



---

**RESEARCH PAPER**

**Tracer Study of Socio-economic and demographic Impacts of Technical and Vocational Education and Training (TVET) for Women in Baluchistan**

Dr. Aziz Ahmed <sup>1</sup> Dr. Abdul Wadood <sup>2</sup> Dr. Noor Mohammad <sup>3</sup>

1. Lecturer, Department of Economics, Faculty of Management Sciences, Balochistan University of Information Technology, Engineering and Management Sciences, Quetta, Baluchistan, Pakistan
2. Assistant Professor, Department of International Relations, Faculty of Arts and Basic Sciences, Balochistan University of Information Technology, Engineering and Management Sciences, Quetta, Baluchistan, Pakistan
3. Associate Professor, Department of Management Sciences, Faculty of Management Sciences, Balochistan University of Information Technology, Engineering and Management Sciences, Quetta, Baluchistan, Pakistan

---

**PAPER INFO    ABSTRACT**

**Received:**

July 25, 2020

**Accepted:**

September 05, 2020

**Online:**

September 30, 2020

**Keywords:**

Employment,  
Female Earnings,  
Socio-Economic,  
Development,  
Tracer Study,  
TVET

**Corresponding  
Author**

aziz.ahmed@bui  
tms.edu.pk

This paper describes socio-economic and demographic impacts of Technical and Vocational Education and Training (TVET) provision for women empowerment in rural and urban areas of Baluchistan. Within the TVET institutional framework, the analysis is descriptive and questionnaire-based data from 178 TVET qualified women, by using three stage-stratified sampling techniques, are traced out in rural and urban areas/markets of Baluchistan. The factors like, self-employed, parents' education, ethnicity, household head characteristics, rural and urban set ups, institutional affiliation, and self-choice for a specific TVET skill trade contribute to socio-economic and demographic empowerment of women. Rural women are found to get less economic benefits of jobs and income earnings as compared to their urban counterparts. The findings guide towards the profound contribution of TVET in theory of human capital formation and its socio-economic and demographic impacts specifically to women empowerment studies in the under-developed regions

---

**Introduction**

TVET plays an important role for economic and social development in a society. TVET importance for socio-economic and demographic development has been also recognized through sustainable development goals for both the genders of a society, community, population, economy, and developing countries of the world (Ahmed et al., 2018; Ahmed& Khan, 2018; Tan, 2014). Skill acquisition and

development is also important for decent work, livelihood earnings, preserving minimum level of prestige and respect, productivity, and its contribution to overall well-being for individuals at work place and society alike (ILO, 2003; UNESCO-UNEVOC, 2016).

The first element of the seven pillars of Pakistan Vision 2025 aims for social and human capital development and empowering women for attaining sustainable development goals of poverty, education, gender, and health for socio-economic and demographic development of country's population. TVET leads to women empowerment in terms of working at par with the male counterparts in labor markets for all economic sectors of Pakistan (Planning Commission of Pakistan, 2015). The Baluchistan Youth Policy (BYP-Government of Baluchistan, 2015) documents that 74% of female youth segment is unemployed in Baluchistan. A major socio-economic and demographic confront related to unemployment is low level of skill development and deficient level of its provision for women in the province of Baluchistan (Ahmed, 2019). The National Vocational and Technical Training Commission (NAVTTTC, 2016) mentions that labor market information on outcomes for TVET have not been obtained so far and recommends for field surveys to get the estimates for skill development levels and other forms of human capital formation for giving guidance and directions to policy makers in the province. Women Development Department (2017) of the province also strives for getting reliable estimates to use for policy formulation for the development of women in Baluchistan and their due participation in the economy, society, politics, government and entrepreneurial activities through skill formation and enhancement of overall socio-economic and demographic profiling.

Labor economics, as a comparatively distinct field of economics, variegated on both theoretical and empirical fronts, has put forth the very importance of TVET in its literature as widely as possible in recent years (Ahmed et al, 2018; Becker, 1994). Economic theory gives importance in placing the role of TVET in theoretical frameworks from simple to complex model(s) specifications and suggests a strong need to be explored empirically as well as descriptively (Acemoglu & Pischke, 1998; Becker, 1994; Heckman, Lochner, & Todd, 2003; Mincer, 1974; among others).

