Rural 4.5Mn; 2.4 Mn Male; 2.1Mn Female<br>Urban 0.7Mn; 0.7Mn Male; 0.05 Mn Female | 2006 |
| **Literacy (population 10 years and above)** | 47%; 67%M; 28%F (GPI 0.42) | |
| **Primary Retention Rate** | 75.1% 73.2%M; 78.5% F<br>74.9% Rural; 71.6%M; 80.9%F<br>76.9% Urban; 88.2% M; 63.4% F | |
| **Poverty**[95] | 23.6 Urban; 28.0 Rural | 2005-06 WB |
| **Expenditure on Education**[96] | Rs. 23.68 Bn | 2006-07 |
| **Expenditure on Education by Districts**[97] | Rs. 14.1 Bn | 2005-06 |
| **Civilian Labour Force (CLF)** | 5.61Mn; 4.85 Mn Male; 0.76Mn Female | |
| **CLF (Urban)** | 0.94 Mn; 0.85 Mn Male; 0.09Mn Female | |
| **CLF (Rural)** | 4.67Mn; 4.00Mn Male; 0.67Mn Female | |
| **Labour Force Participation Rate** | 36.3% | |
| **Unemployed** | 0.53Million | |
| **Industry Structure** | Food Processing, Hydro Power Generation, Agriculture, Heavy Industries in Hatar, Horticulture, Marble, Mining, Glass, Ceramics | |
| **HDI** | 0.510, 0.627 urban, 0.489 rural | 2005 |
| **GDP**[98] | Real GDP growth rate on average 4.5%; per capita income growth rate 1.5% average | 2005 NWFP Econ Report (WB) |

[94] Most of the Statistics is obtained from the Economic Survey of Pakistan 2007-08
[95] http://siteresources.worldbank.org/PAKISTANEXTN/Resources/Poverty-Assessment/361361-1216396471531/PAK_OPL.pdf
[96] Pakistan Education Statistics (2005-06)
[97] ibid
[98] NWFP Economic Report

TFR/CBR/CDR refers to Total Fertility Rate/Crude Birth Rate/Crude Death Rate
Source: Academy of Educational Planning and Management, MoE, GoP

On January 8, 2002 the government of NWFP consolidated its fragmented TVET programme by merging the Directorate of Technical Education and the Directorate of Manpower and Training to form a new Directorate of Technical Education and Manpower Training (DTEMT) which operates under the Ministry of Industries. All technical colleges, polytechnics and vocational training institutes, VTC, TTC, and ATC have been put under the control of new directorate. Later, NWFP government passed an Ordinance on September 16th 2002 to form a corporate body TEVTA similar to Punjab. However, it has not started working yet. It is interesting to note that the Chief Minister of the province is also the chairman of the TEVTA which raises concern about private sector's involvement and the sustainability of reform process. The old TVET setup was somewhat fragmented (See figure 17 below). The TEVTA is in the process of consolidating the TVET scene in the province (see figure 18 on next page). However, the process is slow and there seems to be some confusion concerning what needs to be done and how to proceed; this is obviously due to a lack of vision, a concrete strategy and implementation plan. The NWFP TEVTA may be strengthened in this regard by donors.

**Figure 17: OLD SETUP IN NWFP**

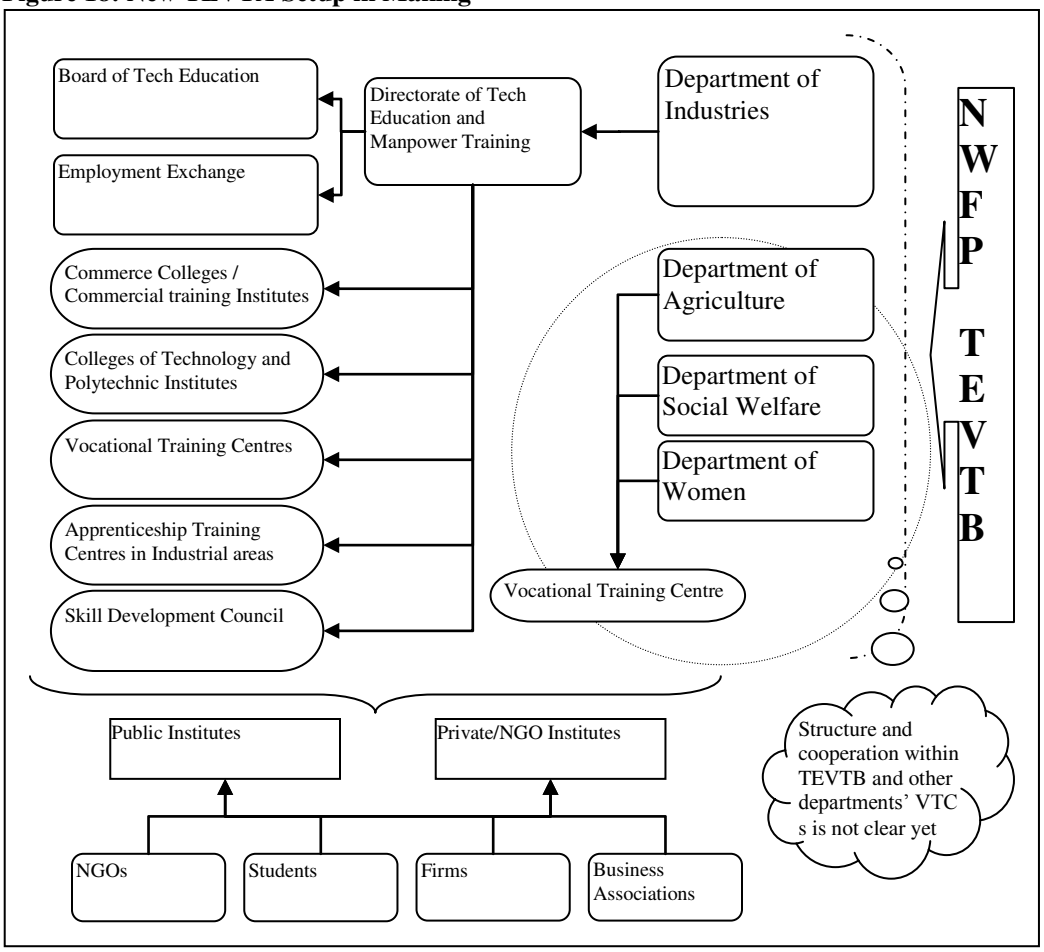



Source: Focus Group Discussion with NWFP Stakeholders Outcome

In NWFP, there are a total of 727 TVET institutions in which 48,342 students are enrolled. The overall GPI is 0.44 which indicates limited access for female population (see table 32 on next page).

The student intake in these institutions is based on a quota system for tribal areas and districts (the district system has its root in ethnicity, e.g. Pasthun vs Hazara).The student teacher ratio in NWFP TVET programme is found to be 13:1 which is inline with international norms[99]. The government is the main provider of the funds to TVET institutions in public sector. The partial cost recovery is limited to nominal tuition fee charged by the institutions. The NWFP Board of Technical Education conducts the exams.

**Figure 18: New TEVTA Setup in Making**




Source: conceived by author based on focus group discussion with NWFP stakeholders and information from government of NWFP websites

**Table 32: NWFP TVET Profile**

| | Male | Female | Mixed | Total | Male | Female | Total | GPI | Male | Female | Total | GPI | STR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Monotechnic** | 22 | 1 | | 23 | 7598 | 215 | 7813 | 0.03 | 511 | 27 | 538 | 0.05 | 14.5 |
| **Polytechnic** | 2 | 1 | 1 | 4 | 140 | 20 | 160 | 0.14 | 8 | 1 | 9 | 0.13 | 17.8 |
| **Vocational** | 251 | 288 | 161 | 700 | 25760 | 14609 | 40369 | 0.57 | 1638 | 727 | 2365 | 0.44 | 17.1 |
| **Total** | 275 | 290 | 162 | 727 | 33498 | 14844 | 48342 | 0.44 | 2157 | 755 | 2912 | 0.35 | 16.6 |

[99] This section of report heavily draws on Shah (2004)

Source: Academy of Educational Planning and Management (AEPM), Pakistan Education Statistics 2005-06

The most common courses offered in NWFP TVET institutions are civil, electrical, electronics, chemical, telecommunications, architecture, electronics, refrigeration and air-conditioning ad auto and diesel technology. For women the most notable courses are dressmaking, and diploma in commerce, and computer applications. The existing institutional base is insufficient to cater for the demand for skills development and acquisition in the province. The private sector is not playing its due role and is unorganized. The players include De Laas Gul Welfare trust, Jobs Creating Development Society, and several private service providers. The industry plays an insignificant role in influencing the courses and technology programmes offered in TVET intuitions in the province. Substantial gender gaps exist in education and job market. There is no apprenticeship training and job placement programme at institutional level in TVET institutions. There are significant accesses gaps in NWFP public sector TVET landscape (see table 33 below). Almost 70% of the public institutes cater for boys while only 30% for females. The distribution of training capacity in these institutes is also skewed. The training capacity in institutes for boys is higher than for girls (79% for males and 21% for females). Shah (2004) has made observations on the management structure of TVET institutions in NWFP. The top management needs training in emerging ICT technologies so that they can understand the needs of and adjust to the changing environment in which ICT technologies are playing an important role.

**Table 33: Government Owned TVET Institutes in NWFP**

| | | |
|---|---|---|
| **Boys** | 30 (70%) | 2795 (79%) |
| **Girls** | 13 (30%) | 753 (21%) |
| **Total** | 43 (100%) | 3548 (100%) |

Source: Annual School Census 2005-06 Government of NWFP

### 3.3.1 NWFP TVET Budget

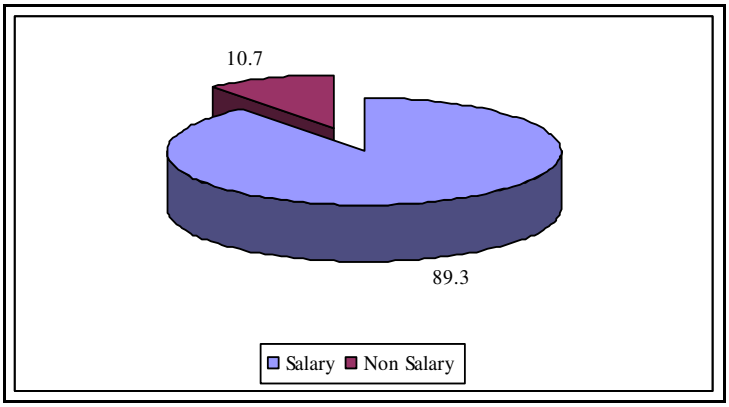
Most recent budget allocations for TVET programmes in NWFP were not readily available. However, Shah (2004) has reported the NWFP TVET budget for 2001-02. The spending pattern is not much different than the Punjab TEVTA. Almost 89% of the budget is allocated for salaries while only 12% is allocated for non-salary expenditure. The overall budget utilization against allocation is 87%.

**Table 34: NWFP Total TVET Budget and Expenditure (2001-02)**

| | Budget | Percentage Allocation | Expenditure | Percentage Expenditure | Utilization Against Budget |
|---|---|---|---|---|---|
| **Salary** | 10618650 | 89.3 | 9100162 | 88.0 | 85.7 |
| **Non Salary** | 1270600 | 10.7 | 1241379 | 12.0 | 97.7 |
| **Total** | 11889250 | 100.0 | 10341541 | 100.0 | 87.0 |

Source: Shah (2004)

**Figure 19: Percentage Allocation of Budget in NWFP (2001-02)**




Source: based on data reported in table 34

## 3.4 Sindh TVET Profile

A brief statistical profile for the province of Sindh is given in table 35 on next page. A plan is underway to consolidate provincial TVET programmes under one umbrella similar to Punjab TEVTA. The following provincial departments are providing technical and vocational education:

- Provincial Department of Education
- Department of Labour and Manpower Training, and
- The Directorate of Social Welfare
- The Department of Transport

The private sector is not playing its due role and the Chief Minister of the province is also the chairman of the TEVTA which raises doubt about private sector's involvement and all inclusiveness of the reform process. It is worthwhile to note that very recently the Chief Executive Officer of Sindh TEVTA resigned apparently due to frustration of too much political and bureaucratic interferences. The willingness to put industry in the driver's seat in TEVTA is not fully visible at the moment.

Prior to TVETA Sindh the Department of Technical Education (DTE) was responsible for the all schools in technical education stream. There are 201 TE institutions, of which 22 are under construction. DTE is also involved in implementation of PMSI and is satisfied with the progress. All the institutions run by DTE will be passed on to TEVTA Sindh (see structure of Sindh TEVTA in figure 20 on next page). In focus group discussions it has been revealed that though an expansion in facilities has occurred over the past few years, the quality of education has not improved. The institutes receive their funds from provincial government in case the institution is under the provincial administration or by the districts in case it is administered by the later. The funds are released by the provincial finance department as per demand of the District Coordination Officer (DCO) in each district. In 2007, a total of 235m Rs were spent on ongoing projects, and another Rs. 27m for new schemes. Most of the funds came from the provincial government while partial cost recovery is also in practice through student tuition fees, contributions from the Student Union Fund (SUF), admission card fee and exams fees which is charged to students. The TVET system in Sindh offers the following programmes:

- one year certificate
- two year diploma
- three year Diploma (DAE)
- BTE-certificates: short programmes (3 months to 1 year)

- Technical School Certificate (TSC), 2 years after Grade 8, vocational stream, certificate equivalent to Matric

The most common courses offered in TVET institutions are: auto mechanic, diesel technology, electronics, foundry, industrial electronics, mechanical drafting, mechanical engineering, refrigeration and air-conditioning, machinist and welding, electrician, computer application, etc. The current enrolment, and drop out rate are not known at the time of writing this report. The capacity utilization in individual institutes range from under 20% to 100% (See NPO 2005). The intake of students into TVET programmes is based on a quota system instead of entry tests or labour market aptitude (the quota system has elements of ethnic composition which is considered discriminatory).

**Table 35: Sindh**

| | | |
|---|---|---|
| **Official name** | The Sindh Province | |
| **Capital** | Karachi | |
| **Districts/Tehsils/Blocks/Villages** | 22/105/9025/5871 | 2006 |
| **Languages** | Sindhi, Baluchi, Urdu | |
| **Population** | Million (23.1% of total) | 2006-07 |
| **Gender Ratio** | 112males for 100 females | Calculated from economic survey 2007-08 |
| **Area** | 140,914 sq km (17.7% of total) | |
| **Population Density** | 254.5 persons per sq km | |
| **Geographical Location** | 26°0'N 69°0'E | |
| **Religion** | Islam (Sunni, Shia, Hindu, Christian, Other) | |
| **Life Expectancy** | 65.3 M; 65.6 F | |
| **TFR/CBR/CDR** | 3.40/26.1/7.4 | 2006 |
| **School Age Population (primary to secondary level)** | 8.2Mn; 4.3 Mn Male; 3.9Mn Female<br>Rural 3.7 Mn; 1.9Mn Male; 1.8 Mn Female<br>Urban 4.5 Mn; 2.4 Mn Male; 2.1 Mn Female | 2006 |
| **Literacy (population 10 years and above)** | 57.6%; 70.2%M; 43.4F<br>Rural 41.5%; 59.9% M; 20.2% F<br>Urban 72.5%; 80.0M; 64.3%F | LFS 2006-07 |
| **Primary Retention Rate** | 47.2%; 42.4% M; 58.1% F<br>Rural 43.3%; 39.6% M; 53.4% F<br>Urban 59.2%; 67.6% M; 52.4% F | 2006 |
| **Poverty**[101] | 11.5% Urban; 31.0% Rural | 2005-06 WB |
| **Expenditure on Education**[102] | Rs. 39.92Billion | 2006-07 |
| **Expenditure on Education by Districts**[103] | Rs. 25.4 Bn | 2005-06 |
| **Civilian Labour Force (CLF)** | 11.70Mn; 10.36Mn M; 1.34Mn F | |
| **CLF (Urban)** | 5.42Mn; 5.03MnM; 0.39Mn F | |
| **CLF (Rural)** | 6.28Mn; 5.33Mn M; 0.95Mn F | |
| **Labour Force Participation Rate** | 42.7% | |
| **Unemployed** | 0.40Mn; 0.28 Mn Male; 0.12 Mn Female<br>Rural 0.15 Mn; 0.08 Mn M; 0.07Mn Female<br>Urban 0.25 Mn; 0.20 Mn M; 0.05Mn Female | |
| **Industry Structure** | Steel, Leather, Food Processing, Fish, Ship Building, Automotive, Oil and Gas, Power Coal Generation, Agriculture, Fertilizer, Oil Refinery, Sugar, Chemical, Tractors | |
| **HDI** | 0.540, 0.659 urban, 0.456 rural | 2005 |
| **GDP**[104] | Provincial share in GDP 29%; Annual GDP Growth Rate Avg 4%; Per Capita Income growth Rate 3.0% | |

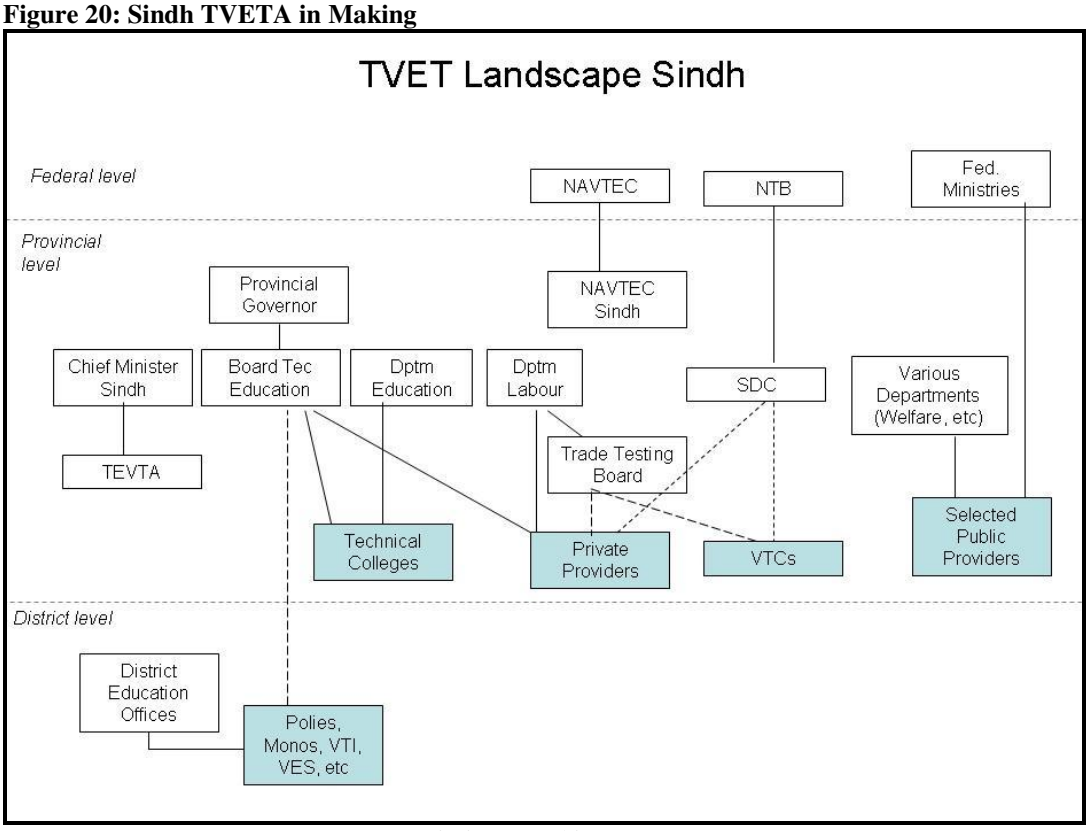
TFR/CBR/CDR refers to Total Fertility Rate/Crude Birth Rate/Crude Death Rate
Source: Academy of Educational Planning and Management, MoE, GoP

The private sector enterprises or employers are least involved in the governance of public sector institutions in Sindh. In colleges at provincial level Institutional Management Committees (IMCs)

[100] Most of the Statistics is obtained from the Economic Survey of Pakistan 2007-08
[101] http://siteresources.worldbank.org/PAKISTANEXTN/Resources/Poverty-Assessment/361361-1216396471531/PAK_OPL.pdf
[102] Pakistan Education Statistics (2005-06)
[103] ibid
[104] Sindh Economic Report

have been formed, which comprise entirely internal staff and interested parents. At district level, the Parent Teachers Associations (PTA) are the equivalent of IMCs.

