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BREAKING THE GLASS CEILING

CHALLENGES TO
FEMALE PARTICIPATION
IN TECHNICAL DIPLOMA EDUCATION
IN BANGLADESH

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Bangladesh Female Participation in
Technical Education

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DIPLOMA EDUCATION IN BANGLADESH

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South Asia Region, Education Global Practice

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Acknowledgment

Abbreviations and
Acronyms

BANBEIS	Bangladesh Bureau of Educational Information and Statistics
BBS	Bangladesh Bureau of Statistics
BTEB	Bangladesh Technical Education Board
CGPA	Cumulative Grade Point Average
DTE	Directorate of Technical Education
DUET	Dhaka University of Engineering and Technology
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GPI	Gender Parity Index
GOB	Government of Bangladesh
LIC	Lower Income Country
MIC	Middle Income Country
MOPA	Ministry of Public Administration
PSC	Public Service Commission
NSDP	National Skills Development Policy
RMG	Ready Made Garments
STEP	Skills and Training Enhancement Project
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Education, Scientific and Cultural Organization

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Female enrolments in diploma programs remained steady, averaging around **12 percent** over the past **five years** despite the repeated call of the government for increased female participation in skills training

Executive
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While Bangladesh has achieved gender parity in primary and secondary education under the general education stream, it is yet to improve gender outcomes in the technical and vocational education and training (TVET) subsector. The share of female enrolments in diploma programs remained steady, averaging around 12 percent over the past five years despite the repeated call of the government for increased female participation in skills training. The paucity of relevant studies has been hindering effective policy discussion on the issue. To understand the factors that affect female participation in TVET, this study undertook a systematic review of existing literatures, supplemented by qualitative information from Focus Gr oup Discussions (FGD) conducted on students of diploma programs offered by polytechnics in Bangladesh. The study discusses several factors affecting female participation in TVET: (a) supply constraints – lack of institutions nearby, non-conducive facility and faculty environment, non-availability of female-friendly courses and relatively high TVET costs for poor households, and (b) demand-side constraints - the reputational issue as the TVET sector is associated with the image of male-domination and low-performers, weak demand for technical training among potential female students due to lack of awareness, and employers' perception of appropriate female roles at work.

The study indicates that female participation in technical diploma programs would benefit from activities across the following areas: (i) creating a gender-friendly environment in polytechnics and workplaces; (ii) developing more service-orientated diploma programs; (iii) developing a TVET awareness campaign for females; (iv) supporting a career counselling and guidance system for females; (v) improving access to higher education; (vi) providing greater demand-stimulating incentives; (vii) generating research and knowledge on TVET for females, and (viii) leveraging partnerships to promote skills development for females.

Chapter 1

Introduction

1.1 BACKGROUND

1. Bangladesh economy grew steadily over the past decade with concurrent progress in human development. The economy registered an average GDP growth of 6.1 percent over the past decade, despite natural calamities, political turmoil and regional and global downturns. This growth has been contributed by economic shifts toward services and industry from a largely crop-based agrarian economy, controls on population as well as increased remittances from migrant workers. Public spending priority and continued reforms to social sectors such as health and education have resulted in a healthier and more educated workforce to meet the labour needs of the growing industry and service sectors. Bangladesh has experienced the fastest decline in child and infant mortality rates among developing countries while it has already eliminated gender disparity in primary and secondary education enrolments. These gains in developments are reflected by Bangladesh's recent progression from Lower Income Country (LIC) to Lower Middle-Income Country (LMIC) status in 2015, based on its US$1,080 GNI per capita (Atlas Method) in FY2014.

2. Policies to promote more active labour force participation of half of the population – women – will likely have significant positive implications for economic development. More women have been joining the workforce due to a decline in the incidence of early marriage, increase in women's share in education, availability of microfinance, and improved job opportunities for females across expanding industry and service sectors and technological development. Female labor force participation rates have been steadily on the rise, reaching 33.5 percent in 2013 according to the Labor Force Survey. Particularly, the supply of women workers at relatively low wages is considered to have supported the phenomenal growth of export sectors such as Ready Made Garments (RMG) and footwear during 1995-2005 (Hossain, Sen and Sawada, 2012). The share of earners among women household members increased from almost 12 percent to 15 percent between 2005 and 2010 (BBS, 2014). It is likely that further expanding female participation in income-generating activities would contribute to the overall increase in household income and further poverty reduction.

3. **The Government of Bangladesh (GoB) recognizes the contribution of female labor force participation in economic development, and has encouraged and invested in improving female participation in TVET.** The 7th Five-Year Plan of the government recognizes the significant contributions made by the increased female labor participation particularly in the RMG industry, and encourages female enrollment in TVET as well as in tertiary education. It aims at increasing the females' ratio in the overall TVET from 27 percent in 2015 to 40 percent by 2020. The National Skills Development Policy (NSDP) 2011 recognizes the critical role of TVET in imparting skills training particularly to under-represented groups including women for promoting economic growth and social development. The Policy envisages increasing the enrolment of females across all skills development programs through offering a broader range of skills programs and ensuring a gender-friendly TVET system.

4. **The gender gains achieved remain far below what is needed to lift and sustain the economy to higher income levels.** Huge economic and social gains remain to be reaped from higher female workforce participation and women's improved workforce composition. Despite a gradual increase in female labor participation, it still remains less than half of male participation across all age groups in Bangladesh (BBS, 2013). Hence, the female working population in Bangladesh has not been fully utilized to its potential. If female participation can be raised to male participation rates, it is expected to add 1.8 percentage points to potential GDP growth each year, and help lift the country to middle-income status by 2021 (World Bank, 2015c). Moreover, the female workforce has over-representation in informal sector jobs, with little or no education or skills training (BBS, 2013). Stereotyped social perceptions of female roles in society also influence their participation to be largely concentrated in traditional occupations, despite a projected increase in employment opportunities in new and emerging sectors. Consequently, there are still gains to be reaped from the expansion of employment opportunities to low-income and young females.

5. **Technical and vocational education and training (TVET) through polytechnics are playing an increasingly important role in providing post-secondary level skills training to female youths to equip them with necessary skills.** Around 46 percent of female students who start secondary education (as opposed to 34 percent of males) drop out before completing it (BANBEIS 2015), failing to progress to higher education under the general education stream in Bangladesh. Consequently, a large section of the dropped-out female population enters either low-skilled jobs or remains unemployed at home. In this situation, the polytechnic education system can offer valuable opportunities of higher-level technical skills training and alternative pathways to higher education[1] for those who did not complete higher secondary education, particularly females. Expanding female participation in TVET polytechnics would improve the chances of post-secondary level education attainment by females and likely enhance their labour market participation and quality of employment[2]. Tapping on this opportunity, female enrolment in polytechnics has been increasing over the past years as this study discusses later, giving the polytechnic system an increasingly larger role in skilling up female youths.

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[1] Graduates of polytechnics are eligible to apply for enrollment in universities and colleges, regardless of higher secondary education qualification.

[2] Though evidence in Bangladesh is limited, a number of researches in developing country contexts point to the overall positive impact of TVET on employment (including school to work transition) and modest positive impact on wages (see, for example, Card, D. et al. (2011); Chandrasiri, S. (2010); Eichhorst, W. (2015); Hirshleifer, S. et al. (2014); Moenjak, T. & Worswick, C. (2003); Reis, M. (2012))

1.2 OBJECTIVE OF THE STUDY

6. **The current study documents the status of female enrolments in diploma programs mainly in Bangladesh and unpacks the factors that affect their participation in the subsector.** The study first provides an overview of the enrolment trends and gender parity status in diploma education under the TVET system in Bangladesh. Additionally, it briefly discusses the prospects which higher female participation in technical education could bring to the country as well the benefits which accrue to females with technical diploma training from the economic and social perspectives. The study then attempts to identify and understand the factors for low female participation in these programs, taking into consideration supply-side and demand-side constraints.

7. **The TVET system in Bangladesh is large and complex, comprising of different providers and training modalities.** Two types of formal TVET is mainly offered through two sets of providers: (I) a four-year diploma level training through polytechnics, and (ii) a 360-hour training through short-course institutes. The eligibility for entrance into the diploma level training requires Grade 10 completion, whereas short-course training requires Grade 8 completion. However, the informal skills recognition process has no restriction or formal education requirement.[3]

8. **This study focuses only on female participation in diploma training programs in the polytechnics under the Directorate of Technical Education.** Female participation is important across the broad TVET sector; however, this study focuses on polytechnics as this sub-sector is the pinnacle of the TVET system in Bangladesh. Polytechnic diploma is the highest degree for most vocational stream students.[4] It is important to understand the gender issues in the polytechnic education system for ensuring higher female participation and improvement in the TVET system.

1.3 RESEARCH METHODS

9. **This study uses a synthesizing research approach, relying on multiple sources of evidence on various themes related to female participation in TVET.** The information was collected through i) literature, including sector studies, policies and strategies as well as other pertinent records on skills development; ii) Focus Group Discussions (FGDs) with current and former female diploma students; iii) key informant interview with polytechnic management officials and senior government officials; and iv) available data from the Directorate of Technical Education (DTE), Bangladesh Technical Education Board (BTEB) and other relevant agencies. This study also draws upon preliminary analysis of data from a tracer study on polytechnics students.[5]

10. **FGDs and in-depth interviews were leveraged to deepen the understanding of issues related to female participation in technical diploma programs.** Group discussions are particularly useful when conducting gender studies in highly patriarchal societal structures, as seen in the Bangladesh context. This approach provides the enabling environment for females to openly discuss the issues that are affecting their education. In addition, the inductive approach through FGDs provides the space to accommodate any new information which would otherwise fail to be accounted for through a questionnaire survey. In each institution visited for this study, students were selected for FGD based on random sampling and grouped into three cohorts: i) currently enrolled female students; ii) female diploma graduates; and iii) dropped-out female students from public and private polytechnics. This allowed the team to compare and contrast the responses of the three groups and

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[3] Informal skills recognition implies programs which certify skills of individuals with no formal education qualification or skills training.

[4] Except for a small share of students who pursue higher education through Bachelors, Masters and PhD programs.

[5] A forthcoming tracer study on diploma graduates by the World Bank is expected to provide more in-depth quantitative analysis of employment outcomes of diploma students, including females. Based on the author's preliminary analysis of the tracer study data, this report draws upon some of those findings.

uncover the major issues in female participation in the technical diploma education. In addition, key informant interviews with polytechnic managements helped to reinforce the findings. The study conducted FGDs and key informant interviews covering seven public and private polytechnics located in Dhaka, Chittagong, Rajshahi and Sylhet (Annex 2).[6]

the findings. Nonetheless, this research contributes to identifying existing areas of gender concerns in the technical diploma education system in Bangladesh to better inform future analytical work.

1.4 LIMITATIONS OF THE RESEARCH

11. There is an overall dearth of literature on gender aspects of the TVET system, even more so, in the Bangladesh context. A lack of analytical studies and absence of proper documentation, particularly of the diploma education system, limits the ability to link findings specific to this subsector as opposed to the overall TVET education sector. Additionally, findings based on FGDs have limitations of reliability as the sample size is generally small. The study draws upon quantitative information as well as other relevant literatures where available to build on and substantiate

1.5 STRUCTURE OF THE REPORT

12. This report comprises of five chapters, including the Introduction. Chapter two provides an overview of the importance of female participation in skills training from different perspectives while Chapter three then shows the current enrollment trends and gender parity status in technical diploma programs. Chapter four is the main chapter which builds on issues highlighted in the preceding chapters and discusses the factors that contribute to low female participation in these programs. Finally, Chapter five brings together the findings of the study to provide some key recommendations for improving gender parity and mainstreaming gender in the Bangladesh technical diploma system for females.

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[6] The following institutions were visited/interviewed: Dhaka Mohila Polytechnic, Tangail Polytechnic, Institute of Science, Trade and Technology (ISTT), SAIC Institute of Management and Technology, Chittagong Mohila Polytechnic, Sylhet Polytechnic and Rajshahi Mohila Polytechnic. Around 150 female students across the three groups participated in the FGDs while 20 individuals from polytechnic management were interviewed.

Perspectives on Improving
Female Participation in TVET

13. The critical need for improved female participation in TVET stems from the economic, social and policy contexts in Bangladesh. While economic growth and labor market developments demand more and higher skilled female workers, social development requires their improved access to skills training opportunities for facilitating better employment and equitable incomes, accruing social benefits and improving women's empowerment. These deliberations are also reflected in the overall policy and plans of the Government of Bangladesh.