This paper is an attempt to descriptively analyze TVET system and its socio-economic and demographic impacts of female segment and thereby to recommend policy options for women development/empowerment in the province of Baluchistan. The remaining body of the paper is composed of relevant literature review in Section 2. Section 3 lays out the research methodology and data in terms of description of research design, field survey, questionnaire, and sampling techniques. Section 4 discusses the institutional framework of TVET system for women in the province. Section 5 presents descriptive analysis to shed light on its socio-economic and demographic impacts for women in rural and urban context of Baluchistan. The overall conclusions and policy recommendations are given in Section 6.

## **Literature Review**

TVET has gained the status of a new and novel area of research in the literature on labor market outcomes, human capital formation, labor policies, employability, and wage variations in the fields of labor economics and economics of education. This section discusses some noteworthy contemporary literature on the TVET and its due impact on socio-economic and demographic front for different region of the world.

Akinpelu (1984) analyzed vocational training and general education in the context of rural development and earnings for the case of three African countries. The socio-economic and demographic impacts have a powerful message for addressing African rural decay and vicious circle of poverty and low productivity and to justify the case of post-literacy and widespread rural based vocational trainings systems in these economies.

Hill (2002) has analyzed earnings and some other aspects of socio-economic and demographic attributes for women in USA who got on-the-job trainings, education, and other types of trainings for USA. The results show that earnings prospects for women who entered late into the training phase are lesser than earnings growth for those young women who got trainings at their earlier stage of workforce entry.

Cooke (2004) has analyzed the data of two young cohorts to focus over changes in earning returns to both vocational education and general education for German Socio-economic and demographic Panel data ranging from 1984 to 1997. The predictions of changes in log earnings were significantly observed in changes with both vocational education and general education over time for both the cohorts. Results of this study also confirms higher wages for vocationally trained youth who got vocational trainings after completion of general education but not for those who were at initial track of their vocational education without general education.

Böckerman et al. (2009) have empirically advanced the view that policy changes for TVET have social and economic impacts for the Finish population. The policy changes of converting vocational colleges to polytechnic qualifications empirically showed a rise of employment by 13.6 percentage points for polytechnic graduates and 11.3 percentage points after the two years of polytechnic qualifications as compared to the qualifications gained during pre-reform vocational colleges.

Galdo and Chong (2012) mentioned that TVET and different levels of skilling and education provides economic returns and job opportunities to men and women. The study uses survey data from 1996 to 2004 for the economy of Peru that include variables for TVET, labor market outcomes, and other explanatory variables, like, teacher's expertise, class size, and many more variables to give in depth analyses of TVET impacts on labor market outcomes.

Similarly, the study of Fleishera and Wang (2004) about rural China by using the data of 200 rural enterprises in 10 provinces shows that technical education and general schooling can yield low income earning during transition period of an economy and the likelihood of sustainability of earnings and other benefits accrue, later to people.

Ben-Halim et al. (2014) showed that skill premium and its mobility have exhibited that women get lower level of income earnings than men counterparts of French population in labor markets. These inequalities skewed to gender based and low-level skill acquisition by female labor force are linked with skill acquisition and skill premium over generations and give important directions to policy makers for French economy. Pavlova (2014) has highlighted the importance of education and TVET necessary for social and economic development and employment opportunities for the region of Asia and the Pacific.

Kazmi (2007) analyzed, descriptively, skill formation, human capital development, and human resource development through TVET for Pakistan. She explains TVET system in Pakistan to give a snapshot of TVET for generic implication with human resource development in the four provinces of Pakistan.

Khan and Bibi (2011) analyzed the socio-economic and demographic empowerment of women in Nasirabad, one of the districts of Baluchistan. Questionnaire based survey from 165 women in convenient sampling framework showed quantitative improvements in socio-economic and demographic factors of getting micro credit, lowering workload, capacity building, winning economic activities, opportunities for earnings and employment, and reduction in the workload in the district.