**Figure 20: Sindh TVETA in Making**




Source: Jutta Franz (EC-Donor TVET mission to Pakistan)

Sindh TEVTA is also planning to introduce TVET courses in registered Madrassahs in the province. The province has also launched Benazir Bhutto Shaheed Youth Development Programme (BBSYDP) which is fully financed by the provincial government. It is aimed at providing employment oriented skills training to 100,000 people in Sindh. The total budget of the programme is roughly 60 to 70 million USD. The programme is being implemented through 10 Department in the province, while the Department of Manpower and Training (DMPT) is a leading implementation institution among others. The programme planned to involve private training providers as well. The training courses offered under the programme are between 3 months and 1 year duration. An effort is being made by DMPT to deliver courses in Urdu and is currently preparing course material in popular courses in Urdu[105]. We have seen some examples. The programme covers modern occupations as well as handicraft and very local skills.

In 2005-06, a total of 51,855 students were enrolled in 454 TVET institutions (see table 36 on next page). However, industry-institute linkages currently do not exist. The Sindh Board of Technical Education (BTE) was established in 1970. Its responsibilities include development, streamlining and regulation of TVET programmes in the Sindh province. BTE is responsible for affiliation of institutions, registration of students, conducting examinations, award of diplomas and certificates, updating curricula in cooperation with NISTE, introduction of new courses, and interaction with industry (which is not happening in practice). Currently, there are 446 affiliated institutions offering

[105] www.bbsydpsindh.gov.pk

one to four year programmes and short term programmes, leading to DAE, Technical school certificate (this is the vocational stream, which is still running in Sindh), and other certificates and diplomas. The pass rate of examinations conducted by BTE varied from 66.8% to 67.7% for morning and evening classes, respectively. Due to administrative reasons Sindh BTE has two branches, one in Karachi with 136 employees, one in Sukkur with 29 employees. The estimated expenditure in 2007-08 is 83 million Rs. The BTE generates its funds through cost recovery mechanism.

**Table 36: Sindh TVET Profile**

| | Male | Female | Mixed | Total | Male | Female | Total | GPI | Male | Female | Total | GPI | STR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Monotechnic** | 19 | 5 | 6 | 30 | 11459 | 855 | 12314 | 0.07 | 556 | 34 | 590 | 0.06 | 20.9 |
| **Polytechnic** | 16 | | 7 | 23 | 2816 | 265 | 3081 | 0.09 | 99 | 3 | 102 | 0.03 | 30.2 |
| **Vocational** | 40 | 156 | 205 | 401 | 19023 | 17437 | 36460 | 0.92 | 1218 | 722 | 1940 | 0.59 | 18.8 |
| **Total** | 75 | 161 | 218 | 454 | 33298 | 18557 | 51855 | 0.56 | 1873 | 759 | 2632 | 0.41 | 19.7 |

Source: Academy of Educational Planning and Management (AEPM), Pakistan Education Statistics 2005-06

The majority of the staff in Sindh TVET institutes is either DAE or B. Eng degree holders (see table 37 below). Many of them may not even have industry experience. There are three technical teacher training institutes in the province; however they are not found to be fully operational and contributing towards improvement in quality of teaching in Sindh TVET system[106].

**Table 37: Qualification of Teaching Staff in Sindh TVET Institutions**

| Qualification | GCTs | GPIs | Monotechnics | Total | Percentage |
|---|---|---|---|---|---|
| **PhD** | 1 | - | - | 1 | 0.2% |
| **Master** | 3 | 39 | 9 | 51 | 10.5% |
| **B. Eng** | 73 | 64 | 20 | 157 | 32.2% |
| **B.A** | 1 | - | - | 1 | 0.20% |
| **B. Tech (hons)** | 69 | 13 | 9 | 91 | 18.6% |
| **B. Tehc ( P)** | - | 11 | 2 | 13 | 2.70% |
| **DAE** | 76 | 81 | 17 | 174 | 35.6% |
| **Total** | 223 | 208 | 57 | 488 | 100% |

Source: Shah 2004

### 3.4.1 Sindh TVET Budget

The budget allocations for Sindh TVET are reported in table 38 below. The percentage distribution of salary and non-salary related expenditure is similar to Punjab and NWFP; 88% for salary and 11.99% for non-salary component (see figure 21 on next page).

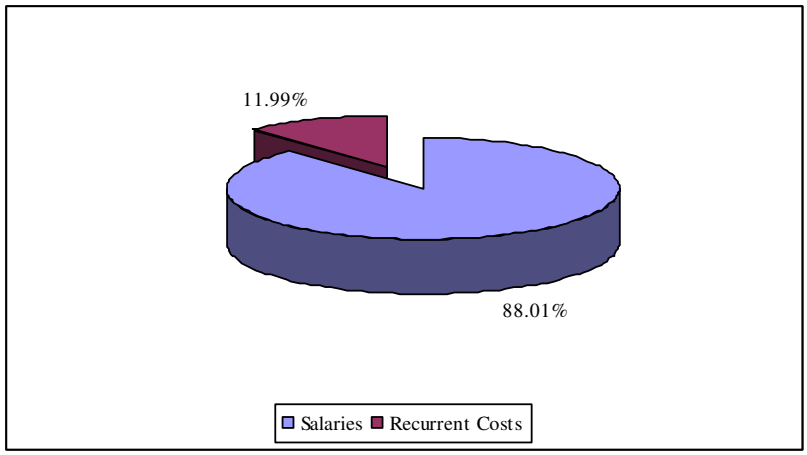
**Table 38: Budget Allocations in Sindh (2008–09)**

| | | |
|---|---|---|
| **Salaries** | 50 | 88.01% |
| **Recurrent Costs** | 6.808 | 11.99% |
| **Total Costs** | 56.808 | 100.00% |

[106] Shah (2004).

Source: Sadiq 2008

**Figure 21: Percentage Allocation of Funds in Sindh (2008-09)**




Source: based on data reported in table 38

## 3.5 Baluchistan TVET Profile

A brief statistical profile for the province of Baluchistan is given in table 39 below. In Baluchistan, the department of Education is responsible for managing technical institutes. The establishment of a provincial Directorate of Technical Education is approved and several new polytechnics will be established with the federal governments help. The two polytechnics in the province are reported to be understaffed. The Baluchistan government is reported to be planning the introduction of the Matric (grade 10 schools) technical level education in high schools.

The two government polytechnics in the province (one is in fact college of technology for boys and the other is GPI for girls) offer three years DAE and B-Tech courses in civil, electrical, mechanical, mining, auto and diesel[107], and air-conditioning and refrigeration technologies. The GPI for women (GPIW) on the other hand offers computer and information technology, secretarial and office management, fashion design, and electronics courses and diplomas. There is no apprenticeship programme for students in TVET. Similarly, educational facilities do no help students in job placement. The Board of Intermediate and Secondary Education (BISE) is responsible for conducting exams as the BTE is still in the process of establishment. The BISE itself is only 10 years old as it was established in 1997 (see Shah 2004 for details).

In the case of Baluchistan, the ADB (1999) findings suggest that the industry leaders identified the need for lower level personnel, machinery and plant operators. While the government only focused on establishing a few polytechnics which do not have the capacity to train lower level personnel and rather focus on mid level technicians[108]. The private sector industry base is small and therefore private sector involvement in TVET seems to be a far fetched idea at the moment. However, this is necessary for TVET reform process in the province.

[107] In Pakistan the diesel technology is used in agriculture for running tube wells and other agricultural implements. The diesel fuel is lot cheaper in Pakistan. Therefore, diploma courses are titled as Auto and diesel technology. The diesel technology helped during 1970s green revolution as electricity was not available in rural areas.
[108] See ADB (2004) page 75.

The TVET infrastructure in Baluchistan is less than not adequate. There are only two technical training institutes offering DAEs in Baluchistan to a total of 1,767 students every year. On the other hand a total of 46 vocational training institutes enrol 2,771 students. The GCT for males and GPI for females have dropout rates of 12.8% and 11.7%, respectively (see table 40 on next page). The STR of 37.6 in Baluchistan technical institutes is the much higher as compared to the other provinces of Pakistan. It is also higher than acceptable international practice.

**Table 39: Baluchistan**

| | | |
|---|---|---|
| **Official name** | Baluchistan | |
| **Capital** | Quetta | |
| **Districts/Tehsils/Blocks/Villages** | 26/107/491/5734 | AEPM (2006) |
| **Languages** | Baluchi, Pashto, Barahvi, Sindhi | |
| **Population** | 5.0% of total | 2006-07 |
| **Gender Ratio** | 114 males for 100 females | Calculated from economic survey 2007-08 |
| **Area** | 347190 sq km (43.6% of total area) | |
| **Population Density** | 23.1 person per sq km | |
| **Geographical Location** | 27°30'N 65°00'E | |
| **Religion** | Islam (Sunni, Shia) | |
| **Life Expectancy** | 60.4 M, 60.1 F | AEPM (2006) |
| **TFR/CBR/CDR** | 4.17/32.3/9.7 | AEPM (2006) |
| **School Age Population (primary to secondary level)** | 2Mn; 1 Mn Male; 1 Mn Female<br>Rural 1.6 Mn; 0.9 Mn male; 0.7 female<br>Urban 0.4 Mn; 0.1 Mn male; 0.3 Mn female | AEPM (2006) |
| **Literacy (population 10 years and above)** | 44.0; 61.1% Male; 23.3 Female<br>Rural 37.3%; 55.1% Male; 15.7% Female<br>Urban 64.9%; 79.9% Male; 46.8% Female | AEPM (2006) |
| **Primary Retention Rate** | 42%; 47.7%Male; 39.2% Female<br>Rural 36.6%; 37.5% Male; 35.9% Female<br>Urban 53.4%; 59.3% Male; 46.0 Female | AEPM (2006) |
| **Poverty**[110] | 32.4% Urban; 56.6% Rural | WB 2005-06 |
| **Expenditure on Education**[111] | Rs 9.63 Billion | AEPM (2006) |
| **Expenditure on Education by Districts**[112] | Rs. 6.1 Billion | AEPM (2006) |
| **Civilian Labour Force (CLF)** | 2.20 Mn; 1.90 Mn Male; 0.30 Mn female | LFS (2006-07 ) |
| **CLF (Urban)** | 0.43 Mn; 0.40 Mn Male; 0.03 Mn female | |
| **CLF (Rural)** | 1.77 Mn; 1.5 Mn Male; 0.27 Mn female | |
| **Labour Force Participation Rate** | 43.6% | |
| **Unemployed** | 0.06 Mn; 0.03Mn Male; 0.03Mn Female<br>Rural 0.04Mn; 0.02 Mn Male; 0.02Mn Female<br>Urban 0.02Mn; 0.01Mn Male; 0.01Mn Female | |
| **Industry Structure** | Mining, Oil & Gas, Fishing, Horticulture, Wind power generation, Marble | |
| **HDI** | 0.499, 0.591 urban, 0.486 rural | 2005 |

TFR/CBR/CDR refers to Total Fertility Rate/Crude Birth Rate/Crude Death Rate
Source: Academy of Educational Planning and Management, MoE, GoP

[109] Most of the Statistics is obtained from the Economic Survey of Pakistan 2007-08
[110] http://siteresources.worldbank.org/PAKISTANEXTN/Resources/Poverty-Assessment/361361-1216396471531/PAK_OPL.pdf
[111] Pakistan Education Statistics (2005-06)
[112] ibid

The GCT utilization was found to be more than 100% while that of GPIW facilities was 74.7% in 2002. In 2002, as reported by Shah (2004) the total sanctioned strength of teaching staff at two polytechnics was 342 posts of which only 243 (71.1%) were filled. The qualifications of the staff ranged form only Matric to Master's degree. There are large number of DAE holders and even less qualified staff teaching in two institutions. The budget utilization was more than 100% for GCT while for GPIW it was hardly 20% which clearly shows that the women GPI is not playing its due role in providing training to female workforce in the province.

**Table 40: Baluchistan TVET Profile**

| | Institutions | | | | Enrolments | | | | Teachers | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | Mixed | Total | Male | Female | Total | GPI | Male | Female | Total | GPI | STR |
| **Monotechnic** | 1 | 1 | | 2 | 1047 | 720 | 1767 | 0.69 | 36 | 11 | 47 | 0.31 | 37.6 |
| **Polytechnic** | | | | 0 | | | | | | | 0 | | |
| **Vocational** | 20 | 11 | 15 | 46 | 1861 | 910 | 2771 | 0.49 | 296 | 96 | 392 | 0.32 | 7.1 |
| **Total** | 21 | 12 | 15 | 48 | 2908 | 1630 | 4538 | 0.56 | 332 | 107 | 439 | 0.32 | 10.3 |

Source: Academy of Educational Planning and Management (AEPM), Pakistan Education Statistics 2005-06

## *3.6 Azad Jammu and Kashmir TVET Profile*

A statistical profile for the Azad Jammu Kashmir (AJK) is given in table 41 on next page. The AJK is located in the North of Pakistan and comprises almost 45% of what was known as State of Jammu and Kashmir before partition in 1947. The fate of Jammu and Kashmir remained undecided at the time of the partition; therefore, it became a disputed territory between India and Pakistan. Both countries have fought several wars over Kashmir and skirmishes and shelling across the line of control in Kashmir has become a regular affair. The UN has posted its observers on both sides of the line of control; however, violations occur regularly. The innocent civilians who come in line of fire are the victims. In 1948, after the first war was fought between Pakistan and India a ceasefire was called in by UN and a line of control was established which vanishes up in the North at Siachen Glacier where the most expensive fight between both countries is still going on at the highest altitude in the world.

The Pakistan side of the Kashmir is known as Azad (free) Jammu and Kashmir. It has an autonomous status as far as its political structure is concerned. It has its own parliament headed by a Prime Minister who is responsible for running the affairs of the state while the President of AJK is the executive head of the State. In 2005, a massive earthquake revealed the vulnerability of the AJK economy. Many villages and towns are completely destroyed as they were located on the fault line. The shelling between India and Pakistan is also an important factor behind lack of investment in tourism and Industry especially in the Neelum valley of AJK and its adjacent areas. The Neelum valley is also known as the Switzerland of Pakistan and has a huge tourism potential.

The Azad Jammu & Kashmir Technical Education and Vocational Training Authority is established through promulgation of Act III of 2007 vide Notification No. Admin/ Accounts/ 315-25 /2007 dated 25th January 2007. There are seven members of the board of which only three are from private sector. The Additional Chief Secretary of AJK is the chairman of the AJK-TEVTA board. The organizational structure of AJK-TEVTA is heavily tilted in favour of public sector while similar organizations in other countries are known to have higher involvement of the private sector.

A detailed organogram is given in figure 22 on next page. It is not clear if there is a monitoring and evaluation framework in place in AJK TEVTA.

The AJK TEVTA envisions strengthening the skill acquisition and development infrastructure in the territory which will help to produce trained and skilled manpower. The ultimate objective of the AJK skill vision is to reduce unemployment, to alleviate poverty and to provide a strong base for sustainable socio economic development. According to AJK TVET vision 2015, it hoped that 50% to 60% of youth will opt out for technical training. For the purpose a total of 32 skill development centres are proposed in several different districts of AJK.

**Table 41: Azad Jammu Kashmir**

| | | |
|---|---|---|
| **Official name** | Azad Jammu Kashmir | |
| **Capital** | Muzaffarabad | |
| **Districts/Tehsils/Blocks/Villages** | 2 Divisions; 8 districts; 19 Sub Divisions; 182 Union Councils; and 1646 villages | 2006 |
| **Languages** | Kashmiri, Urdu | |
| **Population** | 3.9 Million | 2006-07 |
| **Gender Ratio** | 101.2 Males per 100 Females | Calculated from economic survey 2007-08 |
| **Area** | 13297 Sq Km | |
| **Population Density** | 246 People per Sq Km | |
| **Geographical Location** | 33° – 36°E 73° - 75°N | |
| **Religion** | Muslim (Sunni, Shia) | |
| **IMR/MMR** | 56 per thousand live births; 350 per 100,000 live births | 2006 |
| **School Age Population (primary to secondary level)** | 0.87 Million | 2006 |
| **Literacy Rate** | 56% | |
| **Primary Retention Rate** | Dropout rate primary 65.9%, | |
| **Poverty**[113] | A Participatory Poverty Appraisal (PPA) report titled hope and despair concludes almost 50% population living in poverty in the survey areas where PPA was conducted. India and Pakistan dispute is considered an important factor behind poverty in AJK | 2003 Planning and Development Department AJK |
| **Expenditure on Education**[114] | Rs. 367.847 Million | 2003-04 |
| **Industry Structure** | Woodwork, furniture, paper, flour, textile, steel works, tyre and rubber, food processing, shoes, Vespa Scooter mfg, cosmetics, plastics, tourism. | AJK website |

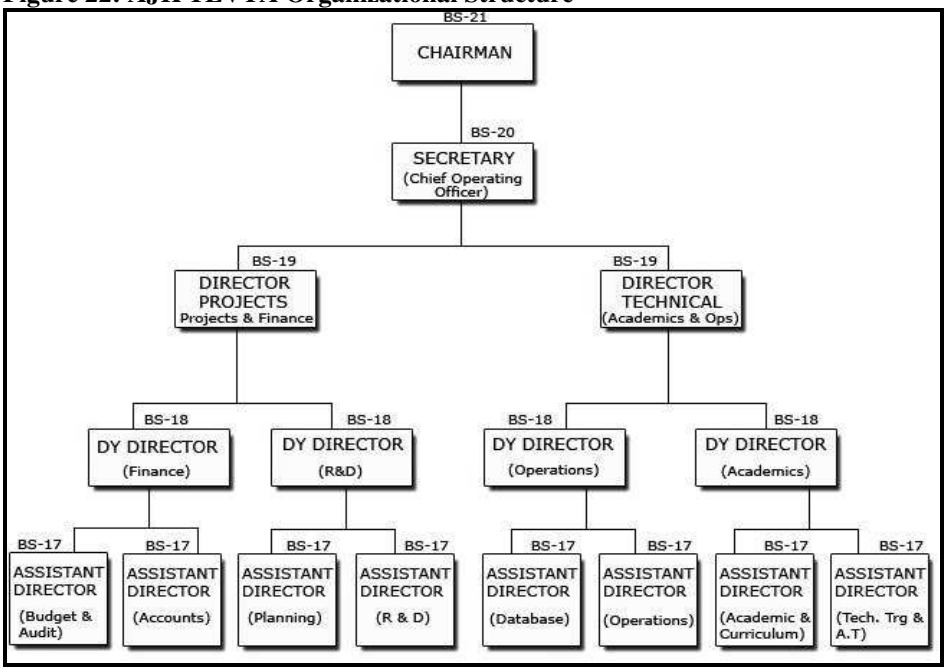
Source: http://www.ajk.gov.pk/site/index.php

Prior to the establishment of TEVTA, there were seventeen technical and vocational institutions running under the Department of Industries Commerce and Labour. Out of those, eight were located in the earthquake affected areas. In the aftermath of 2005 earthquake 3 were completely destroyed while 4 were partially damaged. A total of 73 vocational institutions were running under the Department of Social Welfare and Women Development. After the earthquake 43 were either destroyed or damaged[115]. The Vocational Training Institute (VTI) in Muzaffarabad was completely destroyed. Similarly, the Rawalakot VTI which was completely damaged is now operating in tents. The VT Centres in Dirkot and Bagh District were partially damaged and are now being run in

[113] http://siteresources.worldbank.org/PAKISTANEXTN/Resources/Poverty-Assessment/361361-1216396471531/PAK_OPL.pdf
[114] Pakistan Education Statistics (2005-06)
[115] This information is gleaned form the AJK TEVT website http://www.ajktevta.org/

rented buildings. These VTCs were also functioning as youth centres. As most of the facilities were destroyed in earthquake and people migrated; therefore, less than 100 students were attending TEVT courses in contrast to 500 students before the earthquake. Prior to earthquake the annual intake in VTIs was 15 to 20 per year which has decreased to 7 students per annum. After the formation of AJK-TEVTA through an ordinance all existing technical and vocational training institutions under the Department of Industries Commerce and Labour, the Department of Social Welfare and Women Development, and the Department of Education are brought under the jurisdiction of the the Authority. Only the '*Dar-ul-Falahs*' (welfare homes) for widows are still running under the AJK line departments.