2.1 ECONOMIC AND SOCIAL PERSPECTIVES

14. The demand for more and higher skilled workers continues to grow in industry and service sectors in Bangladesh. In 2010, the share of workforce employed in industry and services (52 percent) outpaced that in agriculture (48 percent) for the first time in the job market (Figure 1). Between 2010 and 2013, the share of workers employed in non-agricultural activities, particularly female workers in industries, continued to increase. The increasing share of workers in higher paid non-agriculture work led the economy to experience higher growth and set the contexts for the country's progression to middle-income status. Growth in industry and services is expected to continue with around 15 million jobs projected to be created in fast-growing economic sectors, including Ready-Made Garments (RMG), export-oriented manufacturing, light engineering, ship-building, agri-business, ICT and pharmaceuticals (World Bank, 2015b).

15. Workforce development through skills training is critical to respond to the economic changes and achieve Bangladesh's goal of becoming a middle-income country over the next few years. In order to reach the middle-income status, GDP growth must increase from the current average of around 6.2 percent to 8 percent over the next five years (GoB, 2015). To achieve this target, the economy must transition to the next stage of efficiency-driven development, involving more sophisticated

Figure 1: Employment Share by Broad Economic Sectors, in Percent (%)

2013

	Total	Female	Male
Services	34%	23%	39%
Industry	21%	24%	20%
Agriculture	45%	53%	42%

2010

	Total	Female	Male
Services	35%	22%	41%
Industry	17%	13%	19%
Agriculture	48%	65%	40%

■ Agriculture ■ Industry ■ Services
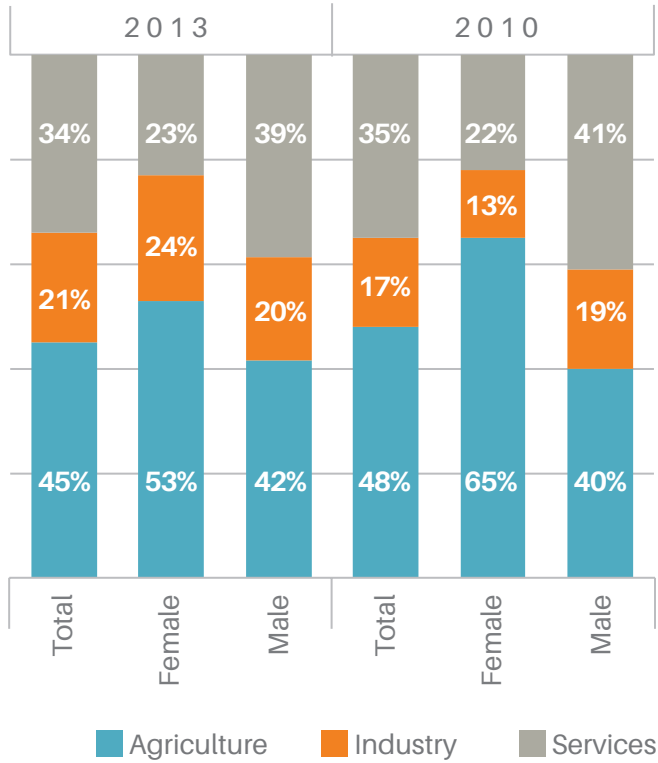
Source: BBS, 2010 & 2013

production processes and increased product quality. At this point, one of the driving factors for Bangladesh's competitiveness is the availability of a better educated, higher skilled workforce, capable of performing complex tasks and adapting to the evolving needs of a rapidly changing production system and work environment (WEF, 2015). However, the current labour supply is yet to be responsive to these changing economic contexts.

16. The national labor market survey shows that the Bangladesh labor supply has been growing steadily over the past decades, but workforce participation by female workers remains low. The working-age population increased to 154 million in 2013 from 74 million in 2000 (Table 1). Particularly, the urban female working-age population grew rapidly at an average annual growth rate of around 12 percent during this period. Concurrently, the female workforce participation rate increased from around 24 percent in 2000 to 34 percent in 2013. Despite these improvements, female participation in the workforce, particularly across the prime working age, remains less than half of its male counterpart (Figure 2). Particularly, a large share of female workforce remains engaged in unpaid family work, especially in rural areas, with limited opportunities for formal sector employment (World Bank,

Figure 2: Labour Force Participation Rate by Gender, in Percent (%)

	15-29	30-64	65+	Total
Male	67.1%	97.3%	54.6%	81.6%
Female	41.4%	30.2%	12.5%	33.5%
Total	53.8%	63.4%	33.6%	57.1%
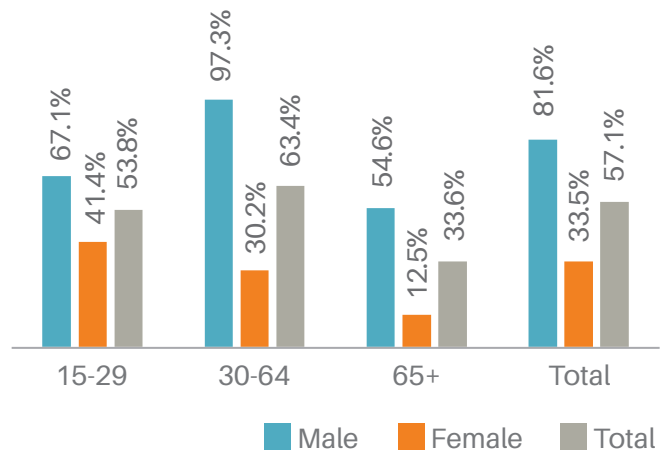
■ Male ■ Female ■ Total

Source: BBS, 2013

Table 1: Working Age Population, 2000-2013 (in millions)

	2000			2013			Average Annual Growth Rates (%)		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	74	38	36	154	77	78	8	7	8
Urban	17	9	8	43	21	22	11	11	12
Rural	58	30	28	111	55	56	7	6	7

2016a). Conversely, this implies that there are economic gains to be reaped from sourcing labour through higher participation of the eligible working-age female groups. A recent analysis predicts that if female participation can be raised to male participation rates, it would add 1.8 percentage points to the potential GDP growth each year, and help lift the country to middle-income status by 2021 (World Bank, 2015c).

17. Low educational qualifications and high informal employment are a general characteristic of the Bangladesh labor market. But the labor market outcome is worse for females. Almost 21 percent of the female working population has no education (Figure 3). The unemployment rate for females is higher at around 7 percent while for males the figure stands at about 3 percent (BBS, 2013). The national labor force survey also finds that 85 percent of the 'potential labor force'[7] are female, indicating that they face greater difficulty in

Figure 3: Share of Female Workforce by Education, in Percent (%)

10.3%   0.4%
10.3%   21.4%
29.3%
34.7%

| None | Primary | Secondary |
| Higher Secondary | Tertiary | Others |

Source: BBS, 2013

job seeking. The female worker share in informal jobs is also higher at 90 percent compared to 86 percent for male workers (*ibid*, 2013). The current composition of the female workforce indicates a critical need to upgrade their skills in responding to the economic and technological changes in the job market for better employment opportunities and thus contributing to the country's progress.

18. Literatures suggest that economic growth is more inclusive and leads to better results in poverty alleviation through improving access to skills training and employment among females. Studies have shown that education and skills development are key determinants in reducing the inequity among advantaged and disadvantaged groups in accessing better jobs and higher incomes and benefitting from the economic growth process (World Bank, 2013; Hossain et al., 2012; World Bank, 2011). A formal sector employment analysis conducted by World Bank (2013) shows that graduates with either technical, vocational, or training degrees are more likely to find professional jobs than regular secondary school graduates (Grade 10/equivalent) or higher secondary school graduates (Grade12/equivalent) in Bangladesh. In particular, the national labor market survey indicates that female technical diploma graduates tend to earn a monthly income which on average is around 25 percent higher than that of female secondary school graduates while the former also earn around 8 percent higher than female higher secondary school graduates (BBS, 2013).[8] The relatively higher returns to technical training for female secondary school graduates indicate that diploma education can facilitate their formal job market integration with better outcomes as compared to those with little or no education.[9] Similarly, experience from an Afghanistan skills training program shows that females who receive skills training are more competitive against untrained individuals in securing good jobs, experience

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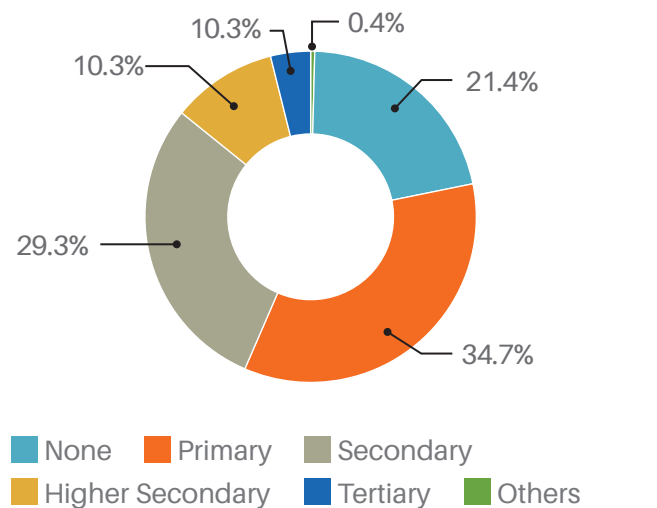
[7] The Potential Labor Force estimates two groups - the people seeking work but not immediately available and those who are available to work but not seeking it.

[8] The analysis compares the monthly average earnings among employed females who complete post-secondary education, either through technical diploma program or higher secondary college, as opposed to those with only secondary school qualifications.

[9] See World Bank, 2013 for detailed discussion on skills training and female employment

higher household savings and accumulate productive assets (World Bank, 2009).

19. Female workers with pre-employment training are also better prepared to work in the industrial environment. Studies show that female workers are more prone to on-the-job injuries than male workers in the industrial environment (World Bank, 2009; Uddin, 2015). Skills training in machinery and tools operations used in different trades would likely improve female workers' awareness of occupational hazards and safety issues and helps to prevent injuries.

20. Social benefits from increased female participation in higher education and training also extend to a variety of other areas for women, such as health, social cohesion, higher education attainment for next generation, higher political participation, among others. Several studies find a range of social benefits accruing to females equipped with higher education and skills. Health outcomes, particularly across indicators such as life expectancy, infant and child mortality incidence, child nutrition, etc. improve for females with higher education as compared to those with no or little education in Bangladesh (Akhter, 2012). Future generations also benefit as evidence shows that young children of graduate mothers have higher cognitive skill levels and greater ability to persist at tasks than children of mothers with lower levels of education (Baum and Payea, 2005). Females with higher education and skills are also less likely to commit crimes and more likely to be active citizens (such as, in voting, pursuing political careers, etc.) than those with lower levels of education as evidenced by studies on Bangladesh and other countries (Akhter, 2012; Baum and Payea, 2005).

Photo credit: STEP

2.2 POLICY PERSPECTIVE

21. Mainstreaming gender in skills training is a priority in the national policy and plans of Bangladesh. The National Skills Development Policy (NSDP) 2011 envisages increasing access to skills training for females and creating a gender-friendly environment in training institutions. The National Education Policy 2010 also advocates increasing the supply of training providers for females at district and upazila (sub-district) levels. Specifically, the National Strategy for Promotion of Gender Equality in TVET 2012 aims at increasing the female share in TVET programs to 40 percent by 2020 and female employment by at least 30 percent. The current 7th Five-Year Plan (2016-2021) also echoes the need for bringing more skilled female workers to the labor market through improved access to quality training.

22. The Government has taken proactive steps to mainstream gender into the TVET system. Four public girls' polytechnics in major divisional headquarters have been established, while two additional institutions have been proposed in the Government's 7th five-year plan.[10] The Government maintains a 20 percent female quota for enrollments in all public polytechnics to ensure competiveness for prospective female students. According to the Bangladesh Technical Education Board (BTEB), on average, around 18 percent of the female quota is filled by female applicants whose performance in the entrance exam is not as strong as others. The quota provision allows females from academically weak backgrounds the opportunity to access technical education and ensures that they are not excluded from skills training opportunities. Six female Technical Training Centers (TTCs) have also been established by the GoB in each of the divisional headquarters, specifically to provide short course training for prospective female migrant workers. Additionally, the Directorate of Technical Education (DTE) is providing stipend support to all female students in selected public and private polytechnics under a skills project (Box 1).