For investigating the skill-GDP nexus, Mustafa et al. (2005) explored the relationship between variability in vocational training indicators and output growth at macro level for the economy of Pakistan. Official statistics show that only around 44% of the total population is literate in Baluchistan (Planning commission of Pakistan, 2015). The situation in rural areas is more alarming where, only 26% of population receive formal education. The dropout ratio for girls is more than 70% before they get to ten years of formal schooling throughout the province (Pakistan Bureau of Statistics, 2015).

Ahmed and Baloch (2015) described that standards of living cannot be improved without enhancing skill development and education levels of the mass population, particularly women in Baluchistan. NAVTTC (2016) highlighted that female skill acquisition and their labor market participation is forecasted to be the lowest in the province of Baluchistan. No labor market information system (LMIS) exists for the province to give estimates for female wage levels, employability, urban and rural underpinnings to skill formation, and knowing institutional set ups of TVET provision, skill proliferation and policy options of human resource planning for the women of this province.

Asian Development Bank (2009) also issued a report about TVET reforms in Baluchistan and documented that all the targets for TVET reforms, TVET impacts for employability and earnings, institutional set ups and its development, and skill widening have not been met in the province.

Thus, lower literacy rates for females, unskilled labor force and lower average productivity of labor, insufficient skill development, and un-employability for the provincial labor force have posed serious issues for aptly investigating skill development and their socio-economic and demographic impacts for women in Baluchistan. TVET levels have strong implications for economic and social development and empowerment of women to be explored further on empirical counts. The present study endeavors to cover this gap of the contemporary literary contributions on the issue discussed in Baluchistan.

### **Material and Methods**

The data record for TVET qualified women and their socio-economic development are inadequate for the province of Baluchistan as per NAVTTC (2016) sources of TVET data availability. Furthermore, the need for acquisition of reliable TVET data for women and its socio-economic and demographic impacts to meet the objectives of this study led to the authors to follow tracer type study in this research endeavor. The research methodology for this study follows the academic convention of Schomburg (2016).

**Research Design:** This study is a tracer type of descriptive study following the guidelines mentioned in the studies of Maseda (2017), Schomburg (2016), and ILO (2003) due to non-availability of reliable and adequate data for TVET qualified women and their socio-economic and demographic attributes from the concerned TVET departments at provincial level. A questionnaire based quantitative data was collected from 178 TVET qualified women confined to the existing TVET institutional framework of the province.

**Field Survey:** Field survey is conducted for primary data collection to get quantitative information from the main respondents as per methodological conventions set for tracer studies in Maseda (2017), Schomburg (2016), and ILO (2003).

**Research Instrument: The Questionnaire:** A full-fledged questionnaire is developed to capture quantitative data for main variables of the interest. The questionnaire has sections related to TVET education, employment, earnings, institutional set ups, household information, demography, and other relevant factors related to TVET qualified women.

**Sampling Frame, Sample Size, and Sampling Technique:** Sampling frame is heterogeneity and possesses randomness in terms of TVET related items/factors responsible for socio-economic and demographic development of women. A sample

size of 178 has been traced out for primary data collection during field survey. Around 50% of the sample is collected from capital city Quetta and rest from selected rural and urban areas of Baluchistan. Multistage stratified sampling technique is used for this study. The first stage for sampling is automatically in line with the institutional based stratum of TVET sampling. The second stage is based on level/duration of TVET qualifying interval categorized from three months (3 months) to thirty-six months (3 years). The third stage is for rural and urban stratification in this study.

**Questionnaire Administration to the TVET Qualified Women:** The following approaches are used for administering questionnaire for obtaining data from the qualified women across rural and urban set ups for this study.

- Some of the respondents are contacted through their employers, family heads, institutions, and HODs of the TVET institutions for self-completion of the questionnaire.
- Some of the questionnaires are personally administered and given to respondents and requested for self-completion on the spot.
- Some of the questionnaires are left for respondents to be collected later upon completion if not possible to be completed on the spot.
- Some of the respondents are traced out via their mobile number contacts.

### Descriptive Analysis

Cross tabulation for comparing different socio-economic and demographic variables with TVET levels of skilling are calculated with the help of “Stata 13 version” software package for a sample of 178 women in the rural and urban set-ups of Baluchistan. Variables are, firstly, arranged in Microsoft Excel Worksheet, imported to the mentioned statistical software, data is coded and recoded for the following descriptive analysis.

