# A Research on Employment Status and its challenges for Female Diploma Engineers Graduated from Polytechnic Institutes of Barishal City

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Authors

# Contents

A Resear	rch on	1
Acknowledgement		
List of Ta	ables	5
List of Fig	gures	6
ABBREVI	IATIONS	7
ABSTRAC	СТ	8
Chapter	01 Introduction	9
1.0	Introduction	9
1.1	Statement of the Problem	10
1.2	Research Questions	10
1.3	Objectives of the Study	11
1.4	Scopes and Limitations of the Study	11
Chapter-	-02 Literature Review	12
Chapter-	-03 Methodology	14
3.1	Population Size	14
3.2	Research design	14
3.3	Sample size, sampling and research design	14
3.4 Da	ata Collection Tools	16
Chapter	04 Data Analysis and Findings	17
4.1	Employment Status	17
4.2	Employment Status on the basis of Type of organization	18
4.3	Status of Technology Relevancy	19
4.4	Status of degree related govt. Job	20
4.5	Status of degree related Job in respect of all kinds (Govt./Private/NGO):	21
4.6	Category of Job	22
4.7	Location of Job	23
4.8	Job Satisfaction Level	24
4.9	Causes of Unemployment	25
4.10	Status of Higher Education	27

4.11 Study 2	Status of Location of University where Female Diploma Engineers are completing their Higher 27
4.12	Summary of Challenges & Barriers28
4.12.	1 Number of Interviews faced by the Female Diploma Engineers28
4.12.2	Challenges of Female Diploma Engineers of Polytechnics of Barishal city to be employed29
4.12.3	Barriers of Female Diploma Engineers to be employed
4.12.4	4 Field of interest of Female Diploma Engineers
Chapter 0	5 Discussions of results, implications and conclusions
5.1 Intro	oduction
5.2 Disc	ussion of results addressing the Research questions31
5.2.1	Research Question 1
5.2.2	Research Question 2
5.3 In	nplications of the Findings of the Study31
5.4 Fi	urther Research
Bibliograp	hy/References
Appendix .	
Annexure-	1 Data Collection Tool-A, Questionnaire
Annexure-	2 Data Collection Tool-B1, FGD (Employed graduates) Guide Line
Annexure-	3 Data Collection Tool-B2, FGD (Unemployed graduates) Guide Line
Annexure-	4 Data Collection Tool-B2, FGD (Graduates those who are searching for a job) Guide Line. 40
Annexure-	5 Data Collection Tool-C1 for KII (Principal/Teacher) Guide Line41
Annexure- Guide Line	
Annexure-	7 Data Collection Tool-C3, Personal Interview (Industry Personnel) Guide Line42
Annexure-	8 Summary of the answers from FGD, KII and respondents

## **List of Tables**

Table: 01 Sample Size and Sampling	15
Table: 02 Data source Vs. Data Collection Tools	16

# List of Figures

Figure 1: Employment Status	. 18
Figure 2: Employment Status on the basis of Type of organization	. 19
Figure 3: Status of Technology Relevancy	. 20
Figure 4: Status of degree related govt. Job	.21
Figure 5: Status of degree related Job in respect of all kinds	. 22
Figure 6: Category of Job	. 23
Figure 7 Location of Job	.24
Figure 8: Job Satisfaction Level	. 25
Figure 9: Causes of Unemployment	. 26
Figure 10: Status Higher Education	. 27
Figure 11: Status of Location of University where Female Diploma Engineers are completing their Higher Study	

## **ABBREVIATIONS**

No.	Short Form	Extended Form
1	BBS	Bangladesh Bureau of Statistics
2	BTEB	Bangladesh Technical Education Board
3	Cr. Ins.	Craft Instructor
4	DTE	Directorate of Technical Education
5	FDE	Female Diploma Engineer
6	G20	Group of Twenty
7	NGO	Non-Government Organization
8	NTVQF	National Technical and Vocational Qualifications Framework
8	NTRCA	Non-Government Teachers' Registration & Certification Authority
9	OECD	Organization for Economic Cooperation and Development
10	SAE	Sub-Assistant Engineer
11	SDG	Sustainable Development Goal
12	TMED	Technical and Madrasah Education Division
13	TSC	Technical School & College
14	TVET	Technical and Vocational Education and Training
15	UNESCO	United Nations Educational, Scientific and Cultural Organization