Box 1: Skills Training and Enhancement Project (STEP)

The Government of Bangladesh (GOB) is implementing a project, Skills Training and Enhancement Project (STEP), in the TVET sector with the support of the World Bank and the Government of Canada. The main objective of the project is to strengthen selected public and private training institutions to improve training quality and employability of trainees, including those from disadvantaged socio-economic backgrounds. The project is being implemented in 93 institutions, including both public and private education providers.

STEP has been supporting gender mainstreaming in the Bangladesh TVET system through focusing on improving female accessibility in training institutions as well as creating a more gender-friendly environment. The Project provides universal stipends to female students enrolled in supported public and private training institutions. It is also providing institutional development grants to institutions for improving the teaching-learning environment for quality skills training as well as running awareness programs targeting prospective TVET students, particularly females.

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[10] The all-girl polytechnics are located in Dhaka, Chittagong, Khulna and Rajshahi.

Chapter 3

Female Enrolment in **TVET**

3.1 INTERNATIONAL EXPERIENCES IN FEMALE TVET EDUCATION

23. The gender gap in TVET remains pronounced in many parts of the world. Low female enrollment in TVET programs has been found to be a challenge for governments in Africa (Kaaya & Waiganjo, 2015; Egun & Tibi, 2010) and Asia (Agrawal, 2013; World Bank, 2009). The literature reporting on factors relating to low female enrollment in TVET includes: (i) cultural factors, which include the social and traditional norms that expect females in traditional roles (Ndahi, 2002); (ii) attitudinal factors, which include perceived differences between male and female capabilities arising from a lack of female role models in TVET, and low societal perception of TVET (Yakubu, 2006); (iii) situational factors, which include financial insolvency of households, geographic barriers and lack of family support (Kaaya & Waiganjo, 2015); and (iv) institutional factors, which include inadequate gender-mainstreaming in programmes, lack of medical department and childcare services, lack of female campus dormitories and non-flexible entrance requirements for females (Ayonmike, 2010).

24. However, there are successful cases of improved female participation in TVET. The TVET sector in the Philippines experienced an overall boost in female enrollments (from around 800,000 in 2010 to 1,000,000 in 2013), with the female TVET graduates outnumbering males in 2013 (UNESCO, 2015; TESDA 2013). Gender concerns were incorporated in national policy, plans and activities along with monitoring and evaluation of gender outcomes in TVET. Institutions ensured increasing opportunities for females to enter trades generally considered non-traditional for them (such as automotive and welding trades) through increasing female teachers, electing female students in classroom leadership roles, scholarship programs, work placement as well as intensified recruitment programs for prospective female students (Misola, 2010).

3.2 OVERVIEW OF GENERAL EDUCATION ENROLLMENT IN BANGLADESH

25. The Bangladesh education system is complex with different study streams. All school-age children enroll in primary education from Grade 1 to Grade 5. During their secondary education (Grade 6-10), students have the option to continue in the general education system or transfer to technical education after Grade 8. Again, on completing the Secondary School Certificate (SSC) examination (i.e. Grade 10), students can choose to continue their general education through enrolling in a higher secondary college or receive technical education through a four-year diploma program in a polytechnic. Other than polytechnics, technical training centers (TTCs) offer short-courses on different trades which involve 360 hours of training on a specific skill. Enrollment in a formal short-course program requires a student to have a minimum qualification of Grade 8 completion.

26. Nearly half of the female students drop out of school on secondary school education (Grade 10) completion. Bangladesh has made good progress in basic education (Grade 1-8) with near universal enrollment in primary education and gender parity in both primary and secondary education. Particularly, female participation in secondary education has improved through national stipend support since the early 1990s. However, almost half of the female students do not progress from secondary to post-secondary education. The Gender Parity Index (GPI) shows that female enrollments are high and at par with males during primary and secondary schooling years, but rapidly decline when transitioning from secondary to tertiary level schooling (Table 2). The major share of female workforce, therefore, enters the labour market unequipped as these women lack the skills and training necessary for higher productivity, better paid formal jobs.

27. Gender disparity is even more glaring when comparing enrollment shares across general and TVET education. Bangladesh has made strides in improving gender parity in basic education (GPI of 1.03 and 1.13 in primary and secondary education respectively), while the country has been improving in the tertiary sector of the general education system (0.68). However, the gender parity index in TVET stands at 0.38, making it the education subsector with the highest enrollment disparity for females (Table 2). In particular, the GPI for polytechnic enrollments is significantly lower than the subsector GPI as a whole (0.09 versus 0.38).

Table 2: Gender Parity Index for General Education and TVET

	Boys	Girls	Gender Parity Index (GPI)
Primary (Grade I-V)	9,639,095	9,913,884	1.03
Secondary (Grade VI- X)	4,285,281	4,875,084	1.13
Higher Secondary (Grade XI-XII)	2,510,584	2,008,394	0.80
Tertiary (Grade XIII-XVI)	1,504,899	1,030,433	0.68
TVET (Grade VIII – XIV)	500,489	189,174	0.38
Polytechnics (XI-XIV)	147,426	14,691	0.09

Source: BANBEIS, 2014
Note: Tertiary enrollments include all students in universities and tertiary colleges. TVET enrollments include all students in secondary and post-secondary level TVET programs

3.2 FEMALE ENROLLMENTS IN POLYTECHNICS

28. TVET is a useful pathway for developing technical skills of secondary school female graduates as well as upgrading the skills of existing female workforce through a range of programs and modalities. Polytechnic institutions offer four-year diploma programs in major fields including engineering, agriculture, textiles, fisheries, etc. for secondary school (i.e. at least Grade 10/equivalent) graduates (see Annex 1 for the full subject list). By contrast, short-course training institutions offer 6-month to 12-month training in different trades, including Computer Office Applications, Database Programming, Electrical House Wiring, Graphic Design and Multimedia, etc. for trainees with at least Grade 8 completion. The shortcourses mainly offer quick skills training to improve the employability of individuals with low education levels for mostly lower-end jobs in the engineering and services field. By contrast, the diploma programs of polytechnics offer higher level practical and theoretical training for individuals to help them become technical experts and gain higher-value jobs in engineering and technical fields.

29. The demand for diploma level technical education by female students has gradually increased, but their participation remains nearly one-sixth of that of the male students. Female enrollment in diploma courses has increased by almost 60 percent between 2008/09 and 2014/15 (Table 3). The increase in female enrollment in diploma programs can be attributed to an increase in the number of female secondary school graduates, higher in-take capacity of polytechnics and introduction of stipends for females to help them enroll in polytechnics in 2010.

However, the female enrollment share has remained steady between 10-14 percent of total enrollments (Figure 4). This implies that female enrollments increased proportionately to that of males mainly as a result of the increased enrollment capacity of the subsector. At the same time, the female-targeted stipend provided by the Government also created demand among an increasing number of female secondary school graduates. In spite of the progress, the low gender parity index (0.13) for this sample of polytechnics indicates that gender equity issues largely remain as a challenge in technical diploma education.

Figure 4: Share of Total Enrollment in Polytechnics by Gender, in Percent (%)

Source: DTE, 2015

Table 3: Change in Polytechnics Enrollments by Gender

	Male	Female	Total
2008/09	20,533	2,835	23,368
2014/15	27,544	4,441	31,985

Source: DTE, 2015
Note: Includes enrollment data from a sample of 93 polytechnics.
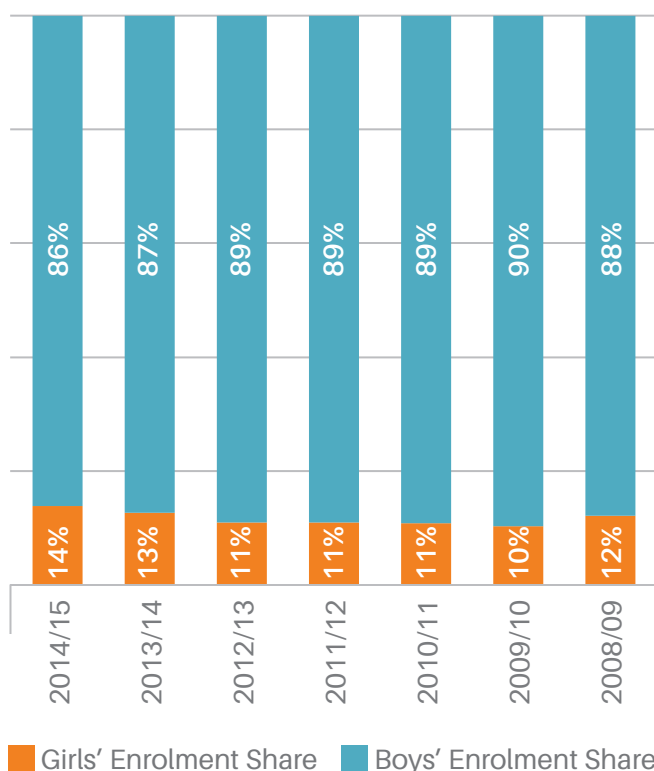
30. Public polytechnics are large with a higher share of female enrollments than private ones. Out of 425 polytechnics, 51 are public and the remaining are privately managed institutions. Though fewer in number, public polytechnics absorb a slightly larger share (52 percent) of the total polytechnics enrollments (Figure 5). Particularly, the share of female enrollments is three times higher in public polytechnics than private ones (Figure 6). Currently, there are four girls' public polytechnics in divisional headquarters, which account for around 3 percent of total polytechnic enrollments (DTE, 2014).

31. Female enrollment in polytechnics has picked up in secondary cities. Though Dhaka and Chittagong are the major cities for industry, female participation in diploma courses is slightly higher in Khulna (11%) and Rajshahi (10%) (Table 4). Based on interviews with polytechnic management, this can be explained by: (a) a better targeted outreach to prospective female students through intense promotion and awareness-building by the polytechnics; and (b) the higher local industry recruitment and demand for female graduates.

Figure 5: Share of Polytechnic Enrolments by Management Type, in Percent (%)

48%   52%

■ Public   ■ Private
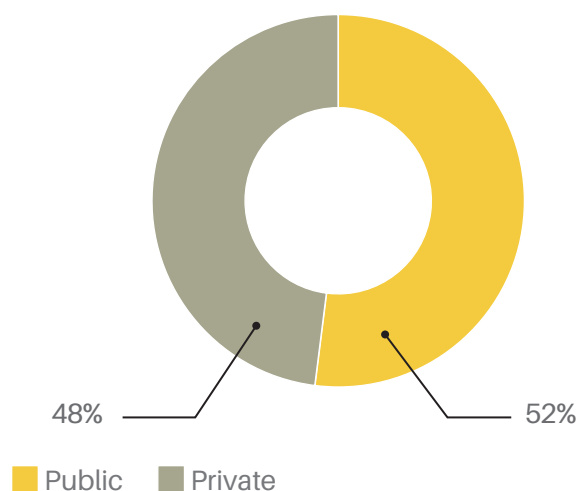
Source: DTE,2014

Figure 6: Share of Polytechnic Enrollments by Management Type and Gender, in Percent (%)

■ Male   ■ Female
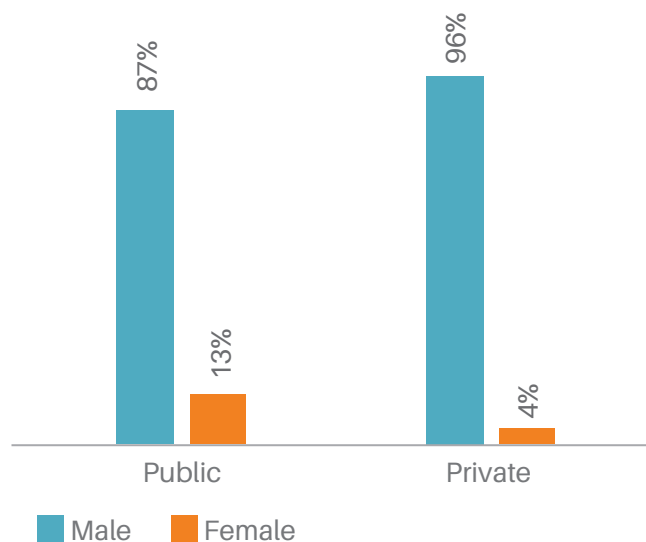
Source: DTE, 2014

Table 4: Enrollment Share by Geographic Location and Gender (%)