The data in Table 1 shows that women of age 17 to 50 possess TVET education with educational qualification from “no formal education” to sixteen years of education. TVET level of skilling and education is calculated as minimum of three months and maximum of three years. Experience profile ranges from zero to twenty years. Up to six (6) employees are seemed to be given the employment opportunity by TVET qualified women entrepreneurs, self-employed and own business operators in the province. Women earnings from their TVET skill levels range from PKR 5000 up to PKR 85000 in rural and urban areas of the province.

**Table 1**  
**Summary Statistics for Selected Variables**

Variables	Observations	Mean	Standard Deviation	Min/Max
Age	178	26.10	7.263	17/50

*Tracer Study of Socio-economic and demographic Impacts of  
Technical and Vocational Education and Training (TVET) for Women in Baluchistan*

Education	178	11.337	2.895	0/16
TVET	178	15.438	12.740	3/36 months
Experience	167	3	3.943	0//20 years
Employment Status	59	1.356	1.807	Self-employed, Unemployed, paid employed
Earn	138	25115.95	13481.581	5000/85000 PKR

Sources: Field Survey Visits: Four Departments & Regional NAVTTC Office  
Quetta-2017

**Socio-economic and demographic Impacts of TVET Skill Trades:** The survey data collected through the tool of questionnaire is analyzed to depict a meaningful picture of understanding socio-economic and demographic impacts of TVET for women in rural and urban set ups of Baluchistan. Frequencies and percentages are cross tabulated in the following contexts for this study.

**TVET Type and General Education:** TVET types are technical education and vocational trainings. Technical education counts for 48.68%, the highest, for 12 years of general education as compared to other levels of general education. The percentage of vocational training is highest (i.e. 33.66%) for ten years of general education. It implies that women with higher level of general education prefer technical diplomas as compared to vocational trainings. Women with no formal education have lesser acquisition of both the types of TVET as compared to educated women in Baluchistan (Table 2).

**Table 2**  
**TVET Type & General Schooling**

<b>Education/TVET Type</b>	<b>Technical Education</b>	<b>Vocational Training</b>
0-8 years schooling	00.00%	30.12%
10 years schooling	40.20%	33.66%
12 years schooling	48.68%	18.14%
14-16 years schooling	21.12%	27.08%

Source: Stata Calculation: Field Survey Data-2016/17

**TVET Levels, General Education, Institutional Set-ups:** Data shows that women with matriculation, intermediate, and bachelor levels of education report higher acquisition of TVET qualifications with 27%, 36%, 17.42%, respectively, as compared to very low (no formal to 8 years of education) and very high (16 years of education) level of general education. It implies that very low and very highly educated women are less equipped with TVET skills as compared to matriculation and intermediate levels of educated women in the province. Education Department mostly provides 36 months of technical trainings to women in Baluchistan. Social Welfare Department and NAVTTC provide mostly three and six months of vocational trainings. Small Industries Wing provides mostly three, six, and 12 months vocational trainings. Directorate of Manpower Training provides mostly

TVET levels of six and 12 months both in technical and vocational skill trades in the province. The earning profile of technical education is higher as compared to vocational trainings for women in Baluchistan. The results for technical education are 25% and 16% for earning categories of PKR 30000 to 40000 per month and PKR 40000 to 50000 per month, respectively. The results for vocational trainings are reported as 40% and 34.57% for women to earn income of PKR 20000 to 30000 per month and PKR 30000 to 40000 per month, respectively, in Baluchistan. It indicates that technical education has likelihood of higher income earnings as compared to vocational trainings for women in rural and urban labor markets of Baluchistan (Table 3).