**Figure 22: AJK TEVTA Organizational Structure**




Source: http://www.ajktevta.org/OrgChart.htm

There were some Industrial Training Centres (ITCs) as well (exact number unknown) in AJK prior to earthquake of 2005. The ITCs, Lumnian, Muzaffarabad were completely destroyed while Aathmukam and Neelum valley ITCs are operating with very limited capacity due to the damage to the overall TEVT infrastructure in the State. The Youth Centres in Bagh and Muzaffarabd have also been destroyed in the earthquake.

**Table 42: AJK TVET Profile**

| | Male | Female | Mixed | Total | Male | Female | Total | GPI | Male | Female | Total | GPI | STR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Monotechnic** | | | | 0 | | | | | | | 0 | | |
| **Polytechnic** | | | 1 | 1 | 113 | 15 | 128 | 0.13 | 5 | | 5 | 0.00 | 25.6 |
| **Vocational** | 12 | 67 | 20 | 99 | 1666 | 3251 | 4917 | 1.95 | 180 | 245 | 425 | 1.36 | 11.6 |
| **Total** | 12 | 67 | 21 | 100 | 1779 | 3266 | 5045 | 1.84 | 185 | 245 | 430 | 1.32 | 11.7 |

Source: AEPM Pakistan Education Statistics 2005-06

According to PES 2005-06 there was only one polytechnic institute in AJK and 100 vocational training institutes and centres with a total enrolment of 5045 students (see table 42 above). The GPI of 1.95 in vocational training institutes was in favour of women while in polytechnic a GPI of 0.13 shows limited access to females. The STR of 25.6 in AJK technical institutes is the second worst after Baluchistan as compared to rest of the country and as per international norms. There are no female teachers in the polytechnic; however, in VTIs and VTCs female teachers have a good representation and GPI is found to be 1.36.

## *3.7 FATA TVET Profile*

The Federally Administered Tribal Area is located in the North West of Pakistan. It acts as a buffer zone between Afghanistan and Pakistan. The FATA is mostly inhabited by tribal Pashtuns. It comprises seven agencies namely Bajaur, Khyber, Kurram, Mohmand, North Waziristan, Orakzai, and South Waziristan; and six frontier regions Bannu, Dera Ismail Khan, Kohat, Lakki, Peshawar, and Tank. Each Agency is administered by a political agent. According to Pakistan government documents[116] the FATA enjoys special status:

> *"Since colonial times protected by the constitution of Pakistan under Articles 246-247 mandating that "Subject to the Constitution, the executive authority of the Federation shall extend to the Federally Administered Tribal Areas, and the executive authority of a Province shall extend to the Provincially Administered Tribal Areas therein---Article 247(1)" and "Neither the Supreme Court nor a High Court shall exercise any jurisdiction under the constitution in relation to a Tribal Areas, unless parliament by law otherwise provides---Article 247(7)." FATA continues to be governed primarily through the Frontier Crimes Regulation 1901 based on the "principle of collective punishment" for crimes committed by an individual."*

As the area is not governed by provincial or federal laws; therefore, tribes settle their disputes and crimes through their own rules. The Frontier Crimes Regulation (FCR) 1901 allows them to hold a Jirga and reach decisions which are characterized by "collective responsibility" and "territorial responsibility". An entire sub-tribe or clan can be punished for one man's action due to "collective responsibility" dispute settlement system. However, the residents of FATA are allowed to reach the NWFP high court or Federal Supreme Court to challenge any decision reached under FCR. The FATA is represented in the National Assembly and the Senate with 12 seats and 8 seats, respectively. A brief statistical profile of FATA is given in the table 43 below.

### 3.7.1 Project Approval process for FATA

The project approval process for FATA development is as follows. Projects up to Rs. 20 million are approved by Agency Development Subcommittee (ADSC) chaired by the political agents; while projects worth over Rs 20 million but less than Rs. 200 million are approved by FATA Development Working Party chaired by the Additional Chief Secretary FATA. The FATA Development Authority (FDA) Board chaired by the Chief Executive (FDA) can approve project worth Rs. 200 million. Moreover, projects worth over Rs. 200 million but less than Rs. 500 million

[116] http://www.embassyofpakistanusa.org/forms/FATA%20Development%20Program%202008.pdf

are sent to Central Development Working Party (CDWP) headed by the deputy chairman of the Planning Commission (PC) of the Ministry of Planning and Development of the Government of Pakistan for approval. Similarly, as in case of rest of the government projects, a project worth more than Rs. 500 million needs approval from the Executive Committee of the National Economic Council (ECNEC) headed by the Prime Minister or the Finance Minister of Pakistan.

**Table 43: Federally Administered Tribal Area**

| | |
|---|---|
| **Official name** | Federally Administered Tribal Area |
| **Administrative Agencies / Regions** | FATA comprises seven agencies and six frontier regions namely Bajaur, Khyber, Kurram, Mohmand, North Waziristan, Orakzai, and South Waziristan; and Bannu, Dera Ismail Khan, Kohat, Lakki, Peshawar, and Tank, respectively. |
| **Languages** | Pashto, Dari |
| **Population** | 3,621,000 (2.30% of total Pak Pop) |
| **Gender Ratio** | 108 Males per 100 Females |
| **Area** | 27,220 Sq.Km |
| **Population Density** | 133.03 person per sq km |
| **Geographical Location** | 33°0'N 70°0'E |
| **Religion** | Muslim (Sunni, Shia) |
| **Literacy Rate** | 17.42%; 29.51% Male; 3.0% Female |
| **Primary School Enrolment (of school age children)** | 50% total; 70% Male; 30% Female |
| **Infant Mortality Rate (deaths per 1000 live births)** | 87 |
| **Maternal Mortality Rate (deaths per 100,000 live births)** | 600 |
| **Access to improved source of drinking water** | 54% |
| **Access to improved sanitation** | 10% |
| **Labour Force Characteristics** | Labour force is supplied to army or local security forces, causal labour, or labour to middle eastern countries, wholesale and retail trade across the border, subsistence agriculture and livestock rearing activities. Women undertake household work, family duties, fuel firewood collection. |
| **Industry Structure** | Marble, Guns and Ammo, Agriculture |

Source: http://www.fata.gov.pk/index.php

### 3.7.2 Financing Mechanism for FATA Projects

FATA Finance Department (FFD) was part of NWFP secretariat until 2002; now it is part of FATA secretariat. The FFD is responsible for allocating funds to development programmes in the region including TVET with assistance from donors and the federal government. The department of technical education is managed by a director along with the department of industries (Department of Industries and Technical Education). The affairs of technical education wing are run by an assistant director. The DTE envisions providing skilled manpower to industry, trade, banking, office management in public and private sector with a broader objective of enabling FATA people to earn livelihood through legal means.

[117] The data is also taken from here http://www.embassyofpakistanusa.org/forms/FATA%20Development%20Program%202008.pdf

### 3.7.3 Skills Development in FATA

Recently, in year 2000 the government has stepped up its effort to develop the FATA and prepared a FATA Sustainable Development Plan (SDP) 2000-2015 in this regard. The Skills development is an integral part of FATA SDP (see Box 1 on next page). In Annual Development Plan (ADP) 2006-07, almost Rs. 1300 million were allocated for the education sector. The budget for DTE is not part of the education budget; nevertheless, it is included in the Department of Industries and Technical Education (DITE) budget. In 2006-07, a sum of Rs. 200 million was allocated for DITE; the breakdown for Industries and Technical Education is not known; however, it is only 3.2% of the total ADP allocation. The FATA SDP planned to spend Rs 100 Mn over a 5 year period.

**Box 1: FATA Technical Education Development Strategy**

According to FATA secretariat website the DTE development strategy is as follows:

- Develop market oriented, area and sector specific skills in men and women to be employable (locally, nationally and internationally); and be able to start, run and grow enterprises.
- Enhance the quality of the skill development courses, & introduce modern required courses.
- Build capacity of the Directorates, Institutes and Centres for effective and efficient functioning.
- Collect and update data on a regular basis regarding labour market demands, skills needed and available to meet these demands; institutions within FATA and Pakistan available to satisfactorily develop the required skills, to make planning meaningful and link up the skilled people with employment opportunities Upgrade skills of already employed men and women through on the job trainings, along with literacy programmes to promote all around improvement.
- Run public sector institutions effectively and efficiently to develop a pool of the trained workforce paving the way for the private sector, in the years to come. GoP's ample spending for skill development is necessary at this stage only, because of the negligibly existing private sector in FATA, high cost of skill training and poverty of most seekers of such trainings.
- Identify potential investors to promote public private partnerships.
- Promote a gender balance in the training programmes.
- Integrate skill development with secondary education

Source: http://www.fata.gov.pk/subpages/te.php

**Table 44: FATA TVET Profile**

| | Male | Female | Mixed | Total | Male | Female | Total | GPI | Male | Female | Total | GPI | STR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Monotechnic** | | | | 0 | | | | | | | 0 | | |
| **Polytechnic** | | | 1 | 1 | 72 | 37 | 109 | 0.51 | 5 | | 5 | 0.00 | 21.8 |
| **Vocational** | 12 | 149 | 24 | 185 | 1058 | 6196 | 7254 | 5.86 | 75 | 192 | 267 | 2.56 | 27.2 |
| **Total** | 12 | 149 | 25 | 186 | 1130 | 6233 | 7363 | 5.52 | 80 | 192 | 272 | 2.40 | 27.1 |

Source: AEPM Pakistan Education Statistics 2005-06

According to AEPM (PES 2005-06) there is only one polytechnic in FATA and 185 vocational institutes[118] in which 7363 students are enrolled (1130 male and 6233 Female). The STR of 21.8 in FATA polytechnics is worst after Baluchistan and AJK as compared to rest of the country and as well as per international norms (see table 44 below). It is the worst for vocational institutes in the entire country (27.2). The GPI for students is 0.51 in case of polytechnics and 5.86 for vocational institutes. There are more female teachers employed as compared to male teachers probably due to the fact that most vocational training institutes (centres) are for women.

## *3.8 Key Supply Side Stakeholders in Pakistan's TVET System*

The following stakeholders are considered important in Pakistan's TVET landscape:

- The Pakistan National Accreditation Council (PNAC)
- National Institute of Science and Technical Education
- Directorate of Workers Education
- Ministry of Labour, Manpower and Overseas Pakistanis and its Labour and Manpower Division
- National Staff Training institute
- Skill Development Councils
- Ministry of Youth Affairs
- National Institute of Labour Administration and Research
- National Training Bureau and National Training Board
- Overseas Pakistanis Foundation
- The Punjab Vocational Training Councils
- Technology Up-gradation and Skills Development Company

### 3.8.1 Pakistan National Accreditation Council

The Pakistan National Accreditation Council (PNAC) was established under the administrative control of the Ministry of Science and Technology. It is the apex agency that accredits competence and conformity assessment bodies such as laboratories, certification boards and councils. The PNAC started its accreditation services in 2001. In 2003 Canada entered into an agreement to help Pakistan develop an improved accreditation system. It is also responsible for the formulation and implementation of National Quality Policy and Implementation Plan (NQP & IP). PNAC reports on its website that it represents Pakistan in the following regional and international forum:

- International Laboratory Accreditation Cooperation (ILAC)
- International Accreditation Forum (IAF)
- Asia Pacific Laboratory Accreditation Cooperation (APLAC)
- Pacific Accreditation Cooperation (PAC)

### 3.8.2 National Institute of Science and Technical Education (NISTE)[119]

In 1997 the government of Pakistan established (NISTE) under MoE by merging National Technical Teachers Training College (NTTC) and Institute for the Promotion of Science Education and Training (IPSET). The primary objectives of the NISTE are to improve the quality of scientific

[118] The type and status of vocational institutes is not known
[119] The NAVTEC claims a conflict of roles with NISTE and NTB (see Janjua and Naveed 2008).

and technical education consistent with latest standards and to produce well trained manpower equipped with latest scientific and technological knowledge inline with trends and practices of other advanced economies. The NISTE is mandated with the following tasks:

- developing research curriculum for science and technical education;
- developing teaching learning resource materials;
- training of trainers in technical and science education;
- conducting training need assessments;
- developing cost effective Teaching-Learning Resources (TLRs) instructional materials and audio-video teaching aids;
- monitoring and evaluation of the technical and science education curricula;
- providing policy option and direction for promoting excellence in science and technical education;
- establishment of a management information system for science and technical education;
- undertake research in science and technical education;
- liaison with industry and co-ordination with national and international organizations in science and technical education; and
- development of projects/schemes/proposals in science and technical education

### 3.8.3 Directorate of Workers Education

The Directorate of Workers Education (DWE) established in 1982 is an educational and training organization under the Ministry of Labour, Manpower and Overseas Pakistanis. It provides services on labour policy and social issues to workers and their union leaders. The DWE has also carries out educational and training activities through its head quarters and 2 Regional Centres located at Karachi, Hyderabad, Sukkur, Lahore, Multan, Faisalabad, D.G. Khan, Peshawar, Haripur, Quetta, Hub and Islamabad. According to its website[120] since its establishment, the Directorate of Workers Education at Headquarters and its Regional Centres has organized 17,077 courses of different duration in which 464,000 representatives of different workers, trade unions, and departments, have been trained up to 31st May, 2003.

### 3.8.4 Labour and Manpower Division of the Ministry of Labour, Manpower and Overseas Pakistanis

The Labour and Manpower Division of the MoL provides services including apprentice training, skill upgrading courses at National Staff Training Institute (NSTI), and trade testing and certification. It has also helped to establish Skills Development Council (SDC) which promotes public private partnerships in training need assessments and job placements.

***(i) National Staff Training Institute (NSTI)***

The National Staff Training institute works under Labour and Manpower Division of the Ministry of Labour, Manpower and Overseas Pakistanis. It offers skill up gradation courses[121].

***(ii) Skill Development Councils***

[120] http://www.ilo.org/public/english/region/asro/bangkok/skills-ap/skills/pakistan_links.htm
[121] ibid

The Skill Development Council (SDC) Islamabad was constituted by the Ministry of Labour Manpower & Overseas Pakistanis. It operates through Public-Private Partnership, with the active involvement of the Employers Federation of Pakistan (EFP). Its objective is to identify, develop and arrange vocational, technical, professional, and IT related training programmes through need assessment. These training programmes are demand driven, cost effective, and flexible with maximum participation from the employers. SDC, Islamabad also designs courses according to the enterprise needs on their request. The Training Needs Assessment (TNA) Surveys are an important component of its course design process. Similar councils are established in the provinces of Pakistan. The SDC Karachi is one of the active councils and is known to be the brainchild of the Employers Federation. SDC Karachi was the first ever SDC in Pakistan and was formed as a PPP, constituted by the Ministry of Labour, Manpower and Overseas Pakistanis with the assistance of the World Bank, ILO and EFP. The SDCs are employer-driven autonomous organisation, functioning legally under the National Training Board. The SDCs are usually governed by a SDC Council with the following composition of members: the government 50%; employers 40%; and trade unions 10%. The ILO and FES are major funding partners in their programmes.

The SDC functions include the following:

- Training needs assessments
- Demand led design and development of training courses
- Identification and selection of training providers, both public and Private
- M & E of training programmes
- Arrange and conduct trade testing and certification.
- Assists students in internships and job placement.
- Develop tailor-made courses for staff training according to enterprise needs
- Organises workshops, seminars and to promote training and employment.

### 3.8.5 Ministry of Youth Affairs

The Ministry of Youth Affairs is constructing Youth Development Centres across the country to provide cultural, recreation along with vocational training facilities to the youth of the country. According to its Yearbook allocations for the two development projects have been made in the Public Sector Development Programme (PSDP) 2005-2006: i) Construction of Youth Development Centre at Quetta, ii) Construction of Youth Development Centre at Peshawar. It has established 88 vocational training centres (VTC) all over Pakistan; of which 48 are for females.

### 3.8.6 National Institute of Labour Administration and Training (NILAT)[122]

The NILAT was established by the government of Pakistan in 1956 in Karachi. It is tasked with the development of competent labour administrators, improving and increasing productivity and efficiency of manpower in the federal and provincial governments as well as in businesses and the industry in the private sector through skills development. It imparts knowledge on industrial relations, trade unionism, collective bargaining, labour legislation, health and safety issues, working conditions and environment, wages and other relevant issues through training course. NILAT conducts workers training of trainers in labour administration and industrial relations. It also assists its course participants in developing computer skills.

[122] http://www.sesrtcic.org/research_inst_detail.php?c_code=41

### 3.8.7 National Training Bureau aka National Training Board

The National Training Board (NTB) was established under the Ministry of Labour, Manpower & Overseas Pakistanis through promulgation of the National Training Ordinance 1980. Under the NTB, a Directorate General of Technical Training (DTT) was also established. The NTB, having representatives from both the private and public sectors, is mandated with developing training programmes, standardising skills, upgrading technical standards in existing institutions, expanding and regulating standards of the TVET institutions and training centres in both public and private sector[123]. Four Provincial Training Boards (PTB) were set up under NTB and were assigned the task of planning and executing provincial training plans, trade testing, and registration and evaluation of training schemes in each province. The Vocational Training Programmes (VTP) in Pakistan are being administered by a number of Federal, Provincial and Private agencies, e.g. Government Vocational Institutes (GVIs), administered by the Provincial Education Department; Technical Training Centres (TTCs), Vocational Training Centres (VTCs), Government Vocational Institute (GVI) and Apprenticeship Training Centres (ATCs), administered by the Provincial Labour Departments; In-Plant training Programmes i.e. Apprenticeship Training under the Apprenticeship Training Ordinance, 1962, administered by the Provincial Directorates of Manpower and Training of Labour Departments in establishment employing 50 or more workers. The statistics on training institutes running under NTB is given on their website and is as follows:

**Table 45: Training Institutes under NTB in Public Sector**

| | | |
|---|---|---|
| **Punjab** | 177 | 32821 |
| **Sindh** | 313 | 9319 |
| **NWFP** | 676 | 4694 |
| **Baluchistan** | 61 | 922 |
| **Federal** | 08 | 655 |
| **Total** | 1235 | 48411 |

Source: NTB website[124]

### 3.8.8 Boards of Technical Education

The National Training Board ordinance also established provincial technical training boards with the aim to regulate TVET in provinces. The boards have the mandate to organise, regulate, develop and control technical, vocational, industrial and commercial education. BTEs also hold and conduct all final examinations relevant to technical, vocational, industrial and commercial education below degree level and such other examinations as may be determined by government. The boards also lay down the conditions for recognition of institutions and grant certificates and diplomas to persons who have passed the boards' examinations.

### 3.8.9 Overseas Pakistanis Foundation (OPF)

The Foundation was established in March 1979 under the Emigration Ordinance. It works under the administrative control of the Ministry of Labour, Manpower and Overseas Pakistanis of the Government of Pakistan. The OPF has several Vocational Training Institutions and Commercial Industrial or Service Enterprises which can be mobilized for PPP.

[123] See Kardar
[124] http://www.pakistan.gov.pk/divisions/ContentInfo.jsp?DivID=32&cPath=349_566&ContentID=2262

### 3.8.10 The Punjab Vocational Training Council (PVTC)

The PVTC is corporate autonomous body which utilizes Zakat Funds for poverty alleviation by providing training in demand led courses to Mustahqeen-a-Zakat (marginalised who are eligible for special Islamic mode of Philanthropy called Zakat). It also helps them in job placement. PVTC runs several vocational training centres and institutes in Punjab. The council claims to develop, standardize and approve curriculum for trainees. On is website it asserts that in order to carry out these functions, PVTC has been developed and staffed with qualified and competent people. Its Objectives are as follows:

- To establish at least two VTIs in each Tehsil
- To impart intensive vocational training n employable skills to mustahqeen as per local demand for their permanent rehabilitation
- To provide OJT ( on the job training ) as part of the curriculum
- To assist in placement of pass outs with the help of local private sector

### 3.8.11 Technology Up-gradation and Skills Development Company (TUSDEC)

The TUSDEC (Technology Up-gradation and Skill Development Company) was established by the Ministry of Industries and Production to upgrade technology and skills of key and strategic industrial clusters in Pakistan. It aims to connect Pakistan's industries in global value chains. The TUSDEC is a Guaranteed Limited Company, wholly owned by the Government of Pakistan but managed by the private sector.