	Barishal	Chittagong	Dhaka	Khulna	Rajshahi	Rongpur	Sylhet
Male	93	92	91	89	90	92	94
Female	7	8	9	11	10	8	6
Divisional Share of Total Enrolment	6	16	36	14	19	7	3

Source: DTE, 2014

32. In terms of subject trends, female enrollments are high in softer technologies that provide desk-based jobs. By contrast, emerging and non-traditional areas like mechatronics, shipbuilding, marine technology, etc. have very small shares of female students. Female preference in terms of their enrollment shares show that the majority are in softer skills areas, such as, architecture and design, electro-medical, computer applications, graphic design and other technologies that require mostly desk work (Figure 7). The female enrollment share is least in technologies

Figure 7: Top Diploma Programs in terms of Female Enrolment Share (%)
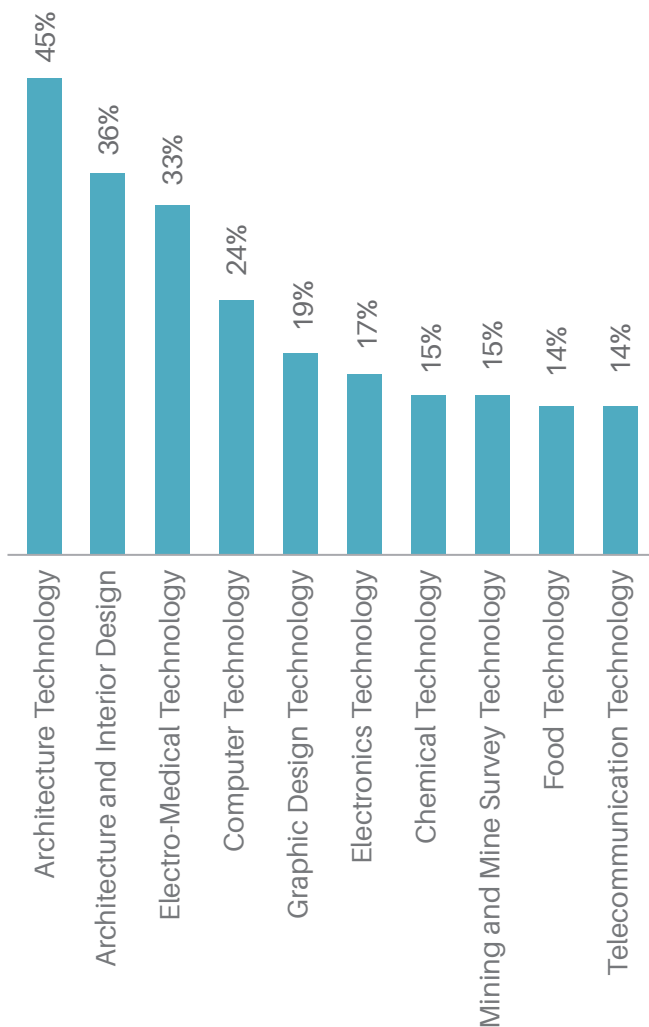
Source: DTE, 2014

> Being a girl, I have to be practical on what jobs I can continue to do even after I get married. I chose Computer Technology as the field is very female-friendly and also in demand in the job market. For example, I can do out-sourcing work from home, such as data-entry, web-development, graphic design, making it possible to have work while also looking after my family after I get married.
>
> —Saimoon, 2nd Year Student in Computer Technology

involving heavy machineries and tools, such as automobile (1%), marine technology (2%), aircraft maintenance (5%), shipbuilding (8%) and mechatronics (8%). Similar patterns of choosing softer skills areas have been observed by a tracer study conducted by the World Bank (2015) on short-term trainees, indicating that women in TVET are limited to a few of skills, which in turn might narrow their choices and opportunities in the labor market.

33. The FGD participants expressed their views on the factors that influence female diploma students' choice of the technology. Both the job prospects of the technology and the social acceptability of their role in the job market seem to be important considerations while choosing a technology for study in polytechnics by females. Social norms on acceptable roles of females in the labor market may make some technologies less accessible for some females (e.g. technologies in the mechanical, construction and electrical branches). Some of the female students feel that employers may not be willing to accept them in these traditionally 'male-dominated' areas where the work is generally physically

demanding, in addition to the fact that they have to balance their job and household responsibilities. As a result, they tend to prefer enrolling in technologies with perceived better job prospects for females and which likely lead to less physically-demanding, flexible, and more deskwork-based work.

3.3 STUDENT PERFORMANCE IN POLYTECHNICS

34. In terms of academic performance, female diploma students are faring better than their male counterparts. The average pass rate over the past five years stood at around 75 percent for female diploma students and 67 percent for males, and the yearly female average pass rate consistently remained higher than that of the male pass rate and total pass rate[11] (Figure 8).

Figure 8: Share of Students by Grade Achieved in Last Semester by Gender, in Percent (%)
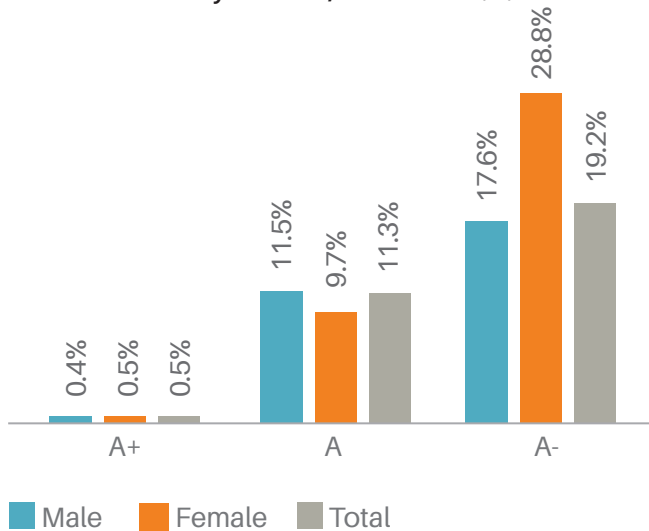
Source: World Bank, 2016b

Female diploma students are also performing better in semester terminal examinations at the polytechnics. Figure 9 shows that, around 39 percent of current female diploma students scored at least an A- grade (i.e. 70 -75 points) in their last semester exam as compared to 29 percent of male students. This indicates that female students are as academically strong as male students in the polytechnics, grasping well the diploma curriculum and technical training aspect of the polytechnic education.

Figure 9: Average Pass Rate for Diploma Graduates by Gender, in Percent (%)
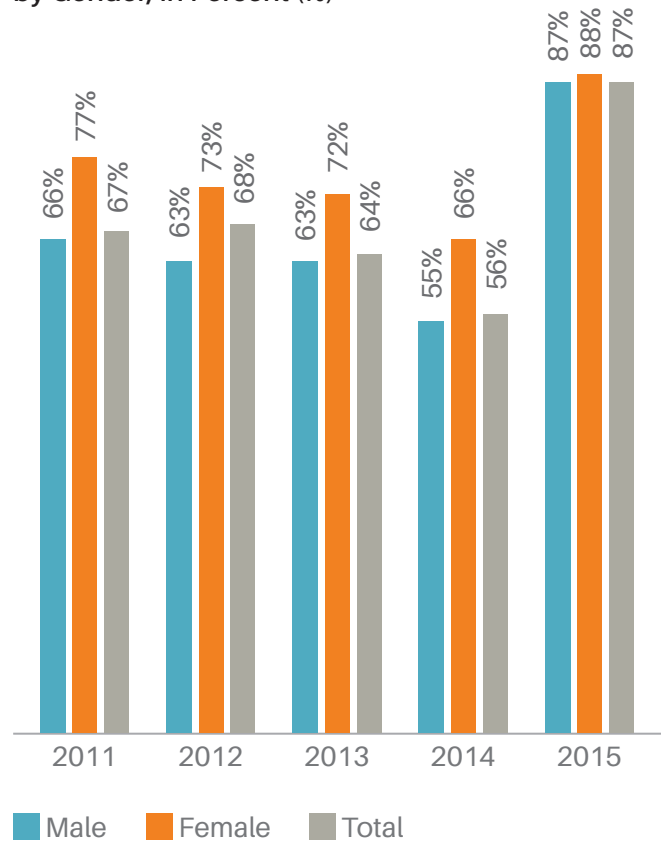
Source: DTE, 2016

[11] Note: A high increase in average pass rate is noted for the year 2015, arising due to changes in the examination system introduced by the Bangladesh Technical Education Board (BTEB). In 2015, the examination was held under the government regulation-2010. Under the new regulation, student pass rates improved primarily for the following three reasons: (i) the first three semesters were held by the polytechnics while the last five semesters were held centrally by BTEB. Exams held at the institutions helped students to better prepare for the final examination held by BTEB; (ii) In 2015, students were assessed based on their combined score of continuous and final assessments, while previously it was required for them to separately pass each assessment for progression; (iii) previously students participated in the industrial attachment (internship) in the 7th semester but under the new regulation, industrial attachments is in the 8th semester. As a result, student are able to better complete their coursework and assessments and then go for practical learning.

Challenges to
Female Participation in Technical Diploma Programs
in Bangladesh

35. This chapter attempts to analyse several supply and demand side factors which hinder greater female participation in TVET. Some of the factors are similar to those often identified in other countries, while others may be specific to Bangladesh's contexts.

4.1 INACCESSIBLE SUPPLY OF TVET

4.1.1 Unequal Supply of TVET services

36. Participation in diploma education may have been largely limited to a 'privileged' section of the eligible female population. This 'privileged' section is identified in terms of their location and economic condition. Interviews with polytechnic management reveal that female students are generally from middle-income families coming from metropolitan and urban areas.[12] A recent study finds that young people from economically advantaged backgrounds are twice as likely to enroll in TVET programs, and those living in urban areas are more likely to opt for TVET due to their proximity to training schools (CAMPE 2013; cited in World Bank, 2013). This suggests that access to TVET for females is likely to be affected by spatial factors as well as education costs.

37. The spatial bias in access to technical education is mainly due to (i) the relatively lower numbers of polytechnic institutions as compared to other post-secondary institutions, and (ii) the urban-bias in the locations of polytechnics in Bangladesh. Expansion in the technical education sector has not kept pace with secondary general education in terms of the number of institutions. Secondary level general

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[12] In Bangladesh, students who complete Grade 10 and enroll in a post-secondary institution are considered to be relatively well-off as those from poorer groups generally dropout prior to secondary school completion. Students who choose to enroll in polytechnics have to undertake the high costs of technical diploma education, requiring either financial solvency of the family or external financial support.

education institutions are five times the number of all TVET institutions in Bangladesh (CAMPE, 2013).[13] In particular, there are over 1,300 higher secondary colleges in the general stream compared to 425 polytechnics in the technical stream, indicating limited accessibility to polytechnics[14]. In addition, polytechnic outreach is further disadvantaged by the urban-bias of their locations. More than 65 percent of the population lives in rural areas, yet the majority of polytechnic seats (76 percent) are located in metropolitan cities and district headquarters (Figure 10). The urban-bias of polytechnics is possibly due to the preference for locating them within the vicinity of industries.

Figure 10: Distribution of Polytechnics by Location, in Percent (%)

Metro/Divisional HQ 26%
District HQ 50%
Rural 24%

Source: DTE, 2014
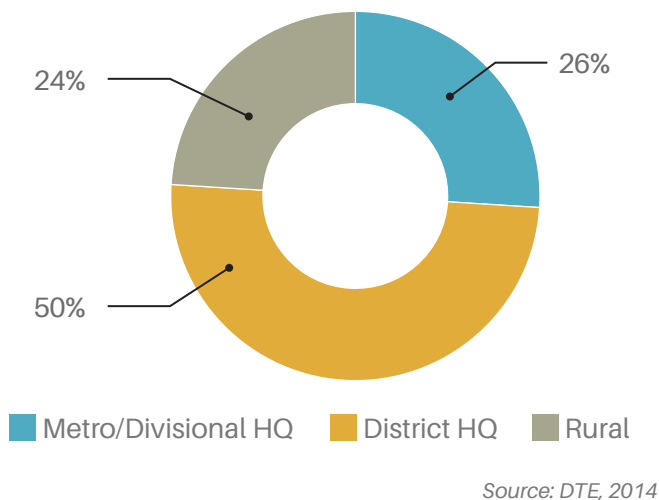
38. The spatial bias of polytechnics creates greater disparity in access to technical education for females, particularly for those who live in suburbs and rural areas. A skills-mapping survey identifies that equity in access to TVET remains a challenge for marginalized groups in rural areas (STEP, 2014). A tracer study survey results shows that a striking 71 percent of all male diploma students are from rural areas while only 46 percent of all female diploma students are from rural areas (World Bank, 2016b). Particularly, the current research re-confirms that restricted mobility of Bangladeshi females in general and those living in rural areas in particular limits their participation in diploma education. Anecdotal evidence suggests that due to the sheer number of general colleges, rural female students find accessing higher education through local colleges more convenient than pursuing technical education in a polytechnic, which would require re-locating from their homes to the divisional/district headquarters. A survey conducted by CAMPE (2012) further supports this finding; 96.7 percent of the surveyed females were enrolled in non-TVET programs as a share of the total enrollment in higher secondary education (Figure 11). Also, female TVET enrollment as a proportion of the total enrollment in higher secondary education was higher for metropolitan cities and urban areas as compared to rural areas. This supports that access to TVET supply is higher among non-rural female students.