**Table 3**  
**VET Levels, General Education, Institutional Set-ups**

TVET Levels	General Education	Institutional Set-ups	Earnings
Three months	27% (Matriculation)	SIW, SWD, L&MPD	VT
Six months	36% (Intermediate)	SWD, L&MPD	20000-30000 (40%)
One year	27%, (Bachelor)	SWD, L&MPD, NAVTTIC	30000-40000 (34.57%)
Two years	17.42% (<8 years education)	SWD	40000-60000 (5.18%)
Three years			TE
Technical Education	12.02% (>= Intermediate)	T&HED	30000-40000 (25%) 40000-50000 (17%)

Source: Stata Calculation: Field Survey Data-2016/17

**TVET Impacts on Women's Earnings:** Different levels of TVET shows variations in earnings for TVET qualified women in the province. The data shows that 80% of the women who possess 36 months of TVET skills earn PKR 60000 or above per month. The impact of 12 months of TVET skill reports a maximum of 31.58% for earning prospects of PKR 30000 to 40000 per month. The earnings prospects of PKR 10000 to 20000 are reported for 34.15% and 29.27% of women qualifying six and three months of TVET qualification, respectively. It implies that the higher the level of TVET the higher the income prospects and earning accrue to women. However, the results also show that 50% of women earn less than 10000 with even 24 months of TVET qualification, which implies for less number of employment opportunities for highly TVET qualified women due to some sorts of probable socio-economic and demographic constraints to hinder mainstreaming women segment in labor markets of Baluchistan (Table 4).

**Table 4**  
**TVET Impacts on Women's Earnings**

TVET Levels	Percentage	Earning
-------------	------------	---------



Three months	29.27%	10000-20000
Six months	34.15%	10000-20000
One year	31.58%	30000-40000
Two years	505	Less than 10000
Three years	80%	60000 & above

Source: Stata Calculation: Field Survey Data-2016/17

**TVET Level and Job Experience and Employment Status:** The profile of experience and TVET level shows that 35.59% and 8.82% of women have zero and more than 6 years of job experience, respectively, with 36 months of TVET qualification. The job experience profile of women with six months of TVET qualification is almost like that of 36 months TVET qualification. However, women with more than 6 years of job experience are shown 20.59% and 35.88% having 3 and 12 months of TVET qualifications, respectively, and women with no job experience are shown 13.36% and 20.34% having the same levels of TVET qualifications in this study. It implies that highly experienced women are more than early entrants into the labor markets of Baluchistan. The employment status of women by TVET indicates that 68 out of 178 are paid-employed, out of which 32.22% of women possess 36 months of TVET qualification. The results for unemployed women are 35.48% and 24.19% for having six and 12 months of TVET qualification, respectively. The statistics for the category of self-employment are 37.30% and 29.17% for six and 12 months of TVET qualifications, respectively, which exceeds the shown statistics for both the three months and 36 months of TVET qualification (Table 5).

**Table 5  
TVET Level and Job Experience and Employment Status**

TVET Level	Job Experience	Employment Status
Three months	20.59%	
Six months	36.31% with zero experience and 9.08% with 6 or more years of experience	<ul style="list-style-type: none"> <li>• 68/178 paid-employed, 32.22% (36 months TVET qualified)</li> <li>• 35.48% (6-months qualification) and 24.19% (12-months skills) unemployed</li> <li>• self-employment women are 37.30% and 29.17% for six and 12 months</li> </ul>
12 months	35.88%	
24 months		
36 months	35.59% with zero experience and 8.82% with 6 or more years of experience	

Source: Stata Calculation: Field Survey Data-2016/17

**TVET Impacts for Job Placement:** Maximum number of TVET qualified women (i.e., 63) are placed in private sector, 26 in government sector, 30 in self/own businesses or other autonomous set ups, and 12 in other diversified business places in the province. The data shows that three months TVET qualification occupies almost equal shares (i.e. 23%) of job placement in public sector and self-employment

categories. Six months of TVET qualification occupies 66.67% job placement in diversified businesses. TVET level of 12 months occupies 30% job placement in government sector, and 36 months TVET qualification shows a maximum of 34.92% in private sector jobs for women in (Table 6).