The TUSDEC is setup with the following objectives:

- to benchmark technologies in use in Pakistan and research technology gaps,
- to facilitate and upgrade common technology needs of an industrial cluster,
- to develop linkages between donors, industry, universities, and the government,
- to manage a technology up-gradation fund and finance SMEs to acquire and upgrade technology.

# IV

# SKILLS FORMATION IN AND OUTSIDE THE FORMAL SYSTEM

The Skills formation process in a country is reflective of its priorities for human resource development, institutionalizing technological advancement, poverty reduction, increasing national productivity, and economic growth. According to ADB (2004)[125]

> *"Technological change has shifted demand toward higher skills in the labour force. New technologies are knowledge and skill intensive, and there is a need to train people to work with those technologies. As with capital-skill complementarity, complementarities also exist between technology and skills. The stock of human capital appears to be positively correlated with technological dynamism. The introduction of new technologies in lower income countries implies a reallocation of labour from low to high productivity activities, the latter being generally both more capital and skill intensive. This means that increased technology imports are likely to be accompanied by a rising ratio of capital to labour, and by demand for skilled labour."*

Skills formation in Pakistan takes place through formal, non-formal, and informal means. According to UNEVOC 2006 the concept of education and learning is classified in the three categories (see table 46 below). The vocational education and training programmes can be classified as general, pre-vocational, vocational and training[126]. At lower secondary level (ISCED 2) the courses are taken by 'less academic' students and were introduced in middle and secondary schools during 1970s. However, these are mostly phased out due to lack of teaching staff and interest among students. Similarly, upper secondary level (ISCED 3) courses were also started at the same time. Some one year courses in polytechnics, colleges of technology, and commerce colleges may be classified as Post Secondary non tertiary level (ISCED 4); however, no documentation has been known in this regard. Tertiary Level (ISCED 5B) technical and vocational courses are common in Pakistan and most three year Diplomas of Associate Engineering fall under this category.

## *4.1 Pathways to Skills Acquisition and the Labour Market*

In the context of Pakistani society, it is very important to understand the formal, non-formal, and informal pathways to skills acquisition and the labour market in order to design a comprehensive reform programme for the TVET system.

### 4.1.1 Formal Skill Formation

According to NPO (2005) formal skills formation takes place in the following institutions in Pakistan:

(i) Colleges of Technology/Polytechnics.
(ii) Weaving & Finishing Institutes.
(iii) Colleges of Commerce/Commercial Training Institutes.

[125] ADB 2004 page 29.
[126] UNESCO-UNEVOC (2006)

(iv) Technical Training Institutes.
(v) Apprentices Training Centres.
(vi) Technical Training Centres.
(vii) Vocational Training Centres/Institutes.
(viii) Agriculture Machinery Training Schools.
(ix) Agriculture Cooperative Institutes.
(x) Dehi Mazdoor Training Centres.

The formal technical and vocational education and training includes structured programmes in recognized TVET institutes including high schools, vocational training institutes, polytechnic institutes, colleges of technology, which are recognized by the formal education system and lead to approved diplomas and certificates.

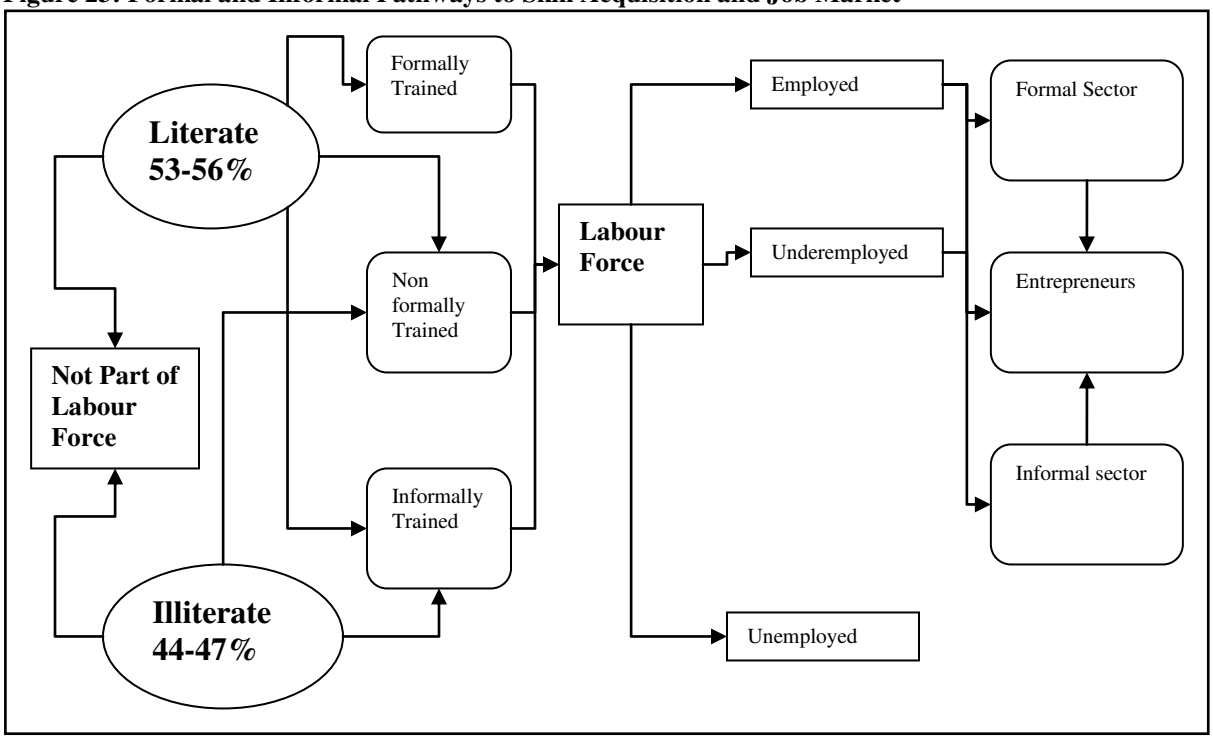
**Table 46: An overview of different conceptions as applied to education and learning**

| | | | |
|---|---|---|---|
| **Green, Oketch, Preston, November 2004** | " 'organised' and 'intentional' learning whose outcomes are accredited" | "results from organised activities within or outside the workplace which involve significant learning which is not accredited" | "That which occurs 'unintentionally' or as a by-product of other activities. OECD (2003) Beyond Rhetoric: Adult Learning Policies and Practise, OECD, Paris. New classifications of learning activities are currently being developed for the EU Adult Education Survey and these will form a good companion to ISCED definitions for informal and non-formal learning, especially for the developed world." See below. |
| **Tight, 2002** | "Formal education is that provided by the education and training system set up or sponsored by the state for those express purposes" (Groombridge, 1983, p. 6) | "any organised, systematic, educational activity, carried on outside the framework of the formal system, to provide selected types of learning to particular subgroups in the population, adults as well as children. Thus defined non-formal education includes, for example, agricultural extension and farmer training programmes, adult literacy programmes, occupational skill training given outside the formal system, youth clubs with substantial educational purposes, and various community programmes of instruction in health, nutrition, family planning, cooperatives, and the like." (Coombs and Ahmed 1974, p. 8) "education for which none of the learners is enrolled or registered" (OECD 1977, p. 11) | "The life-long process by which every individual acquires and accumulates knowledge, skills, attitudes and insights from daily experiences and exposure to the environment – at home, at work, at play: from the example and attitudes of family and friends; from travel, reading newspapers and books; or by listening to the radio or viewing films or television. Generally, informal education is unorganised, unsystematic and even unintentional at times, yet it accounts for the great bulk of any person's total lifetime learning – including that of even a highly 'schooled' person." (Coombs and Ahmed 1974, p. 8) |
| **Eurostat, December 2004** | "…education provided in the system of schools, colleges, universities and other formal educational institutions that normally constitutes a continuous "ladder" of full-time education for children and young people, generally beginning at age of five to seven and continuing up to 20 or 25 years old. In some countries, the upper parts of this "ladder" are organised programmes of joint part-time employment and part-time participation in the regular school and university system: such programmes have come to be known as the "dual system" or equivalent terms in these countries." | "any organised and sustained educational activities that do not correspond exactly to the above definition of formal education. Non-formal education may therefore take place both within and outside educational institutions, and cater to persons of all ages. Depending on country contexts, it may cover educational programmes to impart adult literacy, basic education for out of school children, life-skills, work-skills, and general culture. Non formal education programmes do not necessarily follow the "ladder" system, and may have a differing duration." | " '…intentional, but it is less organised and less structured ….and may include for example learning events (activities) that occur in the family, in the work place, and in the daily life of every person, on a self-directed, family-directed or socially directed basis'. As defined in the report of the Eurostat TF/ MLLL (paragraph 32, page 12). The UNESCO manual for statistics on non-formal education (page 6) reads 'Informal learning is generally intentional, but unorganised and unstructured learning events that occur in the family, the work-place, and in the daily life of every person, on a self-directed, family-directed or socially-directed basis.' " |

Source: UNEVOC (2006)

As reported earlier the National Education Census 2005-06 there are a total of 3,059 technical and vocational training institutes in Pakistan (excluding colleges of commerce and commercial training institutes); of which 916 are run in public sector while 2,143 are under private administration. The private sector comprises a large number of TVET providers as it absorbs almost 56% of the students. It is the largest training provider to females as well as it absorbs 58.5% of female students. In private sector Student Teacher Ratio (STR) is 16.4 which is slightly higher than accepted international norm (see ADB 1999) while in public sector the STR is around 14-15. Yet in focus group discussion it has been learnt the quality of training in privates sector is better than the public sector. The formal and informal pathways to skill acquisitions and the labour market are shown below in figure 23.

**Figure 23: Formal and Informal Pathways to Skill Acquisition and Job Market**




Source: Author

## a) Pre-Vocational Training

The pre-vocational training was introduced in 1976-77 in schools at classes 6 to Matric. In urban area schools, 6-8 grade students were taught industrial arts which included wood work, metal work, and electricity while in rural areas agro-tech courses were offered. Several other vocational subjects were offered at grades IX-X. The results were less than expected due to shortage of technical teachers at school level, lack of physical infrastructure, and non-examinable course syllabi. It is reported as discontinued recently.

## b) Vocational Education and Training

Vocational Education and Training (VET) was offered by many federal and provincial departments as well as private sector and NGOs. A variety of trades are being offered by both public and private sector institutes which train both males and females. The majority of vocational institutes were running under the umbrella of departments of labour and manpower, social welfare, Agency for

Barani Development, Directorate of Technical education, etc. In Punjab many of these departments and directorates have been amalgamated under TEVTA. Similar exercises are underway in other provinces.

### c) Commercial Education

Commerce or commercial education is considered in fact professional education leading to white collar jobs as opposed to TVET. It is however administered under TVET system by provincial TEVTAs. The commerce institutes and colleges provide certificate courses in commerce known as C.Com and Diploma in commerce course (D. Com) to students who have completed 10 years of education. The curriculum approved by the ministry of education focuses on teaching secretarial skills such as shorthand, typing, basic accountancy and book-keeping. Graduates from these programmes have an option to continue their learning experience towards I.Com, B.Com and M.Com which is equivalent to higher secondary, Bachelor, and Masters degree[127].

### d) Technical Education

The polytechnic and monotechnic institutes and colleges of technology provide technical education and training. These colleges were meant to fill the gap between skilled manpower and engineers by producing associate engineers. They offer a three year post matriculation Diploma of Associate Engineering (DAE) in several technologies. The graduates can further pursue B. Tech (Pass) and B. Tech (Hons), each of two year duration. The degrees are awarded by various engineering universities. However, Pakistan Engineering Council refuses to accept their equivalency to Bachelors of Engineering. The quality of education is low in these programmes due to market irrelevance of course taught in these institutes. The curricula are outdated and the instructional method is typically based on learning from books. The labs are outdated and not equipped properly therefore practice and application of theory is limited.

### e) Polytechnics for Women

In order to address the needs of females in Pakistan the government has opened a few polytechnics for women. The numbers of institutions are not enough to cater for the needs of female population. However, due to cultural limitations initially sewing crafts, dress designing, courses were offered. Over the years, architecture, electronics, and commerce diploma courses have also been introduced. It has also been documented that both male and female polytechnics are poorly maintained and lab courses are not conducted due to either lack of equipment or raw materials. The syllabi is not up-to-date and modern teaching technologies computers, visual aids, e-learning facilities are almost non-existent (Shah 2004 and Hassan 2007).

### f) The Formal Skill Path and Hindrances

In a country that is in transition from agrarian to manufacturing and services oriented production, upgrading the TVET system is imperative. Unfortunately, the TVET system in Pakistan has not received significant importance in the past. It has been noted earlier that the average waiting time for a graduate from polytechnic institutes ranges from six months to two years before they land on a reasonable job. According to some estimates almost half of the TVET trained labour remains

[127] UNESCO-UNEVOC (1995)

unemployed which gives rise to a paradox and one may ask what has gone wrong with the technical and vocational education and training sector in Pakistan. For a while enrolment continued to decline in Pakistan's TVET colleges and institutes. As compared to emerging East Asian economies with TVET enrolment above 15% in Pakistan total enrolment in TVET system is less than 2%[128]. Besides, rates of return to TVET are not high and there are hurdles along the skill acquisition path if one wants to adopt life long learning path. In Pakistan, transition for a student from TVET to general education is not easy as TVET has often been associated with stigmas that obstruct personnel and skill acquisition and development. One has to do lot of effort to overcome these hurdles in order to move upward along the skill path to reach the pinnacle of skill pyramid. For example, the pathways leading to technical training from vocational are not clear and obstructed by several factors such as quotas in higher education colleges, unrecognized certification, etc.

The ADB evaluation of TVET institutions in 1999 revealed that only 10 percent of students opt for higher studies. The system is plagued with hindrances for further skills acquisitions, growth and graduation toward higher studies. Even after almost 18 years the problem remains. National universities have reserved hardly two seats in each discipline for polytechnic colleges' DAE diploma holders in BSc engineering programmes. A news item in the Daily Dawn on Nov 16, 2008 reported that students with trade skills are denied higher education. Some universities have reportedly refused admission to diploma holders while the DAE is in fact equivalent to higher secondary school certificate (Intermediate level) according to government notifications. The universities do not accept its equivalency. They are not even allowed to sit in the University's admission test to prove their eligibility[129].

### 4.1.2 Non-Formal TVET

The Non-formal education and training includes structured programmes that are outside formal educational system and are more or less recognized by the industry. It may include apprenticeship training programmes and structured on-the-job trainings in the formal sector of the economy (see skill formation path and its relevance to general educational system above in section on Education System and TVET). According to UNEVOC 1996, vocational training in non-formal TVET sector in Pakistan is conducted in Technical Training Centres (TTCs), Apprenticeship Training Centres (ATCs), Government Vocational Institutes (GVIs), and Youth Vocational Training Centres (YVCs). The Madrassah based skills acquisition programs may also be included in non-formal.

### 4.1.3 Informal learning

The informal education and training can take place any where in the form of unstructured learning. In Pakistan, the *ustad-shagird* (master-apprentice) system of learning is prevalent in both formal and informal sectors of the economy. Generally, the process of informal learning is relatively slow and is characterised by trainee abuse, neglect, exploitation, and child labour. According to Kardar (1997):

> *"The primary weaknesses of training through the informal system are the excessively long periods of informal training, in some cases eight to ten years, its inability to address the demands of rapidly changing production processes and techniques, and its high cost in terms of productivity and quality."*

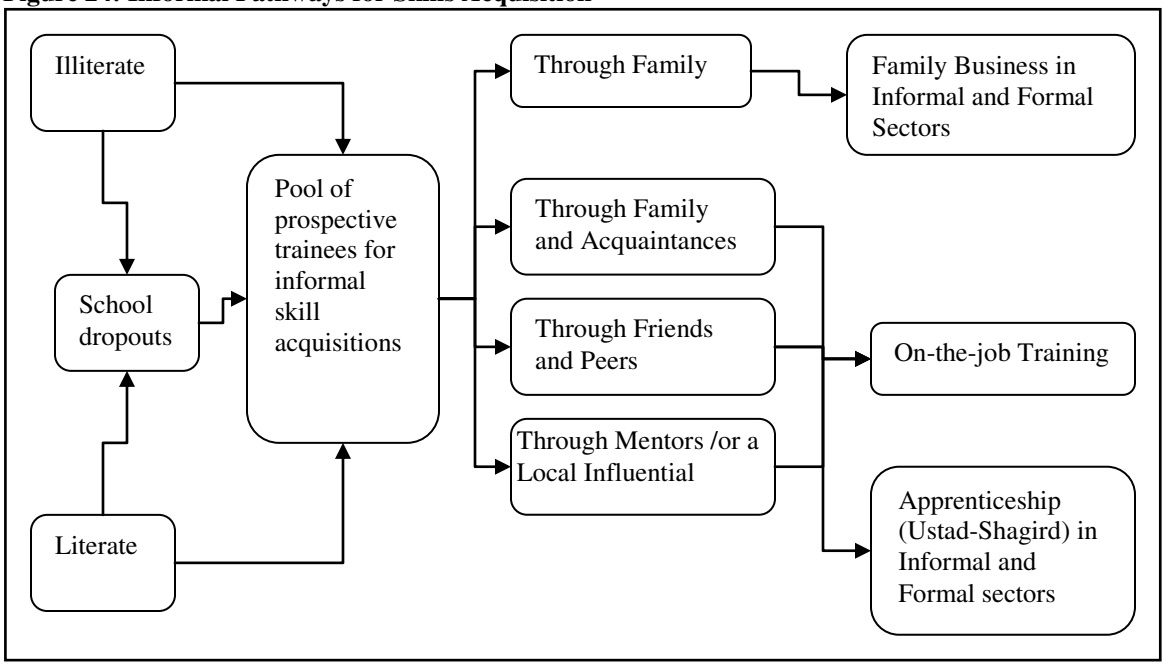
[128] ibid

[129] http://www.dawn.net/wps/wcm/connect/Dawn%20Content%20Library/dawn/the-paper/local/students+with+trade+skills+denied+higher+education

However, the most prevalent mode of informal skills acquisition is the *ustad-shagird* (master-apprentice) system, followed by family business skills immersion and on-the-job training. The *ustad-shagird* system is visible mostly in manufacturing, crafts, trade, transport and music.

Janjua and Janjua (2008) provide account of the informal training covenants in vogue in the informal sector of Pakistan. There are no pre-conditions for entering the skill acquisition arrangement with an *ustad* (master) such as minimum education or a binding contract, minimum level of prior skills in the same or related discipline, etc. During the training period apprentices are entitled to a less than subsistence income or stipend. After gaining experience majority of apprentices proceed to self-employment or may be absorbed in small industries. The informal learning is driven by local demand which means that apprentices learn the skills "readily available and demanded" in the market. The figure 24 below depicts informal pathways to skills acquisition.

**Figure 24: Informal Pathways for Skills Acquisition**




Source: Janjua and Janjua (2008)

The pace of skill formation is slow and generally depends on the willingness of *ustad* who may not impart all the skills to a trainee usually to prolong the dependency of the *shagird*. The entire system of learning is non-structured based on demonstration, learning by doing, and trail and error. The *ustad* imparts skills based on his needs. For example, in automotive shops if he needs help in degreasing the dismantled parts, which is in fact a dirty and hazardous job, he will teach it to *shagird.* The *shagird* will always prepare the job for *ustad* so that the later conducts the most advanced tasks on the cleaned part while the apprentice observes the process. The *ustad* demonstrates one process at a time, and the *shagird* learns by doing and repeating the process as and when required by the master. The informal nature of learning relationship between *ustad-shagird* in the absence of a regulatory framework encourages exploitative practices such as child labour, long working hours, verbal and physical abuse, etc. However, such factors are considered part of the learning process due to cultural contexts. The knowledge imparted in informal learning is less codified and rather more tacit in nature. The technological base on which the learning is

founded is relatively narrow; therefore, apprentices seldom learn the advanced trades and use of new technologies and processes.

Skills acquisition in family enterprises is the second most prevalent source of skill transmission. Children are expected to learn the skills of their parents, and their peers in the family. It is not only prevalent in manufacturing, crafts, businesses, but sports and music as well. Females are considered the most suitable candidates for this type of skill acquisition as they are not allowed to go outside their home or neighbourhood. Young girls typically learn common skills such as embroidery, dressmaking, crafts, from skilled women within the family as well as neighbourhood. It is also very common in agricultural practices where children are expected to take over the family owned farms.