Figure 11: Enrolment in TVET as a Share of Total Enrolment in Higher Secondary Education, in Percent (%)

All Bangladesh
Metropolitan City
Urban
Rural

Source: CAMPE, 2012

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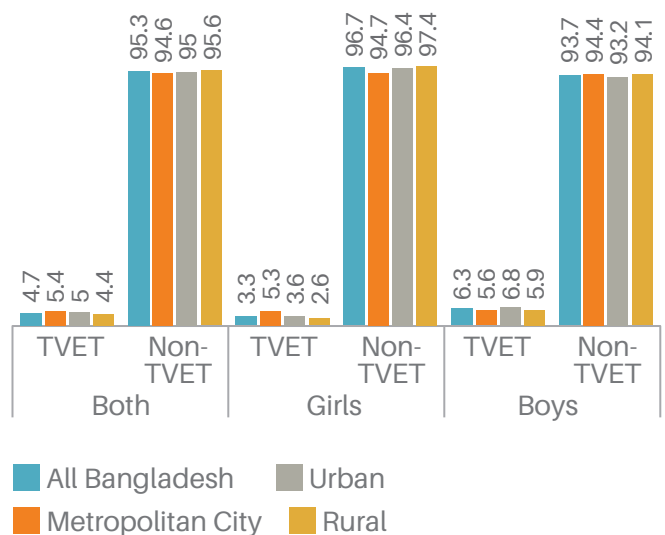
[13] There are over 25,000 secondary education institutions compared to a total of 4,898 government and privately held TVET institutions in Bangladesh. Here, the TVET figure includes all diploma, short-course, TTCs and SSC (Voc) schools.

[14] Data provided by BANBEIS and DTE.

> Initially, I did not want to enroll in a polytechnic. I always felt that pursuing my HSC from a college would be better as polytechnic education is generally associated with weak students. However, my father encouraged me to pursue a diploma program, referring to the skills training and employability aspects. One year into the program, I understand that this was the right choice. My learnings have been more practical compared to what my friends have been taught in HSC. I look forward to getting work right after I complete my diploma as a junior engineer which would have not been possible to achieve so quickly had I chosen the general education.

—Tamanna, 2nd Year Student in Computer Technology

39. Females who do choose to pursue a diploma education from a polytechnic as opposed to general education from a higher secondary college appear to be generally well informed of the diploma education structure and prospects. As revealed by FGDs, female students' choice to enrol in polytechnics was likely motivated mainly by: (a) personal aspirations of building a career in science and technology; (b) career advice and motivation from a family member from a similar TVET background; (c) the desire to complete higher studies in a short period and enter the job market quickly; and (d) availability of financial assistance to complete the study program.

Students reported that they sought admission to polytechnics with full information on the program and career prospects. The information was sourced either from family members knowledgeable on TVET education or from informational materials (e.g. newspaper, poster, flyer, etc.).

4.1.2 Non-conducive Facility and Faculty Environment

Institutional Learning Environment

40. Personal security issues arising from facility-related factors such as a lack of campus accommodation appear to be further hindering their enrollment in polytechnics. One of the major school environment issues for females is the lack of safe accommodation facilities for female students in polytechnics (ILO, 2010). As the majority of polytechnics are located in metropolitan or urban areas, lack of secure accommodation for non-local female students crops up as a challenge to their participation. More than half of the female FGD participants were living away from home and residing in a campus dormitory or private accommodation. Two contrasting cases in Sylhet and Chittagong reveal the critical role that campus accommodation plays in female participation and retention in polytechnics. The Sylhet polytechnic does not provide accommodation facility for female students while the Chittagong polytechnic offers campus accommodation for them. Female students in Sylhet identified the restricted mobility arising from a lack of personal security as their major problem in continuing education. By contrast, female students in Chittagong did not face any security issue in continuing their education, though over-crowding in dormitories is a major issue. Anecdotal evidence suggests that the geographical bias of polytechnics mainly to metropolitan cities combined with a lack of campus accommodation facilities raises security concerns for female students, particularly for those from small district towns and rural areas. This often leads these students to transfer to a polytechnic closer to their home district or to general education in a higher secondary college at their hometown.

> *Right after my SSC program, I became uncertain whether I would be able to pursue higher studies as my family was facing financial problems. I wanted to study Architecture, but another two years of HSC followed by four years in engineering university would have been too expensive for my family to bear. That is when I learned that financial assistance was available for me to enroll in diploma programs. As such support would make higher education financially viable for me, I applied and eventually got admitted.*

—Dina, 1st Year student in Architecture Technology

41. Access to safe transportation and medical services was noted as an important factor to support female students. Some of the FGD participants revealed accounts of unpleasant behaviour experienced while travelling to and from the institution in public transport. While many higher education institutions in the general stream offer transport facilities for students, this facility is yet to be extended to the technical education sector. Equally important, some of the management staff interviewed and students in the FGD emphasized the need for easy-to-access basic medical service on campus. Ideally, an education institution should have some arrangement for medical services if it is providing boarding services. Infectious diseases can also spread fairly easily at the congested dormitories. Resident female students are prone to health issues, particularly due to unhealthy food consumption, unhygienic living environment and infectious diseases spread from congested dormitory facilities. Limited access to medical services may lead to absence in classes, reduced academic performance and in extreme cases, drop-out.

42. There is general under-representation of female teachers and staff at polytechnics, which may be posing extra challenges to female participation in the polytechnics. As of 2016, the female shares in teaching and non-teaching staff of government polytechnics were only around 21 percent and 13 percent respectively; and the ratio goes even lower for senior faculty positions to 5 percent. Female managers are practically non-existent in top administration positions (i.e. principal and vice-principal positions) in the TVET system, partly due to the Government policy to promote staff based on seniority (Table 5). Even the government girls' polytechnics are led by male principals, which is suggestive of challenges in fully accounting for female perspectives in the management of those institutions.

Table 5: Government Staffing in TVET by Gender

	Male	Female	Total	Female Share (%)
Teaching staff	1668	433	2101	21
Non-teaching staff	1011	145	1156	13
Principal	50	0	50	0
Vice Principal	5	1	6	17
Chief Instructor (Tech)	62	3	65	5
Chief Instructor(Non-Tech)	20	2	22	9

Source: DTE, 2016

> One of our classmates dropped out of the polytechnic a couple of months ago. While travelling to the institution from the hostel, some boys teased her a couple of times. When her parents came to know about this, they decided to take her back home. I have heard she is now enrolled in a local college at her home district.

—Farzana, 3rd Year Student in Electrical and Electronics Technology

43. Presence of more female staff would likely encourage greater female student participation; however, the low availability of female TVET teacher candidates continues to be a challenge. Students in the FGD repeatedly commented that the presence of more female teachers would assist in better communicating their problems and seeking help on academic and personal issues. Recruitment and placement of teachers for government polytechnics is conducted centrally by the Ministry of Education via the Ministry of Public Administration (MoPA) and Public Service Commission (PSC). Hiring of teachers is out of the jurisdiction of the government polytechnics. Private polytechnics have the autonomy to recruit female teachers, but an overall low availability of technically trained female teachers in the sector negatively affects recruitment. The low number of female graduates in TVET is also one of the major factors responsible for producing a lower number of female teachers for the sector.

44. The Government is yet to set a target for increasing female teachers in technical diploma education. Bangladesh set and achieved an ambitious target to increase female teachers' share to 60 percent in the primary education sector. This target was achieved through female teacher recruitment drives which involved female-friendly policies, such as the opportunity of female teachers to be placed in schools near their husbands' home and special emphasis on professional development throughout their career. The 60 percent female placement in schools is one of the critical factors that improved girls' enrollment and retention at the primary education level. But the Government is yet to set a target and action plan for increasing female teachers' share in the technical education sector. Building on the experience of the primary education sector, initiatives to increase female teachers' share (at least to 40 percent) should be seriously considered. Such initiatives can involve a review of the Government's existing recruitment policy to ensure more female-friendly hiring policies that focus on female teacher retention and quality of teaching in the polytechnics.[15]

Industry Environment

45. The job trajectory of most diploma programs entails working in factories, where the work environment often is not female-friendly. In industries with predominantly male workers, ensuring a female-friendly working environment is critical to support more female diploma graduates in joining the sector. However, anecdotal evidence suggests that female diploma graduates, including those from softer technologies, often find it difficult to adjust to industry work as the environment is non-conducive for their participation.[16] Examples cited include, difficulties in

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[15] Currently, the National Strategy for Promotion of Gender Equality in TVET 2012 plans to increase quotas for female teachers (30%) and female staff (20%) as a means to increase female presence in technical education. However, to make teaching jobs in TVET more female-friendly, policies favorable toward female teachers' recruitment are required, examples of which include: deployment and transfers closer to their family, scholarship and incentives to attend pre-service training, and ensuring their professional development.

[16] This however does hold for the RMG sector, where female worker presence is large.

Box 2: Relevance and Appropriateness of Curricula – the skills for retail industry case

The retail industry case is a good example to illustrate the need to upgrade diploma education in alignment with emerging markets, particularly for female students. The public polytechnics have limited capacity in revising curricula and re-structuring programs to meet future market demands for graduates. The technologies offered in the different public polytechnics are determined centrally by the DTE. Consequently, the process lacks collaboration with polytechnic managements and industry employers for adapting to the market demands for female Diploma graduates. This is likely to be detrimental in achieving gains from local and foreign industry demands. A common example cited by female students and polytechnic management was the unavailability of Garments Design and Pattern Making Technology. Strikingly, there are only 3 polytechnics (1 public, 2 private) providing Garments Design and Pattern Making Technology. With the Ready Made Garments (RMG) sector considered as the most important industry for Bangladesh, and employing almost 4 million workers (of whom, 80 percent are females), the existing training opportunities are inadequate (McKinsey & Company, 2011).

adjusting to work environment arising from: (a) a lack of separate washrooms and prayer rooms, (b) misconduct by male colleagues with no proper reporting system, and (c) non-cooperative attitude experienced at work from males.

4.1.3 Non-availability of Female Preferred Programs

46. **A lack of relevant training programs for females may also be another factor for lower female participation in polytechnics.** Some of the female students opined in the FGD that the technologies they studied were not always the first preference. This is because the technology they would like to master is either not offered as a program at their institution or has not been developed as a curriculum for study in polytechnics. The majority of skills programs in polytechnics are orientated in branches of mechanical, electrical and construction related fields, where females are traditionally less employed. Trends revealed by

the Labour Force Survey show that the demand for skills in the service sector is expanding (e.g. tourism & hospitality, IT, hospice care, etc.) along with high job projections in manufacturing and other industry sectors (e.g. RMG, pharmaceuticals). However, a review of the list of programs under the Directorate of Technical Education (DTE) shows that there is little skills training offered in those emerging industries and services such as garments & design, tourism & hospitality, health services, accounting, management, and business, even though potential employers may well express an interest in hiring women in those areas.