**Table 6**  
**VET Impacts for Job Placement**

TVET Level	Job Placement	Highest Percentage
Three months	63/178 are placed in private sector, 26 in government sector, 30 in self/own businesses/other set ups	23% Self-employed (Public & self-employed)
Six months		66.67% (Other set-ups)
12 months		30% (Public)
24 months		45% (Private)
36 months		34.92% (Private)

Source: Stata Calculation: Field Survey Data-2016/17

**Impacts of Employment Status on Women's Earnings:** Earning prospects for paid employed are reported as not exceeding PKR 60000 per month, and more specifically the results are 33.82% and 35.29% for earning categories of PKR 10000-20000 per month and PKR 20000-30000 per month, respectively, for public and private sectors. For 62 self-employed women, the data show that 6.45% of them earn more than PKR 60000 per month and 30.65% of women earn in the range of PKR 20000-30000 per month (Table 7).

**Table 7**  
**Impacts of Employment Status on Women's Earnings**

Earning Categories	Paid employed	Self-employed
10000-20000	33.82%	25.20%
20000-30000	35.29%	30.65%
30000-40000	26.11%	18.30%
40000-50000	04.78%	14.50%
60000 and above	00.00%	6.45%

Source: Stata Calculation: Field Survey Data-2016/17

**TVET Levels, Ethnicity and Women Say in TVET Trade Choice:** The distribution of ethnic affiliation of women and different levels of TVET qualification show that 34.21% of total 76 Baloch women are qualified with 36 months of TVET qualification, 36% of total 25 Pashtun women are qualified with six months of TVET qualification, 31.71% of a total of 41 Panjabi women are qualified with six months of TVET qualification, 17 women are Sindhi out of which 35.29% are qualified with six months TVET qualification, and rest of 19 women belong to other ethnic groups in rural and urban areas of Baluchistan. The responses of choice for self-selection of a specific skill trade for 3, 6, 12, 24, and 36 months of TVET qualification are shown 16.98%, 25.79%, 31.45%, 2.52%, and 23.27% in affirmation (i.e. in "Yes") respectively, as compared to the shown percentages of no choice for self-selection. It

indicates a sort of limitation for self-selecting a specific skill trade by women segment in the province (Table 8).

**Table 8**  
**TVET Levels, Ethnicity and Women Say in TVET Trade Choice**

TVET Level	Ethnicity	Say "YES" in TVET Choice
Three months	31% (Baloch), 22% (Pashtun), rest (Other)	16.98%
Six months	36% (Pashtun), 31.71% (Punjabi), rest% (Other)	25.79%
12 months	32.12% (Pashtun), 24.23% (Baloch), rest% (Other)	31.45%
24 months	9% (Baloch), 11% (Pashtun)	2.52%
36 months	34.21% (Baloch)	23.27%

Source: Stata Calculation: Field Survey Data-2016/17

**TVET Levels, Rural/urban Set ups and Marital Status of Women:** The rural and urban distribution of TVET qualified women show that 108 women are traced out in urban areas and 70 in rural areas in their respective labor markets in the province. The distribution is 18.37% and 15.74% for three months of TVET qualification in rural and urban set-ups respectively, 27.14% and 24.07% for six months of TVET qualification in rural and urban set-ups respectively, 28.15% and 30.56% for 12 months TVET qualification in rural and urban set-ups respectively, 4.29% and 2.78% for 24 months TVET qualification in rural and urban set-ups respectively, and 22.86% and 26.85% for 36 months TVET qualification in rural and urban set-ups respectively. It implies that rural women get comparatively less chances of acquiring TVET qualification in the province. The marital status of women show that 73 women are married and 105 are single. The distribution of married women shows that 32.88% women possess 12 months of TVET qualification. The distribution of single women is shown maximum (i.e. 31.43%) for 36 months of TVET qualification in this study (Table 9).

**Table 9**  
**VET Levels, Rural/urban Set ups and Marital Status of Women**

TVET Level	Rural Set-ups	Urban Set-ups	Married (73/178)	Single (105/78)
Three months	18.37%	15.74%	10.12%	21.24%
Six months	27.14%	24.07%	7.00%	9.54%
12 months	28.15%	30.56%	32.88%	18.03%
24 months	4.29%	2.78%	24.55%	19.76%
36 months	22.86%	26.85%	25.45%	31.43%