#### ABSTRACT

Around half of the populations are female (49.4% as reported by WB, 2019) in Bangladesh. It is mostly vital to ensure their active participation and contribution to the socio-economic development of the country to be graduated from the category of the Least Developed Countries by 2024, for the implementation of SDG and Vision2041. In that context Female Polytechnic Graduates should to play an active role achieving country's goal. In view of that, Female Diploma Engineers who have passed from Polytechnic Institutes of Barishal City in 2015 -19, how so far they can play their role and their job placement status, challenges & barriers have been found in this study. This study is a descriptive research (Survey method). The data were collected through a structured questionnaire and focus group discussion with Female Diploma Engineers, key informant interviews with polytechnic principals & teachers and personal interviews from entrepreneur Female Diploma Engineers & industry personnel. The findings show that the female engineers have not yet reached their desired targets, such as employment rate, technology relevancy, degree relevancy, job satisfaction level, tendency to get higher education and also they face different challenges & barriers.

## **Chapter 01 Introduction**

#### **1.0** Introduction

It is undeniable that economic growth is important to eradicate poverty and employment plays a key role for economic growth and thus to eradicate poverty (Rahman-Islam 2013). Female employment manifestly thus plays an important role to socio-economic development. In that context increase of female employment status is very necessary for our country. Diploma engineering education is an important branch in TVET sector and it is a carrier oriented education. Therefore male and female diploma engineers should be employed at a higher rate. Included that more female participation in TVET sector obviously it will take an important role in increasing empowerment of women in Bangladesh. But it is seen that the enrollment of Female students in Diploma in Engineering Course is comparatively very low (13.11% in 2014, source: BTEB, 2016). Enhancing the employment status of passed female students of Diploma in Engineering Course, enrollment of them may improve.

#### **1.1 Statement of the Problem**

The importance of TVET for the nation's sustainable development and progress has been widely recognized around the world in recent decades. Over the years, the UNESCO, G20, OECD and several government agencies has come to the conclusion that the use of TVET had a positive effect on economic growth, poverty eradication and improving employability. Moreover skills and knowledge can be acquired through TVET as per demand of the employers. It is a very burning question in our country to increase the female enrollment in TVET sector but unfortunately it is not going in expectable rate (14% of boys, Source: DTE-2015). Government try to increase the enrollment in many ways but there are some socio-economic and out looking barrier exist which overcoming rate is in below target level. One of the most important causes of this problem is, there is no sufficient and suitable employment of Female Diploma Engineers in Barishal City with also in the whole country. As a result many of Female Diploma Engineers are remain jobless and they make themselves as a burden of family and society. Therefore new female students are losing interest to enroll herself in this sector. In this context we like to find out the employment status and its challenges of female diploma engineers passed from polytechnic institute of Barisal city. Though this study has been commenced on the Female Diploma Engineers of Polytechnic Institutes of Barishal City but it is the reflection of the same sector and similar zone of the whole country.

#### **1.2 Research Questions**

Two research questions have been scheduled to complete this research. The questions are:

- i. What is the present employment status of Female Diploma Engineering Graduates?
- ii. What challenges do the Female Diploma Engineering Graduates face to being employed?

#### **1.3 Objectives of the Study**

This study has been completed with four objectives in mind. The objectives were: 1) To find out the Employment status of Female Diploma Engineers. 2) To examine the employment status of Female Diploma Engineers in public and private organizations. 3) To detect the job satisfaction level of Employed Female Diploma Engineers. 4) To search the challenges and barriers for employment of Female Diploma Engineers.

#### 1.4 Scopes and Limitations of the Study

**Scopes**: There are six Polytechnic Institutes in Barishal City. Those are: Barishal Polytechnic Institute, Infra Polytechnic Institute, Ideal Polytechnic Institute, Technocrats Polytechnic Institute, United Polytechnic Institute and Dynamic Polytechnic Institute. In average 100 Female Diploma Engineers passed out from these Polytechnic Institutes in each Year. As a result we have almost 500 Female Diploma Engineers for this research in 05 years from 2015 to 2019 those who are: 1) Employed in government industrial, manufacturing or engineering department. 2) Employed in private or non-government industrial or manufacturing or engineering organizations. 3) Employed in government, non-government or private educational institute. 4) Employed in engineering consulting farm. 5) Employed in other. 6) Unemployed. Our study has been carried out with these Female Diploma Engineers.

**Limitations:** To reach in each female diploma engineer was frankly a challenge and due to individual, identical and psychological causes some of Female Diploma Engineers are cooperative or some were not. Due to pandemic situation collection of data administering questionnaire interview in physically was not possible in all cases. In some cases online questionnaire in Google form was used and in some cases by cell phone.