4.1.4 Other General Supply-related Issues

47. **Technical education in private polytechnics is relatively expensive, which is likely to be a disincentive to participation of female students from socio-economically disadvantaged backgrounds.** The relatively high education costs of diploma programs at private providers as compared to

HSC programs (Figure 12) may be one of the reasons for prospective students' preference of general education to technical education, particularly for those from rural and socio-economically disadvantaged backgrounds.[17] High institutional expenses are likely to be a greater disincentive to enrollment particularly among females as underprivileged families tend to invest less in girls' education compared to boys in Bangladesh (CAMPE, 2012)

Figure 12: Average Annual Institutional Fees (in Bangladeshi Taka): Diploma vs. HSC
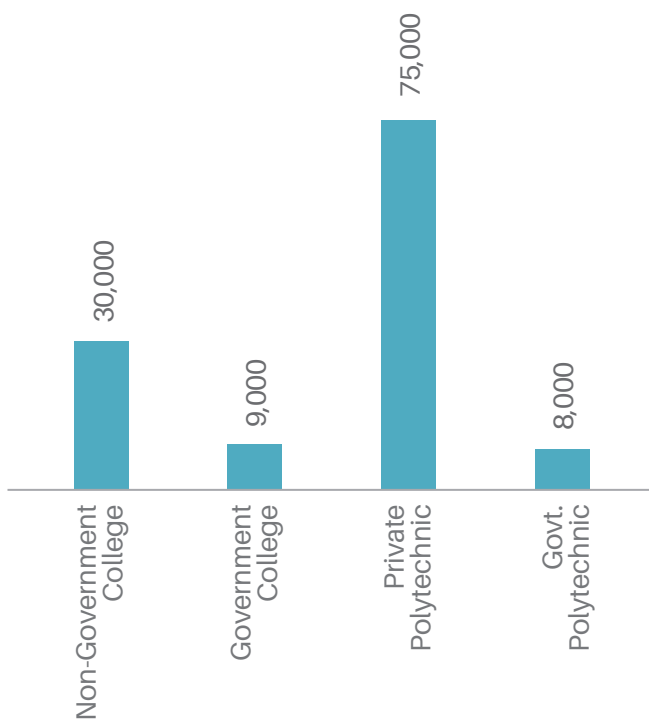
Source: Author's calculation based on institutional data, 2016

48. Financial constraints add an additional layer of vulnerability for low-income female diploma students, making it challenging to complete their diploma programs. FGDs with dropped-out female students revealed that while educational expenses seemed financially viable during enrollment, factors such as income shocks (e.g. demise of the household head, large health expense) as well as increasing non-direct costs of education (e.g. travel costs, dormitory rent) has led to discontinuation of polytechnic education for some students. Underprivileged families are more inclined to discontinue education of girls in the household compared to that of boys when coping with income crisis, placing girls in a relatively disadvantaged position. A CAMPE survey notes a gender difference in family spending on TVET across non-tuition expenses such as transportation, accommodation, food etc. (CAMPE, 2012)

49. Stipend programs were found to support female diploma students from socio-economically disadvantaged backgrounds, but only up to a certain extent. Female recipients of stipends reported that the money received greatly contributed to meeting education expenses (Box 3). Several participants communicated that the stipends encouraged them to enroll in the diploma program, given their economically challenging background. At the same time, some of the FGD participants voiced that the stipend amount did not cover their full education expenditures, and often fell short in meeting non-tuition expenses, including accommodation, transportation, food, etc. According to tracer study results, accommodation appears to be the biggest expenditure among non-tuition costs for diploma students, as students incur an average expenditure of around BDT 28,000 (USD 350 equivalent) each year (World Bank, 2016b).[18] This is likely as, except for a few public polytechnics and large private ones, all institutions have either inadequate hostel capacity or none, for which the majority of accommodation-seeking diploma students have to rely on private arrangements which are generally costly.

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[17] Institutional fees include tuition, examination fees, annual event fees and other fees charged for conducting the one year of the program. This amount excludes other non-educational associated costs, e.g. books, travel costs, meals, etc.

[18] The cost incurred for other non-tuition expenses such as textbooks and transportation stood at around BDT 4,100 (USD 51 equivalent) and BDT 7, 400 (USD 93 equivalent) respectively.

50. In the context of the increasing general level of education among the new entrants of Bangladeshi labour market, some diploma students aspire to have a higher level of qualification. Higher education is particularly preferred by the female diploma students as it improves the perceived value of their course and helps to advance their career. Interviews with employment placement offices suggest that female diploma graduates are often unable to adjust to technical roles in the industry environment and opt for an academic career through gaining higher education. Additionally, some females pursue higher education after spending some years in work with the aim to progress onto higher level positions, which they think will provide greater authority and better perceived acceptance in a technical role in the industry environment. Many females would still prefer to continue working in the labour market after polytechnic graduation, but some capable ones often want to go up the ladder a bit more.

51. Higher education for diploma graduates is offered by a single public institution located in Dhaka, which is often perceived as a restriction on career progress by prospective female students from semi-urban or rural areas. On completing diploma programs, a student may enroll in additional four-year graduate programs to receive a Bachelor in Science degree and become a full-fledged engineer. There are several private universities offering post-diploma education, which are located mostly in metropolitan and urban areas. By contrast, there is only one public institution, i.e., Dhaka University of Engineering and Technology (DUET), located in the periphery of the capital, which offers higher studies for diploma graduates (Box 4). DUET recognizes diploma

certificates by relaxing two semester credits for diploma graduates who enroll for further education, while private universities relax either one or two semester credits. While DUET offers relatively low-cost post-diploma programs compared to most private providers, the former is also well-accepted among industry and TVET community compared to private universities. As a result, all female FGD participants who expressed an interest in pursuing higher education spoke about their plan to enroll in DUET, while dismissing private universities. However, the limited seat availability at DUET coupled with the need to re-locate to the capital for post-diploma studies was considered as barriers to quality higher education among females residing outside Dhaka.

4.2 DEMAND-SIDE CONSTRAINTS

4.2.1 Reputational Issues

52. Historically, technical and vocational education has been viewed as training for male students. Traditionally, technical and engineering programs were limited to male participation as most programs led to manually demanding and often risky jobs in the industrial and service sector. However, new technologies accompanied by the evolution of sophisticated production processes have created a demand for new skills and expertise. Concurrently, the TVET sector has developed several new areas of technologies over the past two decades that are less manually demanding and more responsive to female preferences. The availability of these new technologies has contributed to gradual improvements in female participation in polytechnics. This is evident from female students' enrollment concentration in areas of architecture and design, electro-medical, computer applications, graphic design and other new technologies that require more desk-work and less mobility (refer to Chapter 2).

53. Despite the availability of new technical programs adapted toward female students, their participation nonetheless remains low. Common to the South Asian region, stereotyped perceptions of

'appropriate' female roles exist in Bangladesh, limiting their career choice to traditional and non-technical jobs. The FGD participants shared experiences revealing that their peers were uninterested in joining TVET merely due to a pre-conceived understanding that technical education is male-dominated and not female-friendly. The majority of female students and their families remain unaware of the developments that have occurred in the TVET sector, which is why female participation in this sector is still quite low.

54. The negative attitude towards diploma education is further spurred by a common perception that technical education is meant for academically weak students. The low social perception of technical education remains a challenge for both male and female students. Traditionally, students with weak academic records and less chance of success in higher education enroll in technical schools to improve their employability (STEP, 2014). However, technical education has evolved from being manual skills-led to technical skills-led, demanding students with higher cognitive skills. The high academic and cognitive requirements are yet to be perceived in society. During FGDs, some of the female students reported that in society many perceived them as low performers who had opted for technical education as a 'last resort'. For this reason, several female participants claimed that their peers were deterred from joining technical education and instead chose general education.

4.2.2 Lack of Awareness

55. There are inadequate promotional and awareness-building activities in technical education for prospective female diploma students and their families. Print and electronic media tend to focus on reporting matters relating to admission and examination sessions along with success stories of the general education system. Unlike general education, there is inadequate promotion of the technical education stream, particularly in rural and remote areas. Some efforts have recently been undertaken by the DTE for TVET promotion through electronic and print media. However, extensive TVET targeting that can remove

the patriarchal image of the sector for potential female students is yet to be undertaken.

56. Unlike their male counterparts, social norms and limited mobility disadvantage female diploma students in networking outside or, to some extent, even within the institution. More than half of the FGD participants were unsure of potential industry employers in their field of study. Additionally, they had little exposure to pre-employment preparations (e.g. resume development, interview skills and communication skills), which male students often gained through networking or pre-employment training outside of the institution. In the backdrop of their restricted mobility and limited networking opportunities, pre-employment preparations and job search support for females become particularly essential.

57. Employers also remain largely unaware of the skills training and curricula of polytechnic graduates in general, and even more so, of the pool of emerging well-trained female students of polytechnics. Several polytechnics have established employment placement cells to help diploma graduates find industry-specific jobs. However, interviews with polytechnic management staff revealed that employment cells faced challenges with establishing initial communications with employers, who were often unaware of the skills and training received by diploma graduates. This is likely as formal TVET graduates comprise less than one percent of the labor force (World Bank, 2013). Employers are accustomed to having to recruit untrained workers and train them on-the-job (Hussain, 2012; World Bank, 2007). Some of the female graduates in FGD revealed that finding a job with industry often took longer for them than their male peers. Some FGD participants identified that a lack of personal networks followed by employers' perception of their limited ability to 'adjust' with the environment of industry work often restricted their competitiveness in the job market. Survey data from a tracer study on short-course trainees shows that female graduates on average take a slightly longer time to find a job than their male counterparts. The survey shows that, on average, females took 7 weeks and males 6 weeks to find employment on training completion (World Bank, 2015a)

> " During my internship, I saw that my employer did not send me for on-call service support to clients. My male colleagues always went to these calls, while I was mostly given deskwork. I feel that clients as well as my employer find it difficult to believe that a female can service their computer. It is true that hardware networking does require taking equipment apart, removing screws and putting it back together, which often needs a lot of strength. However, they failed to understand that I was trained to handle this and am capable of doing the job as well as the males.

—Ishrat, Final Year Student in Computer Technology

58. Family awareness and support is another crucial factor for successful completion of diploma education. FGDs between successful and dropped-out female students strongly signalled the importance of family support in continuing studies. More than half of the successful female graduates ranked family support and then self-motivation and financial solvency as contributing factors for successful education completion. In the case of family support, participants spoke about the support of male household members, such as the father or elder brother, as the main source of their motivation to continue studying in technical education. By contrast, more than half of the dropped-out cohort identified financial insolvency, lack of family support, health issues, poor academic performance and lack of interest as their

reasons for leaving the technical stream. Both cohorts agreed that 'family support' extended to non-financial assistance, including encouragement and shielding from socio-cultural pressures, such as early marriage and child-bearing, which are often faced by young women in Bangladesh.

4.3 OTHER ISSUES FOR CONSIDERATION

4.3.1 Job Market Perspective

59. Female polytechnic graduates are just as likely as male graduates to look for jobs in the labor market after completing their training at polytechnics. However, unemployment remains high among female graduates compared to their male counterparts. Data from a tracer study on polytechnic graduates reveal that 78 percent of female graduates compared to 77 percent of males reported to have looked for work on completing their diploma programs (World Bank, 2016b). Despite similar aspirations, female graduates are less likely to find work or continue with further study and training compared to males. The share of unemployed female polytechnic graduates stands at 41 percent while their share in further education and training also falls behind male graduates (Figure 13). The gender gap in economic outcomes of technical diploma programs can be discouraging female participation in these study programs. Females are already underrepresented in polytechnic education and ensuring better economic outcomes from their degrees would be critical in attracting them to enroll in polytechnics.