On-the-Job training (OJT) is also known to be an important mode of skill acquisition. This mode of skill transmission is also very common in both the formal and informal sector. In the informal sector, for example, construction, agriculture, mining, fishing and quarrying, the OJT is considered to be the easiest form of learning. Mostly, it is low-end casual labour. However, in the formal sector OJT imparts high end skills as well, for example, hospitality in tourism, teller services in banks, and plant operation in industries etc.

It is important to note that in past Pakistan's TVET reform process has mainly focused on training for modern-sector wage employment. The future reform process must take into account the needs of the informal sector as well. However, reforming TVET system for the benefit of the informal sector is a monumental and challenging task because the informal sector is mostly composed of self employed and there are no employers' organizations. In the light of ADB 2004, one may summarize the reform challenges as follows:

a. the existence of informal sector (master crafts people) association is necessary to start with the reform process,
b. the informal sector associations, if they exist, might be helpful in establishing directions in skills training,
c. there is a need for market analysis to identify occupations which are oriented towards productive self employment,
d. rigorous and systematic evaluation of the outcome and impact of training is required for the informal sector, and
e. the absence of post training support in areas such as access to credit, marketing services, and continuing business advice is likely to make success of such programmes quite difficult.

## *4.2 Training Schemes*

Kardar (1997) and Shah (2004) provide a detailed account of training programmes run by the private and public sector.

### 4.2.1 Trainings in Public Sector Organizations

An important feature of Pakistan's TVET programme is training and apprenticeship programmes run by the public sector companies such as Pakistan International Airlines (PIA), WAPDA, Pakistan Telecommunication Corporation, Pakistan Railways, Taxila Heavy Industries, Pakistan Steel, Pakistan Television Corporation, Wah Ordinance Factories, etc. The in-service training programmes produce more than 10,000 technicians every year. The Pakistan army also has the capacity to train

its technicians; many receive early retirement to become part of civilian labour force. The Small Scale Industries Corporations and Industrial Boards which are considered semi autonomous bodies also operate schemes which produce about 9,000 trained personnel each year. Kardar (1997) contends that intake in the training programme is not based on quality of trainees; these decisions are rather influenced by irrelevant factors such as political affiliation, kinship to existing workers, nepotism of bureaucracy, etc.

### 4.2.2 Training Programmes in the Private Corporate Sector

Some large firms and multinational corporations do provide substantial training to their new recruits. They also cooperate with the government on the Apprenticeship programmes setup under Pakistan Apprentice Ship ordinance 1962. Most training is conducted on-the-job within industries and through private institutions. Some important firms in this regard are Nestle, Pakistan Telecommunications, Pak-Saudi fertilizers, etc. Some industry associations have also set up private intuitions, for example, the textile industry. The majority of the schemes are adapted to industry specific requirements. An important feature of these schemes is their relevance to industry demand inline with new technological advancements and production processes. Many NGOs have also set up vocational programmes directed at the poor and at women.

There is a need to stimulate industry wide enterprise based training; however, private sector is reluctant and under-train its staff due to lack of company vision, staff retaining policies, fear of poaching of trained staff by other firms, etc[130]. An incentive structure has to be in place to encourage enterprise-based training. This includes but may not be limited to general training subsidies, levy-grant system, and company tax concessions.

### 4.2.3 The Apprenticeship Programme

The Government of Pakistan instituted an apprenticeship programme through Apprenticeship Ordinance, 1962. It was further supplemented with Apprenticeship Rules, in 1966. Under the ordinance all manufacturing firms / enterprises employing fifty or more workers are required to recruit one apprentice for every five skilled workers[131]. Though it sounds like a good initiative; however, discussion in Kardar 1997 suggest that it has increased the cost of doing business. The apprentices attend training course in apprenticeship training institutes or in a private firm. The placements are made by the Regional Directorates. The trainees are offered a stipend which is 60 percent of the ongoing wage for that skill, and rises by 10 percent per annum over the period of training. A failure in compliance with the Ordinance can cost the owner of a firm a minimum fine of Rs. 10,000 or the maximum penalty in the form of six month imprisonment. An additional penalty of Rs. 1,000 per day is also levied if the company fails to pay the fine. Kardar (1997) reported on the inadequacy of the training system as follows:

> *The formal apprenticeship system produces approximately 1,500 trainees every year while the estimated requirement is more than 20,000. One estimate suggests that training under the apprenticeship programme is imparted by less than half the eligible establishments in Punjab and Sindh and by just a handful of units in NWFP and Baluchistan.*
>
> *Employers are reluctant to participate in a training package over which they have little control and which is thrust upon them under legislation which they consider*

[130] ADB 2004 page 47.
[131] See Kardar (1997) for detailed discussion

> *coercive in nature, particularly in view of legislation which they consider coercive in nature, particularly in view of the rather rudimentary training facilities available throughout the country. They are quite unhappy with the quality of the six month training course organised by the Regional Directorates.*

It is also reported that implementing agencies use their powers to seek undue rents from enterprises; therefore, many employers either refuse to participate and find other ways to resist the legislation or simply keep the size of their organization small (less than fifty employees). Apprentices are also known to take disadvantage of the clauses of the Ordinance while the government argues that the employers take advantage of the Ordinance and use apprentices as cheap labour. After the completion of the training period the apprentices are not hired as permanent workers. It must be noted that the system of placement does not give any control to enterprises over quality of trainees[132].

[132] Kardar (1997).

# V

# FINANCING OF THE TVET SYSTEM

The TVET system costing and financing has been an issue in Pakistan firstly because of lack of commitment and secondly lack of capacity. It is evident from table reported in section 5.4 that government allocations were not fully utilized. Technical education entails high costs as compared to general education.

## *5.1 Unit Costs in the Public Sector*

A detailed analysis of per unit costs in public sector technical and vocational training institute is not available. However, some reports and dissertations have reported unit cost calculations in the past. Shah (2004) has given some useful analysis which is reported here in this section.

**Table 47: Unit costs in Colleges of Technology and Government Polytechnic Institutes Year 1987-88**

| | | | | Unit cost per student | Unit Store cost per student | Unit cost per student | Unit Store cost per student[134] |
|---|---|---|---|---|---|---|---|
| **GCT Hyderabad** | 1970 | 6973600 | 70000 | 3539.90 | 35.53 | 1341976 | 13471 |
| **GCT Lahore** | 1800 | 12089300 | 301000 | 6716.28 | 167.22 | 2546141 | 63394 |
| **GCT Multan** | 1732 | 7831700 | 258000 | 4521.77 | 148.96 | 1714202 | 56471 |
| **GCT Karachi** | 1585 | 9494800 | 120000 | 5990.41 | 75.71 | 2270964 | 28702 |
| **GCT Sahiwal** | 1343 | 4557200 | 250000 | 3393.30 | 186.15 | 1286399 | 70570 |
| **Sifee EZ Inst** | 1250 | 2127400 | 30000 | 1701.92 | 24.00 | 645198 | 9098 |
| **GPI Sialkot** | 1181 | 5125950 | 215000 | 4340.35 | 182.05 | 1645426 | 69015 |
| **GCI Khairpur** | 1178 | 4480980 | 70000 | 3803.89 | 59.42 | 1442054 | 22527 |
| **GCT Sargodha** | 1053 | 4600400 | 215000 | 4368.85 | 204.18 | 1656231 | 77404 |
| **GCT Peshawar** | 916 | 7547700 | 120000 | 8239.85 | 131.00 | 3123726 | 49664 |
| **GPI Layyah** | 745 | 3103200 | 129000 | 4165.37 | 173.15 | 1579091 | 65643 |
| **Habib CT Nawab Shah** | 603 | 2289200 | 35000 | 3796.35 | 58.04 | 1439197 | 22004 |
| **PSIT Landhi** | 527 | 4258100 | 70000 | 8079.89 | 132.83 | 3063085 | 50355 |
| **SPIT Gujrat** | 500 | 5140000 | 301000 | 10280.00 | 602.00 | 3897148 | 228218 |
| **GPI Nowshera** | 497 | 2626100 | 99700 | 5283.90 | 200.60 | 2003128 | 76049 |
| **GPI Jacobabad** | 442 | 1519500 | 30000 | 3437.78 | 67.87 | 1303263 | 25731 |
| **GPI Quetta** | 438 | 2568110 | 60000 | 5863.26 | 136.99 | 2222764 | 51932 |
| **GPI D.I. Khan** | 438 | 2208300 | 42000 | 5041.78 | 95.89 | 1911339 | 36352 |
| **Total** | 18198 | 88541540 | 2415700 | 4865.45 | 132.75 | 1844494 | 50324 |

Source: Shah (2004)

Recent budgets of polytechnic institutes were not available for analysis; however, recurrent budgets of selected Government Colleges of Technology (GCT) and Polytechnic Institutes (GPI) in the public sector are reported in Shah (2004) for year 1987-88. The table given above is reproduced

[133] There are material supply stores in each polytechnic which provide input for practical.
[134] The unit store cost per student is the total cost of stores divided by total enrolment.

here for analysis. Overall allocations in Punjab were relatively higher than NWFP and Sindh (accept for GCT Hyderabad, Sindh). The unit cost of stores was also relatively higher in Punjab especially for Swedish Polytechnic Institute, Gujrat (see table 47 below).

The average unit cost per student is Rs 4865.45; however, it varies a lot from Rs. 1701 to Rs. 10280 among different institutes. It is worthwhile to note that the cost per student for private sector is approximately 6015.5 in 2005. The average cost of stores (raw material supplies for practical) is Rs 132.75 with large variation among institutions ranging from Rs 24 to Rs. 602. One can inflate the expenditures for adjustment in inflation for last twenty years. Since 1988 the price level, as measured by the Consumer Price Index (CPI), has increased by 379% over last 20 years. Unit cost projections for year 2007-08 using total inflation for last 20 years are given in the last two columns. However, projections may not give an accurate picture of the per unit expenditures because the quality of inputs have changed as well as the cost of ICT related components. Due to advancement in technology the cost of ICT related components have been declining over the years. Similarly, new inputs would have entered into educational services while some old inputs might have become obsolete. In this context a most recent analysis of unit costs in TVET is necessary[135].

Shah (2004) has also provided distribution of budgets for four polytechnic institutes with different enrolment and offered technologies (See table 48 below). He reports the distribution of funds in these polytechnics Institutes without mentioning their geographical location, types of technologies and trainings offered.

**Table 48: Distribution of Budgets in Four Polytechnics**

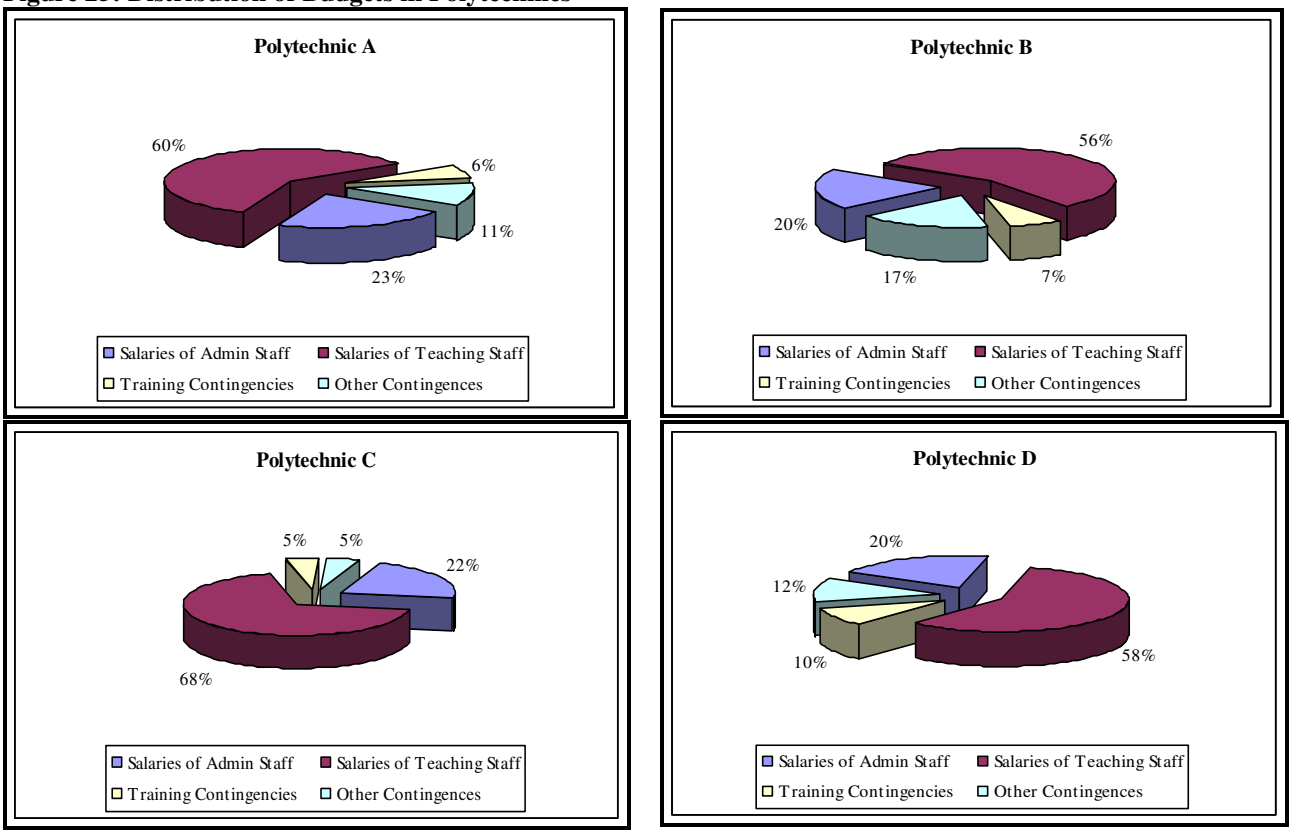
| **Polytechnics** | **A** | **B** | **C** | **D** |
|---|---|---|---|---|
| **Enrolment** | 1500 | 500 | 350 | 400 |
| **No of Technologies** | 12 | 4 | 2 | 5 |
| **Salaries of Admin Staff** | 23% | 20% | 22% | 20% |
| **Salaries of Teaching Staff** | 60% | 56% | 68% | 58% |
| **Training Contingencies** | 6% | 7% | 5% | 10% |
| **Other Contingences** | 11% | 17% | 5% | 12% |
| **Total** | 100% | 100% | 100% | 100% |
| **Training Cost/Student/Year** | 1966 | 2006 | 1652 | 2475 |
| **Training Cost/Student/Hour** | 0.02 | 0.02 | 1.91 | 2.69 |
| **Raw Material Cost/Student/Year** | 66 | 100 | 87 | 111 |
| **Expenditure/Student/hour** | 0.11 | 0.16 | 0.07 | 0.18 |

Source: Adapted form Shah (2004)

The distribution suggests that almost 56-68% is spent on teaching staff salaries while 20-23% is spent on admin staff salaries (total salaries 76% to 80%). This is consistent with the distribution of overall budgets reported for three provinces above. The remaining non-salary budget is spent on training and non-training related contingencies (see figure 25 on next page). The training cost per student year is also reported for polytechnic institutes which range from Rs. 1652 to Rs 2475. However, Shah does not report the base year for his calculations. The training cost per student per hour year is also reported for which range from Rs. 0.02 to Rs. 2.69. Similarly, Raw material / supplies cost per student per year are also reported, which range from Rs66-Rs111 and Rs0.07 to Rs0.18, respectively.

[135] The projections seem to be reasonable because one GCT in Lahore has reported per student training cost as Rs. 500,000

**Figure 25: Distribution of Budgets in Polytechnics**




Source: Based on data reported in table 48.

Recently, TEVTA Punjab has reported per year cost of training per student for the year 2006-07 (see Sadiq 2008). The unit costs in vocational training institutes are relatively higher than technical training institutes (see table 49 below). Sadiq (2008) reports that the calculations are based on a non-development budget and do not include amortization or depreciation, etc. However, another training centre in Lahore, visited by Sadiq (2008) reported average cost per student per course as Rs.70,000; however, if all costs are included the cost of training per student sums up to Rs.500,000 per annum.

**Table 49: Unit Cost of Courses Reported by TEVTA**

| | | |
|---|---|---|
| **1.** | Technical | 34,198 |
| **2.** | Vocational | 39,561 |
| **3.** | Commerce | 22,938 |

Source: Sadiq 2008

The unit costs for NWFP TVET institutes in 2001-02 were found to be on average Rs. 290 per capita, which is the lowest as compared to the Punjab province (see table 50 below). The per unit training cost in colleges of technology and polytechnic institutes range from Rs 123 to Rs 135, respectively (higher for female polytechnics). The costs are higher for vocational training centres which is consistent with the findings in Punjab. The cost is highest for Hayatabad technical vocational training centre which has been set up with the help of Chinese government. It is interesting to not that the costs in foreign funded programmes are higher than locally financed programmes.

**Table 50: Allocations for training Materials of Technical Education and Vocational Training Institutions in NWFP in 2001-02**

| | | |
|---|---|---|
| **Colleges of Technology** | 120000 | 123 |
| **Polytechnic Institutes (M)** | 372000 | 90 |
| **Polytechnic Institutes (F)** | 40000 | 135 |
| **Technical and Vocational Centers (TTC)** | 1888000 | 818 |
| **Technical and Vocational Centers (Hayatabad)** | 80000 | 1454 |
| **Technical and Vocational Centers (Male)** | 140000 | 158 |
| **Technical and Vocational Centers (Female)** | 21000 | 41 |
| **Total** | 2661000 | 290 |

Source: Shah (2004)

The allocation for Sindh TVET institutes in 2002 shows that the Government Colleges of Technology (GCT) and Government Polytechnic Institutes (GPI) receive the highest proportion of the fund allocations. The commercial training institutes and centres together receive third largest allocation; however, given their number it is only Rs 46747 per CTC and Rs 136054 per CTI (see table 51 below). The Monotechnic, commercial training centres, and vocational training centres receive the lowest allocations per institute in Sindh.

**Table 51: Recurrent Budget Allocations for Sindh 2002 (in Rupees)**

| | | | | |
|---|---|---|---|---|
| **Colleges of Technology** | 4 | 7239210 | 28.9 | 1809803 |
| **Polytechnic Institutes (M)** | 13 | 6190500 | 24.7 | 476192 |
| **Polytechnic Institutes (F)** | 3 | 1228900 | 4.9 | 409633 |
| **Monotechnic Institutes** | 18 | 709420 | 2.8 | 39412 |
| **Commercial Training Institutes** | 15 | 2040816 | 8.1 | 136054 |
| **Commercial Training Centres** | 79 | 3693023 | 14.7 | 46747 |
| **Vocational Institutes (Boys)** | 5 | 976130 | 3.9 | 195226 |
| **Vocational Institutes (Girls)** | 5 | 837430 | 3.3 | 167486 |
| **Vocational Institutes** | 62 | 1828811 | 7.3 | 29497 |
| **Directorate of Technical Education** | 1 | 301670 | 1.2 | 301670 |
| **Total** | 204 | 25045920 | 100.0 | 122774 |

Source: Shah (2004)

## *5.2 Unit Costs in the Private Sector*

The NEC reports figures on private institution enrolment and total expenditure on TVET. The data can be used for overall average per unit cost calculation. In 2004-05, the total expenditure on TVET by private sector is reported as Rs. 811.7 million which is 2.3% of the total private sector education expenditure. Almost 134,935 students are reported as enrolled in private TVET institutions. A back of the envelope calculation suggests per student per annum expenditure of Rs. 6015.5 in private sector TVET institutions (see national education census 2005). The NEC document reports summary statistics only and does not provide a breakdown of incomes from training fees, internally generated funds, external grants from the government or donors, and annual depreciation of capital and equipment. Therefore, the estimate is just an approximation. It is also difficult to calculate separate unit costs for technical and vocational institutes in the private sector.

## 5.3 The Education and TVET Sector Budgets at a Glance

The information on general education budgets is readily available; however, the technical and vocational aspect of education is ignored and unit costs and financing of TVET information is not available in consolidated form either in budget documents or the development plans. A snap shot of federal budget document and Ministry of Education's Midterm Review Report of Education for All (EFA) reveals that TVET financing was not given due attention (See the snapshot in Annex 10 and 11)[136]. The average allocation for education as percentage of GDP in South Asia is 3.1% while for countries with similar per capita income levels-it is around 3.2%. In 1951, the overall literacy rate was roughly around 15% which stood at 21% in 1981. Even if it had increased by two percent every year, which was not an ambitious target by any standard, it could have achieved 100% literacy rate by the eve of new Millennium.