## **Chapter-02 Literature Review**

For the past two or three decades, researchers have focused on women's empowerment and their labor market. This section focuses on a review of the status of female employment and the factors that affect the female workforce from such studies and surveys. Bangladesh Bureau of Statistics (BBS) is the main source of information and data related to labor market and employment. According to the BBS labor force survey, the participation rate of women in the labor force in 2016-17 was 36.3%.

Raihan-Bidisha (2018) examined the stagnation of women's employment in Bangladesh in a study. To understand what factors influence women's labor participation in Bangladesh in order to understand women's labor decision, the authors (Raihan-Bidisha) infer the value-supplying function when determining the determinant of women's labor participation in a particular board category: individual cause, family cause, gender norm variable and Geographically variable. They concluded that their analysis showed that, with few exceptions, not only has the participation rate and the size of the workforce (annual) changed in recent years, but most women are stuck in unpaid or low-skilled occupations. Using the latest data, they include assumptions that patriarchal gender norm-centered factors and domestic responsibilities serve as important barriers to women's participation in the labor market. They also revealed that women with relatively high levels of education are finding it difficult to find jobs.

Rahman-Islam (2013) Examine the participation of women in Bangladesh: trends, drivers and barriers. Their main findings were: a) Women's participation in self-employment is positively influenced by education and resources. It is negatively affected by the number of small children and male earners. B) Women's participation in casual jobs is positively related to lack of resources and negatively related to the presence of a young child, married, number of male earners and education. The participation of women in paid employment shows the same effect of all variables except education which becomes positive.

The report of 'TVET Graduate Tracer study 2020' conducted by DTE has revealed the status of diploma graduates (both boys and girls) of Graphics Arts Institute, Rangpur Polytechnic Institute and Cox's Bazar Polytechnic Institute. Status of Diploma Graduates of Graphics Arts Institute: Job 52%, Higher Education 12%, Self-Employment 3% and 33% not in Education Employment or Training. Status of Diploma Graduates of Rangpur Polytechnic Institute such as: Job 27%, Higher Education 9%, Self-Employment 2% and 61% not in Education Employment or Training. Status of Cox's Bazar Polytechnic Institute such as: 29% of jobs, 14% of higher education, and 57% not in education employment or training.

A survey of unemployment among female graduates in Pune City conducted by Indian Institute of Education (2002) revealed that 34% of female engineers are unemployed, of which 13% are due to unavailability of jobs, 4% are not allowed parents / in-laws, 4% are for small children. And the rest for other reasons.

"Eastern Visayas State University-Tanauan Campus, Philippine Teacher Education Graduate Tracer Study (Eduardo Edu C. Cornelius Jr., Sophie Rocky T. Caminok, Belinda R. Basas, Benedicto T. Militom Jr.). Issue 3 | July 2021) revealed that the employment status of teacher education graduates from 2013 to 2017: 87.71% of graduates were employed and only 12.29% were unemployed. Of these employed graduates, the majority, at 40.78%, were in regular or permanent positions. 20.11% and 18.99% were in temporary and contract positions respectively. Unemployment was only 12.29% among graduates.

## **Chapter-03 Methodology**

#### 3.1 **Population Size**

Total 506 Female Diploma Engineers were passed out in 05 years from 2015 to 2019 from the polytechnic institutes of Barishal city. From Barishal Polytechnic Institute, Infra Polytechnic Institute, Ideal Polytechnic Institute, Technocrats Polytechnic Institute, United Polytechnic Institute and Dynamic Polytechnic Institute female diploma engineers were passed 367, 85, 43, 08, 01 and 02 respectively. Therefore population size has been taken as 506.

#### 3.2 Research design

This study was a descriptive research (Survey method). For quantitative data collection 1 questionnaire was made and then a copy was distributed to 15 female diploma engineers each for pretest the questionnaire. Collected the feedback from them and then required modification and finalization was done. This final questionnaire was the data collection instrument A, whose copies were distributed to the target people and gathered & sorted the valid data. 3 FGD, 6 KII and 4 personal interviews were commenced for qualitative data. All quantitative and qualitative data were processed for analysis and findings.

#### 3.3 Sample size, sampling and research design

Using Cochran's sample size table (Sarmah-Hazarica, 2012), sample size was taken 166 for this study. Snowball sampling technique was used for reach to Female Diploma Engineers and here a questionnaire was adopted for collecting data. Purposive sampling technique was used for Focus Group Discussion to collect rich data. For key informant and personal interviews Convenience Sampling technique was used for data collection.