Source: Stata Calculation: Field Survey Data-2016/17

## Conclusion and Recommendations

TVET has socio-economic and demographic impacts for women in rural and urban areas of Baluchistan. The contemporary TVET institutional framework set up

is somewhat less efficient to socio-economic and demographically uplifting of the economy nonetheless, its profound impacts on social, demographic, economic, and domestic life of the women segment are noteworthy in Baluchistan. TVET has linkages with labor market outcomes of employment and income earnings for women. TVET has increased social status of women by making the female segment socially and economically visible and productive. TVET has been increasing human capital formation and skill formation of women. It has created jobs and business opportunities in public, private, autonomous, and own businesses for women in rural and urban markets of the province. Self-employment shows both income earnings and higher income for TVET qualified women. TVET qualified women have shown their due contribution into income earnings, increasing their general educational level, giving due share to household expenditure, supporting their family and siblings, and contributing through other socio-economic and demographic channels to socio-economic and demographically mainstream women in the economic and social structure of Baluchistan.

The economic and social empowerment of women is indeed vital for overall growth and development of Baluchistan's economy and a society. So, mainstreaming of women on socio-economic and demographic grounds can be better treated through TVET provision of skill formation and human resource development. It has been recommended that TVET provision to women segment must be given due attention by the concerned TVET departments and policy makers to bolster existing TVET institutional set ups for introducing the maximum number of TVET skill trades that are regularly announced at national levels in the rural and urban areas of Baluchistan. The current and ineffective structure of skill provision by NAVTTC should be replaced by dynamic, better and effective programs covering both the theory and workshops leading towards better skill endowments of the women trainees in different TVET trades. Also, government and other public-sector institutions, quota preservation for employment opportunities for TVET qualified women must be increased so that they could contribute their due role in the provincial socio-economic and demographic development.

For unemployed TVET qualified women their parents, society, public and private institutions may encourage them via social support, financial assistance, and provision of small loans for their business startups and economic empowerment. General education, parents' literacy levels, institutional up gradation, decision of household head, and self-choice for a specific TVET trades must be encouraged through public policy in rural and urban areas of the province. All these elements contribute for skill formation and human capital development to endow women with necessary skills for upcoming CPEC projects and overall socio-economic and demographic development in the province. Mainstreaming of women through skill formation in the existing and upcoming labor market opportunities may enhance the overall socio-economic and demographic profiling of the provincial rural and urban areas which is necessary for achieving the targets of inclusive and sustainable growth in Pakistan.

## References

- Acemoglu, D., & Pischke, J.-S. (1998). Why do firms train? Theory and evidence. *The Quarterly Journal of Economics*, 113(1), 79-119.
- Ahmed, M., & Baloch, A. (2015). Political Economy of Baluchistan, Pakistan: A Critical Review. *European Scientific Journal*, 11(14).
- Ahmed, A., Khan, A. H., Shehnaz, L., Muhammad, W., & Ullah, S. W. (2018). Human resource development through technical and vocational education and trainings (TVET) system in Baluchistan: A critical SWOT analysis.
- Ahmed, A., & Khan, A. H. (2018, September). SWOT analysis of institutional framework for engineering diplomas in technical and vocational education and training system in Pakistan. In IOP Conference Series: *Materials Science and Engineering* (Vol. 414, No. 1, p. 012011). IOP Publishing.
- Ahmed, A. (2019). Impacts of Vocational Training for Socio-economic Development of Afghan Refugees in Labor Markets of Host Societies in Baluchistan. *Journal of International Migration and Integration*, 20(3), 751-768.
- Akinpelu, J. (1984). Post-Literacy and Vocational Training in the Context of Rural Development and Income Generation in Africa. *International Review of Education*, 30(3), 315-328.
- B-TEVTA Act no. II of 2011, (2011).
- Baluchistan, G. o. (2012). *The Baluchistan Government Rules of Business, 2012*. Services and General Administration Department, Quetta: S&GSD (Regulation Wing).
- Baluchistan, G. o. (2015). *Baluchistan Youth Policy 2015*. Environment, Sports & Youth Affairs Department. Civil Secretariat. Quetta.
- Bank, A. D. (2009). *Education and skills: Strategies for accelerated development in Asia and the Pacific*. Manila, Philippines:
- Becker, G. S. (1994). Human capital revisited *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education (3rd Edition)* (pp. 15-28): The University of Chicago Press.
- Ben-Halim, Chusseau, N., & Hellier, J. (2014). Skill premia and intergenerational education mobility: The French case. *Economics of Education Review*, 39, 50-64.
- Böckerman, P., Hämäläinen, U., & Uusitalo, R. (2009). Labour market effects of the polytechnic education reform: The Finnish experience. *Economics of Education Review*, 28(6), 672-681.