While the provision of technical education (TE[137]) is mentioned in the constitution of Pakistan, in the past the government has not allocated enough funds for its promotion. This can be highlighted, for example, by looking at the allocation of TVET in the 7th Five Year Plan (1989-1993), where only Rs. 2 billion was allocated for this purpose, hardly 0.5 percent of the total public sector development programme. Over the years, hardly 5% of the total education budget was spent on TVET in the public sector (see table 52 below).

**Table 52: Total Education and TVET Allocation Vs Spending in Five Year Plans**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **First Plan (1955-60)** | 304.93 | | | 197.96 | | | |
| **Second Plan (1960-65)** | 551.7 | 61.7 | 11.2% | 527.3 | 78.6 | 14.90% | 127.4% |
| **Third Plan (1965-70)** | 1346.3 | 258.7 | 19.2% | 677.7 | 97 | 14.30% | 37.5% |
| **Non Plan Period** | 2998.14 | | | 3402.65 | | | |
| **Fifth Plan (1978-83)** | 11465 | 766.8 | 6.7% | 5643 | | | |
| **Sixth Plan (1983-88)** | 18589 | 1315 | 7.1% | 13352 | 851 | 6.40% | 64.7% |
| **Seventh Plan (1988-93)** | 22144 | 2000 | 9.0% | 23929.5 | 920 | 3.84% | 46.0% |
| **Eight Plan (1993-98)** | 63681.7 | 2447 | 3.84% | 24120 | 1150 | 4.76% | 46.8% |
| **Ninth Plan (1998-2003)** | 133500 | 2450 | 5.51% | | | | |

Source: Hassan 2007 and Shah 2004

During the initial years of technical education development government overspent by 27.4% against the actual allocation which identifies that the second five year development plan gave clear priority to developing technical education[138]. However, in subsequent years the trend did not continue and almost less than half of the funds allocated for technical allocation were spent. The lowest spending was reported for second five year plan which only spent 37.5 % against actual allocation on TVET.

[136] One of the reasons for this oversight could be the fact that NAVTEC has presumably taken over most of the functions. However, the MoE's Education Management Information System should have had information on all levels and forms of education.

[137] The Constitution of Pakistan refers to technical and professional education in its Article 37 (see section 6.1) and does not use the term TVET.

[138] We refer to technical education only in this section as vocational training was either not properly introduced at that time or no distinction was made between technical and vocational education. Most policy documents and plans refer to technical education only.

# VI
# TVET PROGRAMS AND INITIATIVES

This section entails TVET past and present initiatives in Pakistan organized by the public and private sector and donor agencies.

## *6.1 Major TVET Programmes*

In past, the government of Pakistan has implemented several TVET development initiatives with the help of donors. The following projects are considered major and important in Pakistan's TVET timeline by UNEVOC (1996) and Shah (2004):

- Vocational training Development Programme started in 1968 funded by the World Bank and UNDP. The first phase was called National Vocational Training Programme (NVTP) Phase I. The second phase of NVTP was funded by IBRD, ILO, UNDP, EC, and CIDA. Under the programme several new centres were constructed, expansion for existing centres and institutes was undertaken and equipment was provided to centres where needed.
- NTTC and Polytechnics Project 419-Pak (SF) funded by ADB. An important component of the project was the establishment of National Teachers Training Centre (NTTC).
- Development of Teachers Learning Resources (LTR) helped to develop teaching resources for course in 7 leading technologies namely, civil, electronic, mechanical, chemical, radio, TV, and auto and diesel.
- Overseas Scholarships for Polytechnic Teachers trained teachers in 7 key technologies. Teachers were sent for a 10 month diploma course to UK institutes and universities.
- Technical and Vocational Education Project Pakistan (TA No. 999-PAK) was implemented with assistance from ADB under which a major study of TVET system was conducted in Pakistan in 1989.
- ADB 2000-2004 TVET reform project was also a major milestone and the most talked about in TVET provision in Pakistan.

## *6.2 Past and Present Donor Cooperation on TVET in Pakistan*

Some of the projects are already mentioned above in section 6.2. This section draws upon research reported in Janjua et al. (2008). A gist of the past and ongoing donor initiatives for curious readers is given below.

**ADB** has supported Pakistan to strengthen its TVET system in the following areas a) restructure and strengthen institutional capacity and promoting efficiency b) improvement in quality of services and strengthening of industry institution linkages c) increased access for women and poor d) providing job guidance after training to gender and disabled in earthquake affected areas. Mostly, ADB – focus appears to be on poverty alleviation, macroeconomic adjustment and rural development. It has financed two big projects on TVET in Pakistan. A 60 million dollar project that started in 1995 and lasted until 2002 funded the expansion and capacity enhancement of TVET institutions in Pakistan. It has also initiated two multi-million US$ ADB projects in 2005 for restructuring of technical and vocational education in the North West Frontier Province and the Baluchistan Province.

**AusAID** has shown increasing interest in TVET and is providing assistance to Pakistan for tertiary level technical education as part of the tertiary education. The objective is to promote the skills and knowledge base to address the development, educational and research requirements of the country. The AusAID has provided support to NAVTEC through exposure trips to the Australian TVET system and especially the Australian National qualification Framework. Assistance for research and institutional linkages to increase agricultural productivity is also under consideration.

**The British Council (BC)** has closely worked with the government of Pakistan in past. It has not only provided scholarships for higher studies yet helped local institutions in strengthening partnerships with their counterpart institutions in UK. Other BC Projects include Connecting Classrooms (promoting schools links), Development Partnerships for Higher Education (DelPHE) and New Silk Routes (Arts/Design). The BC is also helping Pakistani institutions offering O and A levels in administering exams. The BC is also helping NAVTEC in its initiatives on Skills for Employability, building partnerships between Pakistani and UK TVET institutions. It is also engaged in Youth Engagement Services (YES) Network Pakistan.

**China** has assisted Pakistan in a number of economic, scientific and technical initiatives. TVET support has always been a major component of their assistance. It is helping the government of Pakistan on developing centres of excellence. It has helped to provide advanced technical training and provision of equipment which can turn Advanced Technical Training Centre (ATTC) Peshawar into a centre of excellence. Several vocational institutes have been opened in various parts of Pakistan with cooperation from Chinese government. It is worthwhile to note that new technology courses have been introduced in these centres such as food technology, renewable energy, pharmaceutical, and fish and shrimp production and processing.

**CIDA** has entered into a debt SWAP agreement with the government of Pakistan to improve quality of basic education through teacher training. The TVET is not part of the SWAP. However, some livelihood projects in Earthquake areas do have a vocational training component. CIDA's programme in Pakistan has a major emphasis on promoting the role of women by improving their access to health care, education, income generation opportunities, access to local politics; and promoting women in advocacy work with the government and the general public.

**EC** has renewed its commitment for poverty reduction under the new Third Generation Cooperation Agreement in 2004 covering the time period 2007-2013. The agreement has two focus areas: a) improving rural development and natural resource management in NWFP and Baluchistan aiming at reducing income disparities through improving livelihoods, creating income generating activities and providing employment opportunities with a special focus on gender; b) education and human resource development with the aim to produce a skilled and well trained workforce.

**GTZ** is not providing assistance under stand alone TVET projects at the moment although it has a long history in doing so. However, it is supporting broader projects having a component for skill promotion and training provision. The GTZ in partnership with other like minded donors such as DFID and EC is aiming at strengthening the implementation of NAVTEC's Skilling Pakistan initiative. Initial assessments are underway to design TVET assistance to Pakistan.

**ILO** has been providing assistance in a number of areas ranging from skill enhancement to supporting the provision of decent employment. In addition, ILO has assisted in strengthening as well as establishment of various training institutions like women training centres and Skills

Development Councils. In accordance with its guiding principle of tripartism, ILO cooperates with the Government of Pakistan through the Ministry of Labour Manpower and Overseas Pakistan, the Employers' Federation of Pakistan and the Pakistan's Worker Federation to achieve its strategic objectives. ILO assistance has extended a variety of services such as: advisory services, manpower training, institutional capacity development, knowledge base development and provision of equipments. The assistance has been provided in the following areas: formulation of policies for employment; vocational training; child labour; bonded labour; youth engagement in education and training; poverty reduction; equality and justice at work place; rights for women workers; skill provision and education and training for workers; and employment and alternative income generating opportunities for families of child labour. The ILO Training for Rural Economic Empowerment (TREE) project is worth mentioning. The programme ran from 2003-07 and was funded by the U.S. Department of Labour. It was aimed to expand economic opportunity and income security through education, skills development and livelihood creation for the marginalised groups, people with disabilities in disadvantaged geographical areas of NWFP and Punjab.

**The Netherlands** has been very active in providing support and assistance to Pakistan in the areas of Governance, Education and Environment/Water. TVET was not declared as a separate area of assistance but such activities were an integral part of the support provided by the Netherlands. Public-Private Partnerships with Pakistani Industrial Associations: leather, textile, paper, sugar: to introduce cleaner production processes, efficient use of water and energy, waste treatment (with Pakistan Tanneries Association and Textile Association) are notable areas of TVET cooperation by the Netherlands government.

**USAID** has assisted Pakistan in a number of economic, scientific and technical initiatives. TVET support has always been a major component of their assistance. Its cooperation programmes address education, health, economic growth and good governance in Pakistan. The Education Sector Reform Assistance (ESRA) programme is a $74.5 million initiative funded by USAID which aims at supporting the Government of Pakistan's Education Sector Reform (ESR) effort. Many USAID project especially focused on increasing competitiveness of Pakistani businesses have built in components on vocational training. Future areas of cooperation are being considered.

**JICA** has played a key role in supporting government of Pakistan's TVET initiatives not only directly but through ADB as well. The Government of Japan's grant assistance helped in establishing the Construction Machinery Training Institute (CMTI), now called the Construction Technology Training Institute (CTTI), in 1986. Over the years Government of Japan and JICA has played valuable role in developing human resources in Pakistan. Government of Japan has assisted Pakistan for the reactivation of TVET institutions in earthquake affected areas. In addition, TVET system has been supported in Balochistan as part of the broader project aiming at improving the quality and efficiency of education in province. Japan has also supported Pakistan through provision of scholarship with the aim to support the poor students. JICA enjoys a positive relationship with NAVTEC and have formed a recent collaboration with it to further the TVET cause. JICA is looking for opportunities to extend and consolidate activities in relation to TVET which it considers to be the most important sector of education in Pakistan. Linkages with a running literacy project are intended with a view to creating employment opportunities for dropouts from formal education. Japan's cooperation in TVET focuses improving the quality of secondary and technical education with special emphasis on women empowerment.

**UNESCO** provides support to Pakistan provincial TVET programmes as well as to NAVTEC for a number of areas including: improving linkage between TVET and the formal education system; provision of managerial skills; training of teaching as well as administrative staff; private sector involvement in TVET; and commissioning research studies on TVET. The UNESCO also provides direct budget support for education, and education scheme for rural development to the government of Pakistan. The UNEVOC Centre for Pakistan is the National Institute of Science & Technical Education. NISTE; however, NAVTEC has indicated that they are also being considered for cooperation in their capacity as an apex organization.

**UNHCR** has been supporting Pakistan through provision of vocational training programmes to female Afghan refugees. Furthermore, it has been involved in support for vocational training in earthquake affected areas under 'Community Services' and 'Capacity Building' programmes. According to the 23rd Guiding Principle on Internal Displacement that UNHCR adheres to, accessibility to training amenities in particular for displaced women and adolescents figures as a priority along with the provision of education. Also in the "Strategy for Post Relief Phase 2006", vocational training activities that facilitate displaced persons' return to their original homes is mentioned under the heading of 'Protection Framework for Return.'

**World Bank** is assisting Pakistan for poverty reduction under Pakistan Poverty Alleviation Fund (PPAF) programme. The project aims at reducing poverty by providing micro credit loans and skills and training for various poverty alleviation projects. The programme aims to provide training for a number of areas including management, financial, mechanical and technical, water conservation, agriculture, horticulture, livestock and marketing. The project has a mandate to cover all the rural and less developed areas of Pakistan in the coming 10 to 15 years. The PPAF is a US$9 million project aimed at providing training to community members to enhance their income generating skills and increase their understanding of markets and marketing practices.

## *6.3 Prime Minister's Skill Development Initiative (PMSI)*

Recently, in 2006 the government has launched PMSI which is also known as (aka) Hunarmand Pakistan is a programme running from 2006 to 2013 with an overall allocation of Pak Rs. 2.0 billion. The programme is at the core of so called envisaged target of training 1,000,000 Pakistanis as stated in the MTDF. The training programme is targeted towards marginalized youth and women. It covers the cost of training plus pays a stipend of Rs. 3000 per month to trainees for short-term training programmes, running usually between 3 and 6 months. In some cases, some capital costs have also been granted to institutions. The programme is criticized for the way it is being implemented and needs critical evaluation.

# VII

# CONCLUSION

The analysis in this report suggest that TVET system planning and strengthening did not receive due recognition in national plans and vision documents along with general education. After the establishment of NAVTEC and setting up of widely known training target of one million skilled workers by 2010 there is a strong perception that the government is keen on reforming TVET system of Pakistan. The NAVTEC is in its formative phase and needs to strengthen its capacity to implement NSS. It is also felt that the devolution of authority is must for the success of the reform process so that the training institutes respond quickly to local market demands, resource, mobilization, and subsequent allocation. The Strengthening of provincial TEVTAs may be necessary to build effective public private partnerships as they are one of the primary stake holders in TVET system. It will also help in achieving the goals and objectives of the NSS. The establishment of a TVET management Information System is imperative for successful implementation of the NSS as the existing information on Pakistan's TVET system has gaps and the data on enrolments, capacity utilization, and teaching staff strength in TVET is unreliable.

The TVET infrastructure is in need of up-gradation so is the curricula, the capacity and quality to teaching staff in existing polytechnics and vocational training institutions in Pakistan. The teaching staff needs new ICT skills so that they can prepare and deliver courses in a better way. The industry-institution linkages are weak and need to be strengthened in order to develop demand driven courses for skills acquisition and enhancement. On the other hand, focus on informal learning is also required. The informal system of learning caters for the skill acquisition need of the majority of population. Designing a system of training for the informal sector should be given top priority as it absorbs majority of the labour force. A system of Recognition of Prior Learning (RPL) may ensure that no one is left behind. A major shift is also necessary from time-based qualifications to competency based trainings.

Given the gaps in existing studies and shortcomings in labour force databases a comprehensive labour market review and tracer study is necessary for proper direction and feedback for the reform process[139]. In order for TVET reform to have far reaching impact top priority must be given to a paradigm shift which should not only focus on incorporating demand led skills and the training provision and acquisition but also focus on disassociating stigmas attached with TVET through information and media campaigns.

[139] ADB (2004) also highlights this point (see page 91).

# ANNEXURE

**Annex 1: Labour Market Indicators**

| | | | | | |
|---|---|---|---|---|---|
| **Crude Activity (Participation) Rates (%)** | | | **Labour Force (In millions)** | | |
| **Pakistan** | | | Total | 45.5 | 50.05 |
| **Total** | 30.4 | 32.2 | Male | 37.35 | 39.97 |
| **Male** | 48.7 | 50.3 | Female | 8.15 | 10.08 |
| **Female** | 11.2 | 13.3 | **Employed** | | |
| **Augmented** | | | Total | 42 | 46.94 |
| **Total** | 38.5 | 40 | Male | 34.89 | 37.81 |
| **Female** | 27.5 | 28.8 | Female | 7.11 | 9.13 |
| **Rural** | | | **Unemployed** | | |
| **Total** | 31 | 33.2 | Total | 3.5 | 3.11 |
| **Male** | 48.2 | 49.9 | Male | 2.46 | 2.16 |
| **Female** | 13.2 | 16 | Female | 1.04 | 0.95 |
| **Augmented** | | | **Employment by Sector (%)** | | |
| **Total** | 42.2 | 43.9 | Total | 100 | 100 |
| **Female** | 35.8 | 37.3 | Agriculture | 43.1 | 43.4 |
| **Urban** | | | Manufacturing | 20.3 | 20.7 |
| **Total** | 29.2 | 30.2 | Services | 36.6 | 35.9 |
| **Male** | 49.8 | 51 | | | |
| **Female** | 7 | 7.9 | **Unemployment Rates (%)** | | |
| **Augmented** | | | **Pakistan** | | |
| **Total** | 31.1 | 32.1 | Total | 7.7 | 6.2 |
| **Female** | 10.8 | 11.7 | Male | 6.6 | 5.4 |
| **Refined Activity (Participation) Rates (%)** | | | Female | 12.8 | 9.3 |
| **Pakistan** | | | **Rural** | | |
| **Total** | 43.7 | 46 | Total | 6.7 | 5.4 |
| **Male** | 70.6 | 72 | Male | 5.7 | 4.6 |
| **Female** | 15.9 | 18.9 | Female | 10.9 | 7.7 |
| **Augmented** | | | **Urban** | | |
| **Total** | 55.3 | 57 | Total | 9.7 | 8 |
| **Female** | 39.3 | 41.1 | Male | 8.4 | 6.9 |
| **Rural** | | | Female | 19.8 | 15.8 |
| **Total** | 46.3 | 48.9 | **Literacy Rates (%)** | | |
| **Male** | 72.6 | 73.8 | **Pakistan** | | |
| **Female** | 19.5 | 23.4 | Total | 51.6 | 53.1 |
| **Augmented** | | | Male | 63.7 | 65 |
| **Total** | 62.9 | 64.7 | Female | 39.2 | 40.6 |
| **Female** | 52.7 | 54.6 | **Rural** | | |
| **Urban** | | | Total | 41.6 | 43.9 |
| **Total** | 39.2 | 40.7 | Male | 56.3 | 58.2 |
| **Male** | 67.1 | 68.7 | Female | 26.6 | 29.3 |
| **Female** | 9.4 | 10.6 | **Urban** | | |
| **Augmented** | | | Total | 69.7 | 69.8 |
| **Total** | 41.7 | 43.2 | Male | 76.5 | 77.1 |
| **Female** | 14.5 | 15.8 | Female | 62.5 | 61.8 |

Source: LFS 2005-06

**Annex 2: Percentage distribution by Gender of those who ever received TVET by Gender 2005/06**

| | | | | |
|---|---|---|---|---|
| **1** | Computer course | 24.61 | 22.91 | 24.23 |
| **2** | Other | 12.44 | 12.70 | 12.50 |
| **3** | Driving course | 12.73 | 0.24 | 9.94 |
| **4** | Electrician | 9.47 | 0.15 | 7.38 |
| **5** | Embroidery & knitting course | 2.57 | 20.45 | 6.58 |
| **6** | Garment making | 1.90 | 16.87 | 5.25 |
| **7** | Dispenser course | 3.71 | 1.58 | 3.23 |
| **8** | Mechanical engineering tech. | 3.50 | 0.82 | 2.90 |
| **9** | Draftsman | 2.47 | 4.22 | 2.86 |
| **10** | Civil engineering tech. | 3.27 | 0.98 | 2.76 |
| **11** | Electrical engineering tech. | 2.99 | 1.23 | 2.60 |
| **12** | Auto mechanical course | 2.53 | 1.10 | 2.21 |
| **13** | Refrigeration & air conditioning | 2.63 | 0.07 | 2.06 |
| **14** | General nursing course | 0.43 | 5.70 | 1.61 |
| **15** | Typing & shorthand course | 1.95 | | 1.51 |
| **16** | Welding course | 1.81 | | 1.41 |
| **17** | Carpentry | 1.65 | | 1.28 |
| **18** | Auto & farm machinery | 1.22 | | 0.95 |
| **19** | Weaving course | 0.61 | 2.10 | 0.94 |
| **20** | Textile tech | 0.71 | 1.47 | 0.88 |
| **21** | Diploma in Radio & TV | 0.94 | | 0.73 |
| **22** | Mason | 0.83 | 0.37 | 0.73 |
| **23** | LHV course | 0.06 | 2.75 | 0.66 |
| **24** | Architect tech | 0.77 | 0.07 | 0.61 |
| **25** | Plumbing & pipe fitting | 0.77 | | 0.60 |
| **26** | Diploma in design | 0.68 | 0.16 | 0.56 |
| **27** | Laboratory technician | 0.59 | 0.45 | 0.56 |
| **28** | Silma tilla (embroidery) | 0.14 | 1.67 | 0.48 |
| **29** | Midwifery course | 0.07 | 1.64 | 0.42 |
| **30** | Turner course | 0.34 | | 0.26 |
| **31** | X-Ray Tech | 0.31 | | 0.24 |
| **32** | Diploma in Art | 0.27 | | 0.21 |
| **33** | Pattern making course | 0.24 | | 0.19 |
| **34** | Leather work | 0.22 | | 0.17 |
| **35** | Wood work | 0.19 | | 0.15 |
| **36** | Flower making | 0.15 | | 0.12 |
| **37** | Cooking course | 0.13 | | 0.10 |
| **38** | Polishing & soldering | | 0.31 | 0.07 |
| **39** | Livestock & poultry farming course | 0.08 | | 0.07 |
| **40** | Total | **100.00** | **100.00** | **100.00** |