60. Employment for female diploma graduates generally tends to be desk-based work in selective technologies. Interviews revealed that among existing technologies, computer and architecture technology female graduates tend to get employed sooner than those from other engineering disciplines. For example, one polytechnic job placement cell placed 75 percent of the institution's architecture female graduates in industry jobs, which was higher than the overall average placement of around 53 percent of female graduates. Anecdotal evidence also suggests that employers often prefer female graduates to male graduates from these

Figure 13: Economic Outcomes of Polytechnic Graduates after One or Two years of Graduation, by Gender

Legend:
- Unavailable for work
- Studying
- Unemployed
- Self-employed
- Working full/part time
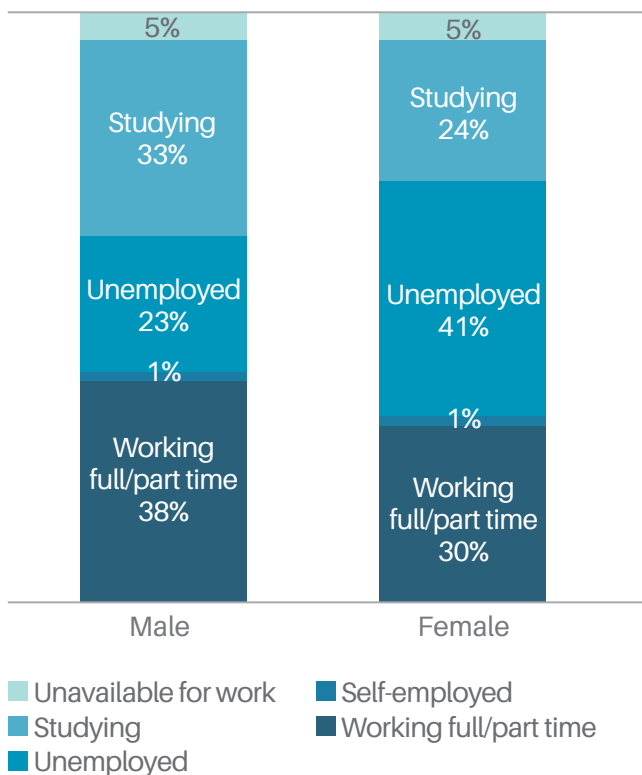
Source: World Bank, 2016b

two disciplines particularly for desk-based design work. Female diploma graduates generally undertake roles as assistant engineers for these positions.

61. The societal perception of appropriate female work roles however seems to make employers hesitant to hire female diploma graduates for field-based technical roles. The diploma education system is designed to mainly provide the job market with a supply of technical skills to support industry jobs in branches of civil, construction, electrical and mechanical engineering. These industry roles often require frequent field visits, which are yet to be commonly accepted for females due to the existing societal perception of gender roles in Bangladesh. As anecdotal evidence suggests, employers make specific requests for male candidates rather than females for field-based jobs, making it difficult for eligible female candidates to access these jobs.

> " We often receive requests for CVs of female graduates with a background in Data Telecommunication Networking for design-based technical roles. According to employers, this area requires a lot of time and patience for design work, and females tend to perform better in such positions. However, our institution does not have many female students in this technology. It is still relatively new and prospective female students are yet to be fully aware of the job prospects for them.

—Rawshan Ara, Coordinator of a Polytechnic Job Placement Cell

62. There are some new and emerging occupational fields which have potential employment opportunities for female diploma graduates. Among emerging technologies, interviews with polytechnic employment cell staff suggest that employers have a strong preference for female graduates in data telecommunication networking, garments pattern making, and electro-medical service. These new technologies involve technical roles requiring a strong combination of design and engineering, which, as reported by employers, are better executed by females. However, these technologies fail to attract as many female students as traditional disciplines such as computer and architecture technology can attract. Additionally, there exists considerable scope for introducing service-orientated diploma programs in areas of medical services, hospitality and tourism, and business management, which favor female roles and support increasing job market demand at home and abroad. There was a consensus for a need to review the demand for skills in the emerging service sector and overhaul the diploma education system to provide new service-orientated skills in encouraging more female-friendly TVET.

63. Stronger linkage between polytechnics and employers is imperative to improve employers' perception of female work roles and enhance job competitiveness of female diploma graduates. Several polytechnics in Bangladesh are already partnering with industry to gain employers' input in providing market relevant training (World Bank, 2015a). However, the institutions are yet to leverage these industry partnerships for improving diploma training outcomes for female students. Employers can be involved in a range of areas, such as developing gender-responsive curriculum development and program design, facilitating more and better internships for female students, creating female-friendly work environment, etc. Such involvement of employers would help to break discriminatory images held by industry and society of 'appropriate roles' of females in the workplace, which otherwise limit female diploma graduates to a narrow range of skills training and jobs and disadvantage their employment opportunities.

4.3.2 Societal Issues

64. Marriage and child bearing among female polytechnic students, possible causes of female drop-out, appear to be infrequent. A World Bank survey results show that the majority of current female students in polytechnics are not married (World Bank, 2016b). The survey finds around 8 percent of female students married compared to about 1 percent of male students. Interviews with polytechnic managements also reveal that a small percentage of female students - less than five percent - dropped out due to socio-cultural factors such as early marriage or child-bearing. Though early marriage pressure is a common issue, the majority of students agreed that they were capable of overcoming this challenge through communicating the benefits of completing their education to their families.

Chapter 5

Policy Options

65. **The review of this study provides some key information for future policy discussions towards promotion of female participation in TVET.** Several factors seem to influence female participation and retention in technical education, including: (a) supply constraints – lack of institutions nearby, non-conducive facility and faculty environment, non-availability of female- friendly courses and relatively high TVET costs for poor households; (b) demand-side constraints - the reputational issue as the TVET sector is associated with the image of male-domination and low-performers, weak demand for technical training among potential female students due to lack of awareness, and employers' perception of appropriate female roles at work.

66. **Eight major areas for improvement have emerged through the review as potentially beneficial policies and strategies for further boosting female participation in post-secondary TVET:** (i) creating a gender-friendly environment in polytechnics and workplaces; (ii) developing more service-orientated diploma programs; (iii) developing a TVET awareness campaign for females; (iv) supporting a career counselling and guidance system for females; (v) improving access to higher education; (vi) providing greater demand-stimulating incentives; (vii) generating research and knowledge on TVET for females, and (viii) leveraging partnerships to promote skills development for females.

KEY POLICY OPTIONS

1. Creating a female-friendly environment in polytechnics and the workplace: A lack of campus accommodation and safe transportation is a major challenge to female participation and retention in polytechnics without these facilities. The provision of campus dormitory and transport facilities for females would encourage more females to enroll in polytechnics. To make the polytechnic environment more female-friendly, an increase in female teacher and staff share to at least 40 percent of polytechnic staffing is critical and this requires a review of the recruitment policy by the Government. Training in gender awareness among staff and reviewing curriculum from gender perspective may also be considered by the DTE. Ensuring women-friendly facilities (e.g. separate washrooms and religious facilities, leisure rooms, etc.) and regulations against gender discrimination in the industry environment would also encourage female graduates to pursue technical jobs.

2. Developing more service-orientated diploma programs in sync with emerging service sector businesses: The service sector in Bangladesh has expanded considerably over the past decade, employing more than one-third of the labor force (of whom, 23 percent are females) (BBS, 2013). New and emerging service sector jobs are demanding specialized skills which are less labor-intensive and more orientated toward soft technical skills, a characteristic considered favorable to female employment. The inclusion of new service-orientated diploma programs aligned with labor market demand under the DTE would improve employment opportunities and economic outcomes for female diploma graduates. This would, in turn, encourage more girls to opt for diploma education for its improved employability.

3. Developing a TVET Awareness Program for Females: The DTE has taken some notable steps in creating awareness of the prospects of diploma education. However, it is yet to implement a gender-specific awareness program to educate citizens on the evolution of technical education and job market prospects for female diploma graduates in Bangladesh. These programs must target beyond female students to include their families and prospective employers. Prospective female students as well as their families require greater awareness of the available diploma programs and market opportunities for graduates. Awareness building must also include 'branding' the TVET sector and breaking the image of technical education as 'male dominated'.

4. Developing a career counseling and guidance system for females: There is a need to address the dearth of knowledge of career prospects for diploma graduates, particularly for female students who have fewer opportunities for networking and job preparation. Functional career guidance cells, which offer mentorship, career counseling and job placements, would work well to support female students as well as attract prospective ones. Additionally, these units should work toward improving links with industry employers through knowledge and idea exchange. Industry employers need to be better informed of the skills development and training received by female polytechnic graduates. More involvement of employers in the process to improve diploma education for females would help to remove discriminatory societal perceptions of 'appropriate roles' of females in the workplace and expand job opportunities for technical diploma graduates.

5. Improving access to higher education – Pathways to higher education work to make technical diploma education attractive to students, particularly among female students who are more likely to pursue teaching careers in TVET. The DUET as the sole public provider has inadequate higher education opportunities for students with a diploma background. Female students, particularly those residing outside of Dhaka, are additionally disadvantaged in pursuing higher education due to their restricted mobility. There is also a need to assess the quality of private providers of higher education and ensure quality and access in these institutions for technical diploma graduates. Additionally, alternate paths to higher education, e.g. distance learning and partnerships with international institutions, may be explored by the Ministry of Education and DTE to provide better access to further education and vertical mobility, making technical diploma programs attractive for female students in the long run.

6. Providing greater demand-stimulating incentives – Access to diploma education still largely remains limited to a privileged section, i.e. urban female students from relatively well-off families. This study has found that stipends have been useful in generating demand and making diploma education viable for low-income female students. However, the stipend money is often considered inadequate for some students, given the relatively high costs of technical education. There is a need to explore different mechanisms for financial support to low-income female students to enable them to complete their diploma program. For example, the DTE may consider the introduction of teaching and lab assistantships as well as part-time job placement for students with partnered industries. The Government may also consider facilitating better access to education loans by female polytechnic students for pursuing technical education.

7. Generating research and knowledge on TVET for females

– There remains a general dearth of research on female skills training outcomes and their labor market demand. Some areas of research that would benefit gender mainstreaming in TVET include: (a) job market analysis of demand for female diploma graduates; (b) the current female diploma graduate employment patterns and performance; (c) a review of gender responsiveness of the polytechnic curriculum; (d) analysis of the workplace environment for female diploma graduates; and (e) female students' satisfaction with the diploma education system in Bangladesh. The availability of analytical work in these areas would be useful in guiding the government, polytechnic administrators, skills practitioners and other stakeholders in improving diploma education for females.

8. Leveraging partnerships to promote skills development for females:

Meaningful partnerships may focus on the following areas: (a) liaising with women organizations and civil society organizations for social marketing of TVET in rural areas; (b) networking with the industry to encourage apprenticeships for female diploma graduates; (c) establishing monitoring and evaluation systems on gender-mainstreaming in TVET; and (d) streamlining data and information on female diploma students to better inform the gender policy in TVET.
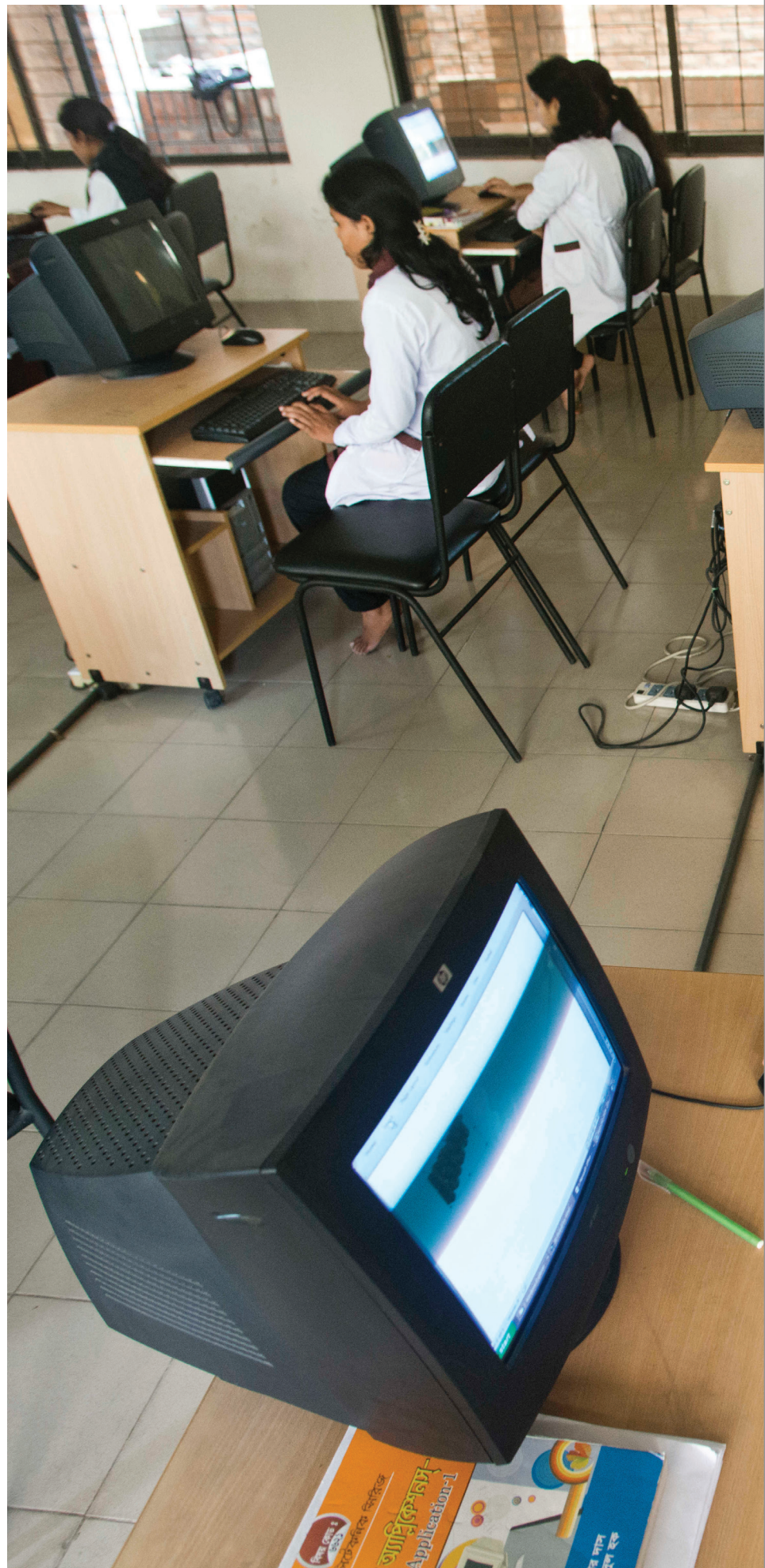
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Annexture