- BRSP. (2017). *Livelihood Program: Skill Development. Baluchistan Rural Support Program*. Quetta.
- C&SID. (2017). *Commerce and Small Industries Department. Rules of Business, 2012*. Quetta.
- CH&TED. (2017). *Colleges, Higher and Technical Education Department. Rules of Business, 2012*. Quetta.
- Commission, P. (2015). *Pakistan Vision-2025*. Islamabad.
- Cooke, L. P. (2004). The gendered division of labor and family outcomes in Germany. *Journal of Marriage and Family*, 66(5), 1246-1259.
- State Department, (2017). International Women Day [Press release]
- Fleishera, B. M., & Wang, X. (2004). Skill differentials, return to schooling, and market segmentation in a transition economy: the case of Mainland China. *Journal of Development Economics*, 73(2004), 315- 328.
- Galdo, J., & Chong, A. (2012). Does the quality of public-sponsored training programs matter? Evidence from bidding processes data. *Labour Economics*, 19, 970-986.
- Heckman, J. J., Lochner, L. J., & Todd, P. E. (2003). *Fifty years of Mincer earnings regressions*. National Bureau of Economic Research 1050 Massachusetts Avenue Cambridge,
- Hill, E. T. (2002). The Labor Force Participation of Older Women: Retired-Working-Both. *Monthly Lab. Rev.*, 125, 39.
- ILO. (2003). *Education and Training: Skills for Employability Including the Challenge of Youth Unemployment*. Global Employment Forum.
- Kazmi, S. W. (2007). Vocational education and skills development: A case of Pakistan. *SAARC Journal of Human Resource Development*, 3(1), 105-117.
- Khan, A. R., & Bibi, Z. (2011). Women's socio-economic and demographic empowerment through participatory approach: a critical assessment. *Pakistan Economic and Social Review*, 133-148.
- L&MPD. (2017). *Labor & Manpower Department. Rules of Business, 2012*. Quetta.
- Maseda, M. R. (2017). *Implementing Tracer Study: practical steps and tools*. European Training Foundation, ETF/Martine Smit, ETF/Joanna Anstey

- Mincer, J. (1974). Schooling, Experience, and Earnings. *Human Behavior & Social Institutions* No. 2.
- Mustafa, U., Abbas, K., Saeed, A., & Anwar, T. (2005). Enhancing Vocational Training for Economic Growth in Pakistan [with Comments]. *The Pakistan Development Review*, 567-584.
- NAVTTTC. (2016). *National Skill Information System*. Sector F-5/1, Islamabad: NAVTTTC.
- Pakistan, G. o. (2015). *National Skill Policy. Skills for Growth & Development: A Technical and Vocational Education and Training (TVET) Policy for Pakistan*. Ministry of Federal Education and Professional Training, Islamabad.
- Pavlova, M. (2014). TVET as an important factor in country's economic development. *SpringerPlus*, 3(1), K3.
- Schomburg, H. (2016). *Carrying out tracer studies: guide to anticipating and matching skills and jobs*, volume 6. Luxembourg: Publications Office of the European Union.
- Schueler, J., Stanwick, J., & Loveder, P. (2017). A framework to better measure the return on investment from TVET.
- Statistics, P. B. o. (2015). *PSLM (2013/14)*. Retrieved from Statistics Division, Government of Pakistan, Islamabad:
- SWD. (2017). *Social Welfare Department. Rules of Business, 2012*. Quetta.
- Tan, E. (2014). Human capital theory: A holistic criticism. *Review of Educational Research*, 84(3), 411-445.
- UNESCO-UNEVOC. (2016). *Strategies for Technical and Vocational Education and Training (TVET): (2016-2012)*
- WDD. (2017). *Women Development Department. Rules of Business, 2012*. Quetta.