Source: Author Calculations from LFS 2005-06

**Annex 3: Percentage Distribution of Pakistani Labour Force Supplied to Overseas Markets**

| Sr. No. | Categories | 1971-2000 | 2001 | 2002 | 2003 | 2004 | 2005 | Total | Estimated Jan-June 2007 |
|---|---|---|---|---|---|---|---|---|---|
| **1** | Engineer | 0.78 | 1.12 | 0.68 | 0.45 | 0.59 | 0.79 | 0.76 | 0.76 |
| **2** | Welder | 1.33 | 1.13 | 1.22 | 1.78 | 1.20 | 1.20 | 1.33 | 1.33 |
| **3** | Foremen | 1.35 | 0.81 | 0.90 | 1.07 | 1.04 | 1.27 | 1.27 | 1.27 |
| **4** | Mason | 9.32 | 10.15 | 8.90 | 8.94 | 9.22 | 8.09 | 9.26 | 9.26 |
| **5** | Carpenter | 6.45 | 6.69 | 7.83 | 7.27 | 7.59 | 6.71 | 6.64 | 6.64 |
| **6** | Electrician | 4.17 | 4.32 | 5.17 | 4.69 | 4.07 | 3.51 | 4.22 | 4.22 |
| **7** | Plumber | 1.80 | 2.21 | 2.77 | 2.59 | 1.99 | 1.32 | 1.89 | 1.89 |
| **8** | Steel Fixer | 3.62 | 4.28 | 4.94 | 4.77 | 4.51 | 4.12 | 3.83 | 3.83 |
| **9** | Painter | 2.49 | 2.78 | 2.48 | 2.72 | 2.18 | 2.10 | 2.48 | 2.48 |
| **10** | Technician | 4.08 | 5.70 | 7.37 | 6.93 | 6.92 | 7.23 | 4.71 | 4.71 |
| **11** | Mechanic | 3.49 | 2.90 | 3.26 | 3.46 | 2.98 | 3.10 | 3.42 | 3.42 |
| **12** | Cable worker | 0.13 | 0.03 | 0.08 | 0.03 | 0.05 | 0.07 | 0.11 | 0.11 |
| **13** | Driver | 11.41 | 16.90 | 14.16 | 11.54 | 10.02 | 9.71 | 11.59 | 11.59 |
| **14** | Operator | 1.41 | 1.38 | 1.92 | 2.02 | 1.24 | 3.10 | 1.52 | 1.52 |
| **15** | Surveyor | 0.25 | 0.15 | 0.14 | 0.13 | 0.12 | 0.11 | 0.22 | 0.22 |
| **16** | Fitter | 0.59 | 0.81 | 0.77 | 0.80 | 0.77 | 1.29 | 0.65 | 0.65 |
| **17** | Programmer | 0.07 | 0.53 | 0.32 | 0.19 | 0.25 | 0.37 | 0.12 | 0.12 |
| **18** | Designer | 0.01 | 0.17 | 0.22 | 0.31 | 0.07 | 0.04 | 0.05 | 0.05 |
| **19** | Rigger | 0.05 | 0.25 | 0.06 | 0.05 | 0.11 | 0.10 | 0.06 | 0.06 |
| **20** | Draftsman | 0.04 | 0.10 | 0.05 | 0.32 | 0.08 | 0.05 | 0.06 | 0.06 |
| | **Total Professional and Skilled** | 52.83 | 62.40 | 63.22 | 60.07 | 54.98 | 54.27 | 54.21 | 54.21 |
| **21** | **Laborers** | 47.17 | 37.60 | 36.78 | 39.93 | 45.02 | 45.73 | 45.79 | 45.79 |
| | **Total Emigrated** | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Source: Adapted from World Bank 2007

**Annex 4: Supply of Pakistani Labour to Oversees Markets**

| Sr. No. | Categories | 1971-2000 | 2001 | 2002 | 2003 | 2004 | 2005 | Total | Estimated Jan-June 2007 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Engineer | 18,338 | 1,227 | 861 | 821 | 880 | 951 | 23,078 | 975 |
| 2 | Welder | 31,103 | 1,237 | 1,545 | 3,263 | 1,770 | 1,435 | 40,353 | 1,706 |
| 3 | Foremen | 31,528 | 884 | 1,147 | 1,964 | 1,544 | 1,522 | 38,589 | 1,631 |
| 4 | Mason | 218,229 | 11,083 | 11,312 | 16,415 | 13,645 | 9,685 | 280,369 | 11,851 |
| 5 | Carpenter | 151,112 | 7,304 | 9,954 | 13,355 | 11,231 | 8,027 | 200,983 | 8,495 |
| 6 | Electrician | 97,623 | 4,718 | 6,570 | 8,614 | 6,024 | 4,201 | 127,750 | 5,400 |
| 7 | Plumber | 42,067 | 2,412 | 3,517 | 4,760 | 2,944 | 1,581 | 57,281 | 2,421 |
| 8 | Steel Fixer | 84,786 | 4,674 | 6,273 | 8,760 | 6,680 | 4,935 | 116,108 | 4,908 |
| 9 | Painter | 58,327 | 3,032 | 3,146 | 4,995 | 3,233 | 2,516 | 75,249 | 3,181 |
| 10 | Technician | 95,569 | 6,229 | 9,366 | 12,719 | 10,250 | 8,651 | 142,784 | 6,035 |
| 11 | Mechanic | 81,820 | 3,169 | 4,142 | 6,358 | 4,406 | 3,705 | 103,600 | 4,379 |
| 12 | Cable worker | 2,932 | 35 | 96 | 50 | 70 | 78 | 3,261 | 138 |
| 13 | Driver | 267,078 | 18,467 | 17,984 | 21,182 | 14,830 | 11,626 | 351,167 | 14,843 |
| 14 | Operator | 32,966 | 1,504 | 2,433 | 3,707 | 1,829 | 3,709 | 46,148 | 1,951 |
| 15 | Surveyor | 5,769 | 163 | 183 | 237 | 185 | 128 | 6,665 | 282 |
| 16 | Fitter | 13,737 | 884 | 974 | 1,475 | 1,141 | 1,547 | 19,758 | 835 |
| 17 | Programmer | 1,523 | 583 | 404 | 354 | 371 | 443 | 3,678 | 155 |
| 18 | Designer | 327 | 181 | 277 | 564 | 104 | 46 | 1,499 | 63 |
| 19 | Rigger | 1,144 | 277 | 74 | 97 | 156 | 118 | 1,866 | 79 |
| 20 | Draftsman | 847 | 106 | 62 | 594 | 113 | 63 | 1,785 | 75 |
| | Total Professional and Skilled | 1,236,825 | 68,169 | 80,320 | 110,284 | 81,406 | 64,967 | 1,641,971 | 69,404 |
| 21 | Laborers | 1,104,353 | 41,074 | 46,726 | 73,318 | 66,650 | 54,735 | 1,386,856 | 58,621 |
| | Total Emigrated | 2,341,178 | 109,243 | 127,046 | 183,602 | 148,056 | 119,702 | 3,028,827 | 128,025 |

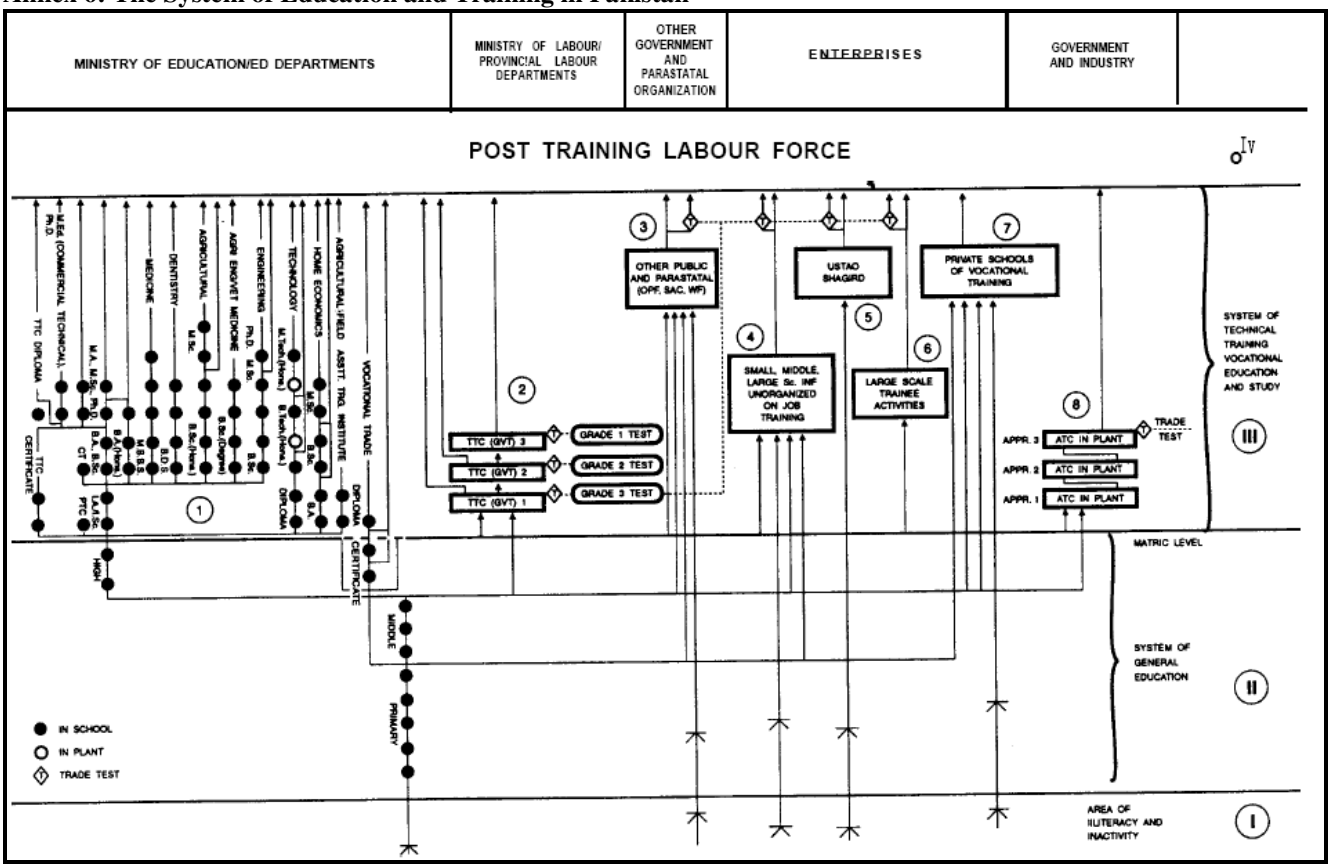
Source: WB (2007)

**Annex 5: Definitions of programme orientations according to ISCED and the UIS**

| ISCED | UIS |
|---|---|
| **GENERAL** | |
| **Similarities** | |
| • Designed mainly to lead pupils to a deeper understanding of a subject or group of subjects, especially, but not necessarily, with a view to preparing pupils for further education at the same or a higher level.<br>• Typically school-based. | |
| **Differences regarding labour market-relevant qualifications** | |
| • Successful completion of these programmes may or may not pro-vide participants with a labour market-relevant qualification at this level. | • They do not typically allow successful completers to enter a particular occupation or trade or class of occupations or trades without further training. |
| **Other differences** | |
| • Programmes with a general orientation and not focusing on a particular specialisation should be classified in this category. | • Successful completion of these programmes may or may not lead to an academic qualification.<br>• May or may not contain vocational elements.<br>• General education has a technical or vocational content of less than 25%, but pre-technical/pre-vocational programmes (i.e. programmes with a technical/vocational content of more than 25% that do not lead to a labour market-relevant vocational or technical qualification) are typically reported with general programmes. |
| **PRE-VOCATIONAL** | |
| **Similarities** | |
| • Mainly designed to introduce participants to the world of work and to prepare them for entry into vocational or technical education programmes.<br>• Successful completion of such programmes does not yet lead to a labour market-relevant vocational or technical qualification.<br>• For a programme to be considered as pre-vocational or pre-technical education, at least 25% of its content has to be vocational or technical. | |
| **Differences** | |
| • This minimum is necessary to ensure that the vocational subject or the technical subject is not only one among many others. | |
| **VOCATIONAL** | |
| • Designed mainly to lead pupils to acquire the practical skills, know-how and understanding necessary for employment in a particular occupation or trade (or class of occupations or trades).<br>• Successful completion of such programmes normally leads to a labour-market relevant vocational qualification recognized by the competent authorities (e.g. Ministry of Education, employers' associations, etc.) in the country in which it is obtained. | |

Source: UNEVOC (2006)

**Annex 6: The System of Education and Training in Pakistan**




Source: UNEVOC 1995

**Annex 7: Difference between Technical and General Education**

| | |
|---|---|
| **Provides skills with knowledge** | Provides knowledge only |
| **Focused on job oriented terminal education** | Not target towards jobs. |
| **More value addition in all diplomas & degrees, through learning by doing** | No value addition, at all. Provides only theoretical knowledge. |
| **Academic & technical skills are more useful for Industry.** | Only bookish knowledge not useful for industry/employment. |
| **Enables trainees to get into job market much earlier in life** | In the majority of cases low rate of employment with no career growth opportunities, most of the jobs are clerical/office work |
| **Less dependence on parents' income** | More dependence on parents' income |
| **An ever increasing demand of skills** | Most of the times become burden on the country's resources. |
| **Market forces demand skilled workers.** | Market can not consume unskilled employees |
| **Enables self-employment and generates possibilities of export of trained manpower, which remains a big source of balance of payments and budgetary support** | Less possibility of self - employment |

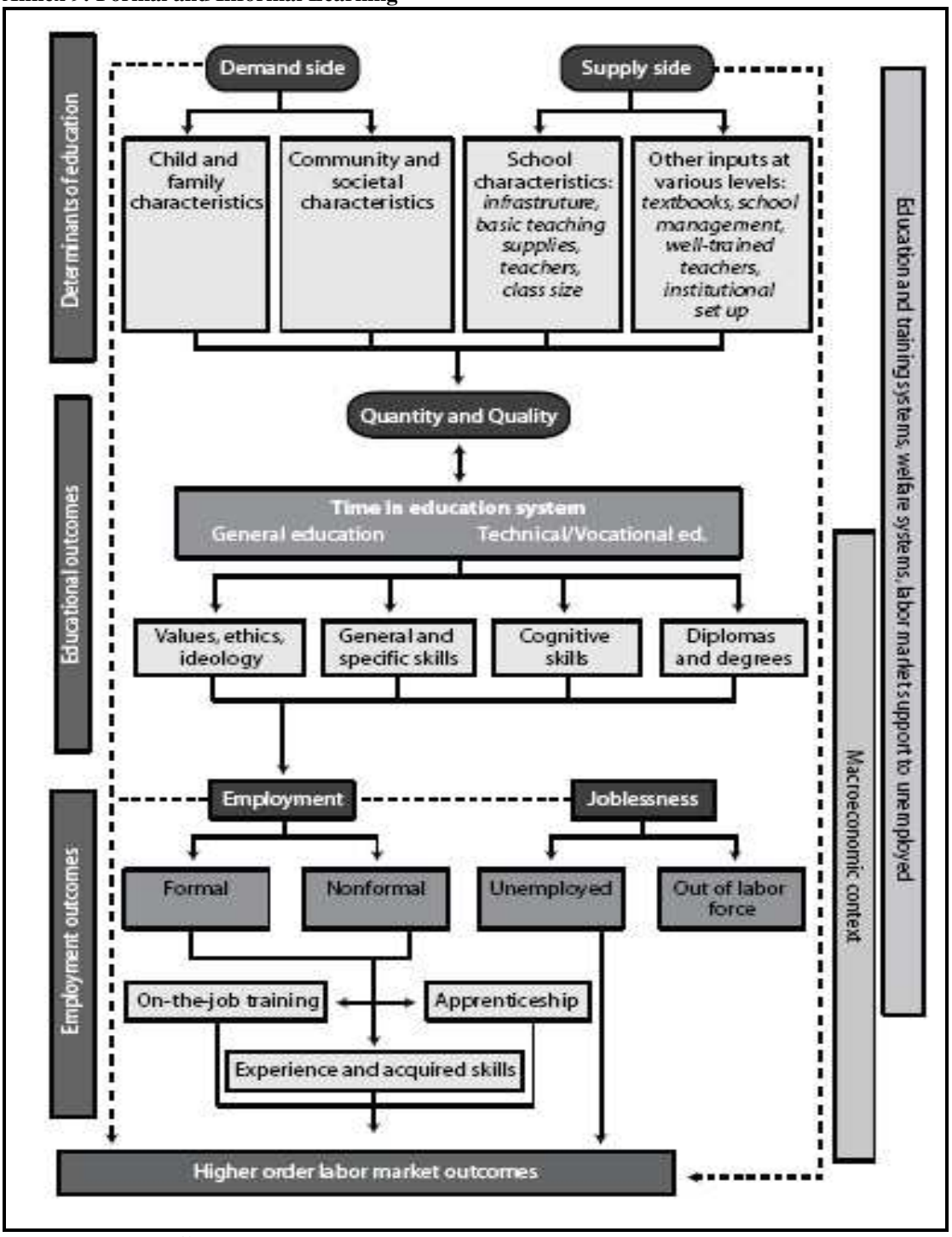
Source: Kazmi (2007)