ANNEX 1: LIST OF TECHNOLOGIES UNDER DTE

Diploma in Engineering:

1.	Aircraft Maintenance (Aerospace) Technology
2.	Aircraft Maintenance (Avionics) Technology
3.	Architecture and Interior Design Technology
4.	Architecture Technology
5.	Automobile Technology
6.	Ceramic Technology
7.	Chemical Technology
8.	Civil (Wood) Technology
9.	Civil Technology
10.	Computer Science and Technology
11.	Computer Technology
12.	Construction Technology
13.	Data Telecommunication and Networking Technology
14.	Electrical Technology
15.	Electro-Medical Technology
16.	Electronics Technology
17.	Environmental Technology
18	Food Technology
19.	Garments Design and Pattern Making Technology

Diploma in Engineering:

20.	Glass Technology
21.	Graphic Design Technology
22.	Instrumentation and Process Control Technology
23.	Marine Technology
24.	Mechanical Technology
25.	Mechatronics Technology
26.	Mining and Mine Survey Technology
27.	Power Technology
28.	Printing Technology
29.	Refrigeration and Aircondition Technology
30.	Shipbuilding Technology
31.	Surveying Technology
32.	Telecommunication Technology

Diploma in Agriculture

Diploma in Textile

Diploma in Fisheries

Diploma in Forestry

ANNEX 2: FOCUS GROUP METHODS

This annex illustrates details of the Focus Group Discussions (FGD) methods and activities that were undertaken by the study team in collecting data and information from the participants and institutions.

1. FGD Questionnaire Preparation

Four sets of questionnaire to guide the FGDs and interviews were prepared for: (i) female current students; (ii) female graduate students; (iii) dropped-out female students of polytechnics, and (iv) polytechnic management. The questionnaires were based on an extensive literature review and guided the interviewer in moderating the sessions. The questionnaires used to guide the FGD are included in Appendix 1-4.

2. Composition of FGD participants

The FGDs were conducted among three cohorts of females: i) currently enrolled female students; ii) female diploma graduates and iii) dropped-out female students. This allowed the team to compare and contrast the responses of the three female groups and uncover the major issues in female participation in the technical diploma education. For each cohort, the female participants were selected randomly from the student register database at the polytechnic and based on their availability for participation on the particular day.

Each cohort comprised of female students from different study years and programs in polytechnics from across major divisions of the country. Particularly, the composition of participants from the current student cohort included both first year students and final year students from a range of diploma programs, including Computer, Electrical, Architecture, Electro-Medical, Food Technology, among others. The group composition consisted of students who had a shared background and some pre-existing social ties but were individually diverse. The use of a pre-existing social group was advantageous while conducting the research as it provided the social contexts within which the students' opinions are formed as well as allowed them to relate to each other's comments or incidents in their shared educational life (Kitzinger, 1994)[19].

Key Informant Interviews (KIIs) were conducted with the Polytechnic Principal, often in presence of higher level management, including Vice-Principal and Head Teachers.

3. Data Collection

Informed consent was taken for recording that allowed participants to understand the topic and rules, their rights as well as potential risks of over-disclosure and ensured ethical issues were met (Bloor et al., 2001)[20]. A small guide of open questions was used for each cohort and was found to be very useful in the instances where participants went off-topic or the group went silent. Though the study was looking at broad areas of study motivation, geographical/spatial factors, learning environment, and awareness on TVET, the discussion in addition gave insight into various sub-topics (e.g. higher education and skills recognition, workplace environment, social perception issues) within these categories that may not have been included in a literature-based questionnaire. Hence, the focus group methodology seemed very apt in identifying a range of factors relating to female students' adjustment in polytechnics.

4. Data Analysis

The discussion lasted for 60-80 minutes with each student cohort and recording was transcribed for data analysis. Prior to the focus group, four major categories – study motivation, geographical/spatial factors, learning

[19] Kitzinger, J. (1994) 'The methodology of focus groups: The importance of interaction between research participants', Sociology of Health and Illness, Vol. 16, No. 1, pp. 103-121.

[20] Bloor, M., Frankland, J., Thomas, M. and Robson, K. (2001) Focus Groups in Social Research, London: Sage.

environment, and awareness of TVET – were identified from the literature review. However, the FGD provided scope to accommodate new issues/factors to be discussed and accommodated into the study.

The direct content analysis method, which is a structured coding process in which the researchers identify key codes based on previous studies or existing theories, was therefore followed (Potter and Levine-Donnerstein, 1999).[21] All highlighted text was coded under the four categories and then these texts were further considered for sub-categorization. For example, under learning environment there emerged sub-categories relating to polytechnic facilities, staffing and personal security.

Similarly, KIIs were conducted with polytechnic principals and management and content analysis was conducted on these interviews.

The FGDs conducted gave some very interesting findings in understanding female students' participation in polytechnics. The analysis revealed that geographical and socio-cultural factors played a stronger role in limiting their participation in diploma education. The availability of female-preferred programs and lack of awareness among prospective students were also uncovered as factors that deter their participation. The findings are discussed in detail along with relevant transcripts in Chapter 4.

5. Field Work

The main field visits were conducted during September 2015-January 2016. The following institutions were visited/interviewed: Dhaka Mohila Polytechnic, Tangail Polytechnic, Institute of Science, Trade and Technology (ISTT), SAIC Institute of Management and Technology, Chittagong Mohila Polytechnic, Sylhet Polytechnic and Rajshahi Mohila Polytechnic. Around 150 female students across the three groups participated in the FGDs while 20 individuals from polytechnic management were interviewed during the visits.

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[21] Potter, W.J. and Levine-Donnerstein, D. (1999) 'Rethinking validity and reliability in content analysis', Journal of Applied Communication Research, Vol. 27, No.3, pp. 258-284.

Questions
1. How has your experience with your diploma program been? Would you like to share some of your positive experiences in the program so far?
2. What motivated you to enroll in a polytechnic?
3. Did you consider other postsecondary education options, such as higher secondary colleges?
4. What motivated you to choose the technology program you are studying?
5. What are you aspirations on completing the program?
Geographical Factors
6. How many of you live far from this training institute? How do you get from your homes to the institute?
7. Do you face any trouble while travelling to your institution? Please elaborate on the types of issues you face while travelling to and from the institute.
8. How many of you live without your parents while pursuing your education? Where are you staying? Are there any problems you feel in living by yourselves in private accommodations or with relatives?
Financial Factors
9. How are you financing your education? How many of you are receiving stipends?
10. For those who receive stipends, do you require supplement income to help in pursuing your training? Where does this supplement money come from – parents, part-time jobs?
11. What are your major expenses related to pursuing your diploma education?
12. Do you ever feel the need to forgo training and enter work to support your family and yourself?
Socio-Cultural Factors
13. When you applied for the diploma program, did you feel supported and encouraged? By whom?
14. How many have school friends who also enrolled with you on training programs? What may have deterred some of your friends from joining?
15. How many here have to balance household chores as well as training? What kind of chores are you responsible for?
16. Do you face any difficulty in balancing your domestic responsibilities with your training? Do you receive any help from siblings or other members in carrying out household chores?
17. For those who are single, would you like to complete your training first and then settle down? Or do you feel that you may get married prior to completing your training?
18. Do any of you feel that it may be difficult for a girl to continue with her training if she is married?
19. Do you know any classmates who were not able to continue their training after marriage?
20. How do feel about the quality of training you are receiving?
21. Are you able to communicate openly with your instructors when you are facing trouble with your work? If not, what may be the reason(s)?
22. Does anyone feel that some training programs are unsuitable for girls to pursue even if they may have interest for the trade? If so, why?
23. Do you feel confident that you will successfully complete your training and join the workforce? If not, why?

APPENDIX 2: FGDS WITH FEMALE GRADUATES OF POLYTECHNICS

Questions

1. (a) For how long have you been working?
   (b) Did you face any difficulty in finding a job after you completed your training?
   (c) What motivated you to enroll at the polytechnic institute?

Geographical Factors

2. (a) During your training program, where did you live? With family, at hostel or private accommodation?
   (b) For those who lived away from their families, did you face any difficulty and were you able to overcome it? If so, how?
   (c) How did you travel to and from the institute during your training program?
   (d) Did you face any difficulty while travelling, and if so, were you able to overcome it? If so, how?

Financial Factors

3. (a) How many of you have parents working in 1) agriculture 2) manufacturing and 3) services?
   (b) How did you finance your studies during your diploma program? Did anyone receive stipend?
   (c) At any point, did you feel the necessity to forgo training for work and how did you resolve this?

Socio-Cultural Factors

4. (a) How many of you were married when you were enrolled in your training program?
   (b) For married students, how did you balance your training with your household life?
   (c) Did you have any classmates who dropped out after they were married? If so, are you aware of the problems they were facing in continuing with their training?

5. (a) For single students, did you have responsibilities of household chores? Would you say you had light or heavy domestic responsibility?
   (b) What kind of chores were you responsible for and did you receive support from other family members? At what times did you receive support?

6. Can you share an experience during your training program when you felt you will have to withdraw from the training program?

7. On reflecting back, what are the things that helped you successfully complete your training program?

APPENDIX 3: FGD WITH DROPPED-OUT FEMALE STUDENTS

Questions

1. What are you currently doing? Working/Unemployed/Studying/Homemaker

2. Geographical Factors

(a) What initially motivated you to enroll in the training program?
(b) With whom were you staying when you were enrolled in your training program?
(c) How did you travel to and from the training institute?
(d) Did you face any trouble while travelling?

3. Financial Factors

(a) How did you pay for the program?
(b) Did face any difficulty in paying your training fees?
(c) Did any of you receive stipend?

4. Socio-Cultural Factors

(a) How many here were married while pursuing your training?
(b) Did you personally want to get married or would you have preferred to delay it?
(c) How did your husband/in-laws feel about your training?
(d) How much work load do you have at home?
(e) What kind of responsibilities do you have at home?
(f) When you were studying, did this in any way affect your training?

5. System Level Factors

(a) Did you face any difficulty as a student in understanding the material or keeping up with your peers? If so, what kind?
(b) Were you able to consult/get help from your teachers?
(c) If not, why?
(d) Were there female teachers for your program?

6. What do you feel was the top reason for leaving the training program?

7. What do you think could have helped you in completing your training program?

APPENDIX 4: INTERVIEW WITH PRINCIPAL/ MANAGEMENT OF POLYTECHNIC

Questions

1. Would you please provide a brief background of the institute?

2. (a) What is the staff number at your institute? Of which, how many are female teachers?
   (b) In your opinion, what are the reasons for low female teacher recruitments?

3. Which types of training programs is the institution offering? What were the criteria in choosing to offer these programs?

4. What is the available number of seats at this institute? How many female students are currently enrolled?

5. (a) Which training programs are in demand/preferred by female students?
   (b) In your opinion, what motivates female students to pursue these particular training programs?

6. Is the institute currently taking any particular step(s) to target female students during admissions?

7. What kinds of facilities exist for students undertaking training at this institute?

8. How has female student retention been at this institute?

10. In your opinion, what are the likely factors that are preventing female students completing their training?

11. In your opinion, what do you think must be done to assist female students to successfully complete their training programs and join the workforce?