**Annex 8: District Wise Enrolments in Punjab TEVTA institutes**

| | | | Boys | Girls | Co-Education | Total | Capacity Utilization | of Population covered |
|---|---|---|---|---|---|---|---|---|
| **Attock** | 1,447,000 | 3,269 | 1,779 | 287 | 0 | 2,066 | 63 | 0.14% |
| **Bahawalnagar** | 2,340,000 | 4,837 | 2,642 | 727 | 0 | 3,369 | 70 | 0.14% |
| **Bahawalpur** | 2,761,000 | 6,265 | 3,920 | 1,108 | 1,119 | 6,147 | 98 | 0.22% |
| **Bhakkar** | 1,193,000 | 3,268 | 2,110 | 1,030 | 0 | 3,140 | 96 | 0.26% |
| **Chakwal** | 1,230,000 | 1,073 | 555 | 352 | 0 | 907 | 85 | 0.07% |
| **D.G.Khan** | 1,865,000 | 6,084 | 1,045 | 1,872 | 3,055 | 5,972 | 98 | 0.32% |
| **Faisalabad** | 6,162,000 | 8,742 | 6,076 | 731 | 618 | 7,425 | 85 | 0.12% |
| **Gujranwala** | 3,860,000 | 3,359 | 3,930 | 357 | 0 | 4,287 | 128 | 0.11% |
| **Gujrat** | 2,325,000 | 3,341 | 3,227 | 342 | 26 | 3,595 | 108 | 0.16% |
| **Hafizabad** | 945,000 | 356 | 250 | 58 | 0 | 308 | 87 | 0.03% |
| **Jhang** | 3,217,000 | 2,670 | 1,784 | 562 | 0 | 2,346 | 88 | 0.07% |
| **Jhelum** | 1,064,000 | 2,850 | 939 | 593 | 836 | 2,368 | 83 | 0.22% |
| **Kasur** | 2,696,000 | 2,152 | 1,777 | 544 | 0 | 2,321 | 108 | 0.09% |
| **Khanewal** | 2,348,000 | 2,905 | 839 | 591 | 1,816 | 3,246 | 112 | 0.14% |
| **Khushab** | 1,028,000 | 1,262 | 1,179 | 168 | 0 | 1,347 | 107 | 0.13% |
| **Lahore** | 7,171,000 | 14,320 | 8,702 | 2,283 | 327 | 11,312 | 79 | 0.16% |
| **Layyah** | 1,272,000 | 4,415 | 3,352 | 605 | 0 | 3,957 | 90 | 0.31% |
| **Lodhran** | 1,330,000 | 711 | 569 | 63 | 0 | 632 | 89 | 0.05% |
| **Mandi Baha-ud-din** | 1,317,000 | 3,422 | 3,399 | 60 | 0 | 3,459 | 101 | 0.26% |
| **Mianwali** | 1,199,000 | 2,606 | 1,753 | 870 | 0 | 2,623 | 101 | 0.22% |
| **Multan** | 3,537,000 | 8,045 | 6,777 | 798 | 2,065 | 9,640 | 120 | 0.27% |
| **Muzaffargarh** | 2,992,000 | 1,966 | 798 | 246 | 373 | 1,417 | 72 | 0.05% |
| **Nankana Sahib** | | 331 | 177 | 128 | 0 | 305 | 92 | |
| **Narowal** | 1,436,000 | 1,034 | 878 | 197 | 0 | 1,075 | 104 | 0.08% |
| **Okara** | 2,534,000 | 1,992 | 1,710 | 191 | 0 | 1,901 | 95 | 0.08% |
| **Pakpattan** | 1,460,000 | 794 | 979 | 0 | 0 | 979 | 123 | 0.07% |
| **R.Y.Khan** | 3,565,000 | 4,506 | 3,588 | 491 | 0 | 4,079 | 91 | 0.11% |
| **Rajanpur** | 1,253,000 | 1,917 | 1,573 | 477 | 0 | 2,050 | 107 | 0.16% |
| **Rawalpindi** | 3,818,000 | 6,629 | 4,186 | 2,976 | 0 | 7,162 | 108 | 0.19% |
| **Sahiwal** | 2,092,000 | 6,191 | 4,853 | 342 | 667 | 5,862 | 95 | 0.28% |
| **Sargodha** | 3,026,000 | 8,028 | 4,291 | 824 | 2,109 | 7,224 | 90 | 0.24% |
| **Sheikhupura** | 3,769,000 | 2,196 | 1,814 | 220 | 0 | 2,034 | 93 | 0.05% |
| **Sialkot** | 3,091,000 | 5,891 | 4,550 | 795 | 0 | 5,345 | 91 | 0.17% |
| **Toba Tek Singh** | 1,841,000 | 3,155 | 2,507 | 676 | 0 | 3,183 | 101 | 0.17% |
| **Vehari** | 2,373,000 | 4,202 | 2,038 | 903 | 937 | 3,878 | 92 | 0.16% |
| **Total:** | **83,557,000** | **134,784** | **90,546** | **22,467** | **13,948** | **126,961** | **94** | **0.15%** |

*Population estimates are for year 2004 (NIPS, Islamabad)
Source: Punjab TEVTA

**Annex 9: Formal and Informal Learning**




Source: Tazeen Fasih 2008

**Annex 10: Snap Shot of Federal Budget Allocations for Education**

| | | | |
|---|---|---|---|
| **EDUCATION AFFAIRS AND SERVICES** | **24,147** | **24,280** | **24,622** |
| **Pre-Primary & Primary Education Affairs Services** | 1,981 | 2,004 | 2,368 |
| **Secondary Education Affairs and Services** | 2,801 | 2,874 | 3,464 |
| **Tertiary Education Affairs and Services** | 17,283 | 17,319 | 17,461 |
| **Education Services Non-definable by Level** | 37 | 37 | 35 |
| **Subsidiary Services to Educations** | 23 | 23 | 26 |
| **Administration** | 1,552 | 23 | 739 |
| **Education Affairs, Services (not elsewhere)** | 470 | 470 | 529 |

Source: Budget in Brief, Ministry of Finance

**Annex 11: The Education Budget from 2001-02 to 2005-06**

| | | | |
|---|---|---|---|
| **Pupil Teacher Ratio at Primary** | 36 | 40 | +11.0 |
| **Pupil Teacher Ratio at Secondary** | 15 | 15 | -100.0 |
| **Facilities** | | | |
| **Drinking Water** | 57 | 69 | +21.0 |
| **Sanitation** | 44 | 63 | +43.0 |
| **Public Expenditure on Education** | | | |
| **Annual Budget of Education (Billion)** | 78.90 | 170.70 | +116.0 |
| **Percentage of Total Government Expenditure** | 9.60% | 12.20% | +27.0 |
| **Percentage of GNP** | 1.80% | 2.20% | +22.0 |
| **Percentage on Primary Education** | 43.10% | 43.60% | +1.0 |
| **Percentage on Secondary Education** | 16.20% | 24.30% | +50.0 |
| **Percentage on Tertiary Education** | 4.30% | 13.00% | +202.0 |
| **Per Pupil Expenditure at Primary Level (Rs.)** | 1,928 | 6,436 | +234.0 |
| **Per Pupil Expenditure as % GNP (Primary)** | 4.00% | 8.80% | +120.0 |
| **Per Pupil Expenditure at Secondary Level (Rs.)** | 2,536.00 | 6,815 | +278.0 |
| **Per Pupil Expenditure as % of GNP (Secondary)** | 6.40% | 9.70% | +51.0 |
| **Per Pupil Expenditure at Tertiary Level (Rs.)** | 9,112.00 | 40,332 | +342.0 |

Source: EFA, Medium term Review 2008

# BIBLIOGRAPHY

ADB. 1999. Impact Evaluation Study of the Technical and Vocational Education Projects in Malaysia, Pakistan, Papua New Guinea, and Sri Lanka. Asian Development Bank. IES: REG 99035.

ADB. 2002. Project Performance Audit Report on The Second Barani Area Development Project (Loan 1012-Pak[Sf]) In Pakistan. Asian Development Bank Report No.Pak 21220. http://www.adb.org/Documents/PERs/IN213_02.pdf

ADB. 2004. Evaluation of Recent ADB Projects in Skills Development in Improving Technical Education and Vocational Training Strategies for Asia. Manila.

ADB. 2005. Balochistan Economic Report. Project No. 39003

ADB. 2007. Country Assistance Program Evaluation of Pakistan.

Almeida, Rita K. and Reyes Aterido. 2008. The Incentives to Invest in Job Training: Do Strict Labor Codes Influence this Decision? The World Bank and IZA http://siteresources.worldbank.org/SOCIALPROTECTION/Resources/SP-Discussion-papers/Labor-Market-DP/0832.pdf

Aly, Hasan Javed. 2007. Education in Pakistan: A White Paper (Revised). National Education Policy Review Team.

Butt, Rafique and Khalid Hayat. 1991. Monitoring of Vocational Training Programmes in Pakistan." Asian HRD Planning Network working papers RAS/86/071. New Delhi: ILO/ARTEP, 1991. 80 p.

CSF. The State of Pakistan's Competitiveness. Various years.

DOL. 2008. Pakistan Country Child Labour Profile. By US Department of Labour Bureau of International Labour Affairs. http://www.dol.gov/ilab/media/reports/iclp/sweat/pakistan.htm

Fasih, Tazeen. 2008. Linking Education Policy to Labour Market Outcomes http://siteresources.worldbank.org/EDUCATION/Resources/278200-1099079877269/547664-1208379365576/DID_Labor_market_outcomes.pdf

FBS. Household Integrated Economic Survey. Various years, Islamabad: Federal Bureau of Statistics.

FBS. Labour Forces Survey Statistics. Various years, Islamabad: Federal Bureau of Statistics.

FBS. Pakistan Social Living Measurement Survey. Various years, Islamabad: Federal Bureau of Statistics.

GoP. 1996. Summary results of Child Labour Survey in Pakistan. Federal Bureau of Statistics (FBS), Statistics Division Ministry of Labour, Manpower and Overseas Pakistanis and the

International Labour Organization's (ILO) International Programme on the Elimination of Child Labour (IPEC).

GoP. 1999. Report of National Manpower Commission.

GoP. 2002. Ordinance No. II of 2002: an Ordinance further to amend the National Training Ordinance, 1980. Islamabad. http://www.pakistan.gov.pk/divisions/law-division/media/II-2002.pdf

GoP. 2004. The Constitution of the Islamic Republic of Pakistan. Islamabad: The National Assembly of Pakistan. http://www.na.gov.pk/publications/constitution.pdf

GoP. 2004. The Development of Education: National Report of Pakistan. Islamabad: the Ministry of Education.

GoP. 2005. Medium Term Development Framework. Islamabad: The Planning Commission of Pakistan.

GoP. 2005. Vision 2030. Islamabad: The Planning Commission of Pakistan.

GoP. 2006. National Education Census: Highlights. The Statistics Division of the Academy of Education Planning and Management. Islamabad: the Ministry of Education.

GoP. 2006. Pakistan Education Statistics 2005-06. The Academy of Education Planning and Management. Islamabad: the Ministry of Education.

GoP. 2005. NAVTEC Ordinance 2006. Islamabad.

GoP. 2006. Pakistan Education Statistics 2007. Academy of Education Planning and Management. Islamabad: the Ministry of Education.

GoP. 2007. Sustainable Economic Growth, Employment and Human Resource Development. A Manuscript of the Ministry of Labour, Manpower, and Overseas Pakistanis (Policy Planning Cell).

GoP. 2007. Education in Pakistan: A White Paper (Revised). Document to Debate and Finalize The National Education Policy. February Prepared by Javed Hasan Aly and National Education Policy Review Team

GoP. 2007. The Demographic Dividend: Unleashing the Human Capital. Background Briefs, Pakistan Development Forum 25-27 April 2007, the Economic Affairs Division (EAD), Ministry of Economic Affairs and Statistics, Government of Pakistan, www.pakistan.gov.pk/PDF/index.jsp

GoP. 2008. Draft National Education Policy 2008. Islamabad: the Ministry of Education.

GoP. 2008. Education for All: Mid Decade Assessment. Country Report 2008 by the Ministry of Education.

GoP. 2008. FATA Development (2000-2015). Economic Division of the Embassy of Pakistan in USA.

GoP. 2008. Federal Budget in Brief. Islamabad: The Ministry of Finance, Government of Pakistan.

GoP. 2008. Reorientation of Education. Message to the All Pakistan Educational Conference held in Karachi on 27th November, 1947 in Quaid-i-Azam Muhammad Ali Jinnah: Speeches and Quotes. http://www.pakistan.gov.pk/Quaid/speech13.htm

GoP. 2008. The Economic Survey of Pakistan. Islamabad: the Ministry of Finance.

Government of Azad Jammu and Kashmir. 2003. Between Hope and Despair: Pakistan Participatory Poverty Assessment Azad Jammu and Kashmir Report. Muzaffarabad: Planning and Development.

Government of NWFP. 1990. Survey Report on Employability of Technical Manpower in NWFP during the period 1982-86. Survey carried out by the NWFP Board of Technical Education in collaboration with Friedrich Ebert Stiftung and the National Manpower Commission.

Government of NWFP. 2007. FATA Sustainable Development Plan 2007-2015. The Civil Secretariat FATA Peshawar.

Government of Pakistan. 1947. Mr. Jinnah's Presidential Address to the Constituent Assembly of Pakistan. August 11.

Government of Pakistan.1984. Pakistan/Netherlands Study: Profiles of Informal Employment in Urban Areas. Ministry of Labour and Manpower and Overseas Division.

Government of Pakistan, 1991. Report of the National Manpower Commission. Ministry of Labour, Manpower and Overseas Pakistanis.

Hassan, Hamid Mian. 2007. Relevance of Diploma of Associate Engineer Curricula with the Job Requirement. Institute of Education and Research. Lahore: The University of the Punjab.

IFAD. 2001. Pakistan: Theory versus Practice in Demand-Led Vocational Training among Women in Theme: Demand-led vocational training can have trade-offs in terms of the impact on women. http://www.ifad.org/gender/learning/sector/extension/pk_vocation.htm

ILO. 1992. Training Needs Survey: Preliminary Report.

ILO. 2007. Decent Employment and the Millennium Development Goals in CEB Toolkit for Mainstreaming Employment and Decent Work. In Asia and the Pacific: Islamic Republic of Pakistan. Bangkok: UNESCO Principal Regional Office for Asia and The Pacific.

IMF. 2004. Pakistan: Poverty Reduction Strategy Paper. Washington: International Monetary Fund.

Janjua, Yasin and Arif Naveed. 2008. NAVTEC's Current and Projected Activities and Capacity to Institutionalize and Implement Reforms. Working Paper No. 4, for supporting the program design process for the National Skills Strategy of Pakistan Nov 2008. Islamabad: SEBCON (pvt) Ltd.

Janjua, Yasin and Shehryar Janjua. 2008. A Study of the Informal Economy and Informal Skills Acquisition in Pakistan. Working Paper No. 2, for supporting the program design process for the National Skills Strategy of Pakistan Nov 2008. Islamabad: SEBCON (pvt) Ltd.

Janjua, Yasin, Shmyalla Jawad, Wajeeha Bajwa, and Nazam Mehmood. 2008. International Support to TVET in Pakistan: Past and Present. Working Paper No. 3, for supporting the program design process for the National Skills Strategy of Pakistan Nov 2008. Islamabad: SEBCON (pvt) Ltd.

Jilani, Anees. The Legal Framework for Combating Child Labour in Pakistan. http://www.unicef.org/china/P3_JILLANI_paper_child_labor.pdf

Kardar, Shahid. 1999. "Technical & Vocational Training in Pakistan." The Lahore Journal of Economics, Vol.2, No.2.

Kazmi, Syeda Wadiat. 2007. "Vocational Education and Skills Development: A Case of Pakistan." SAARC Journal of Human Resource Development, Vol. 3, No. 1.

Kemal, A.R., and Zafar Mehmood, 1993. Labour Absorption in the Informal Sector and Economic Growth in Pakistan. Friedrich Ebert Stiftung, Islamabad.

King, Kenneth. 2007. The Politics of Skill, and the Challenge of Supporting Technical and Vocational Education and Training (TVET) in Pakistan. The Role of Unesco, past, present and future. Unpublished manuscript.

Mir, Mohammad Ali. 1990. Development of Technical Education in Pakistan: A Critical Study of Objectives and Achievements. PhD Thesis, University Of Karachi, Karachi.

Munir, Shafqat. 2002. Vocational Education and Training (VET): Pakistan situation analysis (1959-2002) and Partnership needs to promote VET through research study. Paper in Conference on "Structural Change in Vocational Education: Promotion of Vocational Education Partnership between Europe and West and Central Asian Countries" held at Forum hotel, Alexanderplatz, Berlin, September 29-30, 2002

Nawaz, Shuja. 2008. Crossed Swords: Pakistan, its Army, and the Wars Within. Karachi: Oxford.

Rashid, Ahmed. 2008. Descent into Chaos: How the War against Islamic Extremism is being lost in Pakistan, Afghanistan and Central Asia. London: Allen Lane.

Riboud, Michelle, Yevgeniya Savchenko, and Hong Tan. The Knowledge Economy and Education and Training in South Asia: A Mapping Exercise of Available Survey Data http://info.worldbank.org/etools/docs/library/235710/The%20Knowledge%20Economy%20and%20Education%20and%20Training%20in%20South%20Asia.pdf

Sadiq, Kamran. 2008. Costing and Financing of TVET in Pakistan. Working Paper No. 1, for supporting the program design process for the National Skills Strategy of Pakistan Nov 2008. Islamabad: SEBCON (pvt) Ltd.

Sajjad, Shahida. 2004. The Status of Vocational Training Programs for the Disabled Persons In Pakistan. PhD Thesis. the University of Karachi, Karachi.

Semiotics. Priority Areas of Investment in Vocational Education and Skill Development in South Asia (Final Report). Islamabad.

Shah, Iftikhar Hussain. 2004. Problems and Prospects Technical Education in Pakistan. University of Arid Agriculture, Murree Road, Rawalpindi http://eprints.hec.gov.pk/89/2/39.htm

Shami, Pervez A. Dawood Shah and Mirza Tauhiduddin Ahmad. 2005. National Core Indicators and Regional Comparison. The Academy of Education Planning and Management. Islamabad: the Ministry of Education.

Shami, Pervez A. Dawood Shah and Mirza Tauhiduddin Ahmad. 2006. Retention and Transition Patterns of Children at School Education 1995-96 to 2004-05. The Academy of Education Planning and Management. Islamabad: the Ministry of Education.

SMEDA. Developing SME Policy in Pakistan: SME Issues Paper for Deliberation by SME Task Force. The Ministry of Industries and Production, the Government of Pakistan.

State Bank of Pakistan. 2008. Annual Report 2007-2008. Karachi.

State Bank of Pakistan. 2008. Inflation Monitor. Karachi: Economic Analysis Department.

Tilak, Jandhyala B G. 2002. Vocational Education and Training in Asia. The Handbook on Educational Research in the Asia Pacific Region (Eds. John P Keeves and Rye Watanabe, Kluwer Academic Publishers)

UNDP ILO/ARTEP. 1991. Monitoring of Vocational Training Programmes in Pakistan.

UNESCO. 2006. International Standard Classification of Education ISCED 1997. United Nations Educational, Scientific and Cultural Organization.
http://www.uis.unesco.org/TEMPLATE/pdf/isced/ISCED_A.pdf

UNESCO-UNEVOC. 1995. National Profiles in Technical and Vocational Education in Asia and the Pacific. Bangkok: UNESCO Principal Regional Office for Asia and the Pacific.

UNESCO- UNEVOC. 2006. Participation in Formal Technical and Vocational Education and Training Programmes Worldwide: an Initial Statistical Study 2006. Published by the International Centre for Technical and Vocational Education and Training.
http://info.worldbank.org/etools/docs/library/243595/bparticipation%20in%20formal%20TVET%20worlwide.pdf

UNESCO. 2004. Education Sector of Pakistan and Case-Studies on Direct Budget Support (DBS).
http://www.un.org.pk/unesco/dbs/data/booklets/02_Pakistan_Case-Studies.pdf

UNESCO. 2006. Strong Foundations: Early Childhood Care and Education Pakistan Early Childhood Care and Education (ECCE) programmes. Country profile prepared for the Education for

All Global Monitoring Report 2007 Compiled by: International Bureau of Education (IBE) Geneva, (Switzerland)
http://unesdoc.unesco.org/images/0014/001472/147222e.pdf

UNEVOC. 2006. Participation in Formal Technical and Vocational Education and Training Programmes Worldwide: An Initial Statistical Study. Bonn, Germany

Valmonte, Dr. Ligaya D. Achieving Sustainable Development through TVET – Experiences of International Organizations Working With Member States In Asia And The Pacific. http://www.unescobkk.org/fileadmin/user_upload/apeid/Conference/papers/3B3_paper_Valmonte.doc

World Bank. 1987. Assessment of Employers' and Employees' Opinions on Supply and Demand of Vocational Manpower in Pakistan's Industry.

World Bank. 2002. Pakistan Development Policy Review. Poverty Reduction and Economic Management Sector Unit South Asia Region. Washington. http://siteresources.worldbank.org/PAKISTANEXTN/Resources/pdf-Files-in-Events/IRISD/Pak-DPR.pdf

World Bank. 2003. Lifelong Learning in the Global Knowledge Economy: Challenges for Developing Countries. http://siteresources.worldbank.org/INTLL/Resources/Lifelong-Learning-in-the-Global-Knowledge-Economy/lifelonglearning_GKE.pdf

World Bank. 2005. North West Frontier Province Economic Report. Accelerating Growth and Improving Public Service Delivery in the NWFP: The Way Forward. Poverty Reduction and Economic Management Sector Unit South Asia Region, the World Bank.

World Bank. 2007. Pakistan Infrastructure Implementation Capacity Assessment (PIICA). South Asia Sustainable Development Unit of the World Bank.

World Bank. 2008. Doing Business 2009: Country Profile for Pakistan. Comparing Regulations in 181 Countries. Washington: The World Bank.

Zia, Uzma. 2007. International Competitiveness: Where Pakistan Stands? PIDE Working Papers No. 28.

Yusufi , Khurshid Ahmad Khan. 1988. Quaid-i-azam Muhammad Ali Jinnah Some Rare Speeches and Statements 1944-1947 Hardcover.