## Data Source, Sample Size and Sampling were taken as following table:

### Table: 01 Sample Size and Sampling

Data Source	Sample Size and design	Sampling
Female Diploma Engineers	Sample Size: 166	Snowball Sampling
graduated from Polytechnic Institute of Barishal City.	Barishal Polytechnic: 103	
	Infra Polytechnic: 40	
	Ideal Polytechnic: 13	
	Technocrats Poly: 07	
	Dynamic Polytechnic: 02	
	United Polytechnic: 01	
Female Diploma Engineers	<u>FGD: 18 (3X6)</u>	Purposive
graduated from Polytechnic Institute of Barishal City.	Each group is formed with 6 female graduates	
	1 FGD is done with employed graduates	
	1 FGD is done with unemployed graduates	
	1 FGD is done with the graduates searching job currently	
Principal / Vice principal / Chief	<u>KII:06</u>	Convenience Sampling
Instructor	Principal: 02	
	Vice Principal (Govt. Organization): 01	

	Chief Instructor(Govt. Organization): 02 Industry:01	
Employer	Interview: 02 Govt. Organization: 01 Private Organization: 01	Convenience Sampling
Entrepreneur Female Diploma Engineers	Interview: 02	Convenience Sampling

## **3.4 Data Collection Tools**

The study collected primary data from the female diploma engineers those who were passed from polytechnic institutes of Barishal city (govt. polytechnic-1, private polytechnic-5) in the year of 2015-19. The data collected from January 2022 to April 2022 using 1 questionnaire for female diploma engineers those who were respondents, 3 guide lines for focus group discussion and 3 guide lines for KII. The questionnaires were distributed and collected both physically and electronically.

#### Table: 02 Data source Vs. Data Collection Tools

Data Source	Data Collection Tools
Female Diploma Engineers graduated from Polytechnic	Tool A Questionnaire [Anex-1]
Institute of Barishal City.	Tool B1,B2 & B3 Guide line for FGD [Anex-2,3,4]
Principal / Vice principal / Chief Instructor/ Employer	Tool C1 KII [Anex-5]
Employer	Personal Interviews Tool C2[Anex-5]
Entrepreneur Female Diploma Engineers	Personal Interviews Tool C3 [Anex-6]

## **Chapter 04 Data Analysis and Findings**

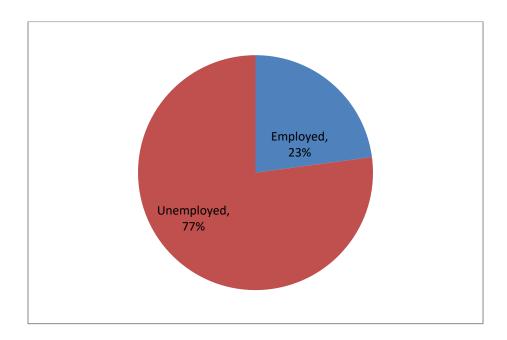
150 data were taken directly in this study through hard copy questionnaire out of which 136 were considered as valid and 36 data were collected through Google form out of which 30 were valid. Total 166 quantitative data from respondents were considered for analysis. For Qualitative data 3 FGDs, 4 KIIs and 6 personal interviews were taken for qualitative analysis. Analysis and findings are given in following 4.1-4.12.4

#### 4.1 Employment Status

Overall employment status of female diploma engineers is scanned. The scenario of status is Out of 166 respondents employed are only 38. In this analysis, we found 23% of female diploma engineers are employed and 77% are unemployed.

In BBS report of labor Force survey female labor force participation rate in 2016/17 is 36.3%. According to Report of 'TVET Graduate Tracer study 2020' of DTE Status of diploma graduates for both boys and girls of (a) Graphics Arts Institute, Dhaka as: job 52%, higher education 12%, self-employment 3% and not in education employment or training 33%; (b) Rangpur Polytechnic Institute as: job 28%, higher education 9%, self-employment 2% and not in education employment or training 61%; (c) Cox's Bazar polytechnic Institute as: job 29%, higher education 14%, and not in education employment or training 57%. 'A study of unemployment among female graduates in Pune city' conducted by Indian Institute of Education (2002) revealed that unemployment percentage of female engineer is 34%.

Since most of the girls from Barishal region study at the polytechnics of Barishal city, it is found in this research that a big percentage (77%) of female diploma engineers of this region is unemployed.





## 4.2 Employment Status on the basis of Type of organization

On the basis of type of organization where the female diploma engineers are employed whether Government or Private (company, consulting firm, educational institute, NGO etc.), employment status of female diploma engineers is scanned. The scenario of status is Out of 38 employed female diploma engineers only 08 in govt. service and the rest are in Private/NGO/Part Time job.

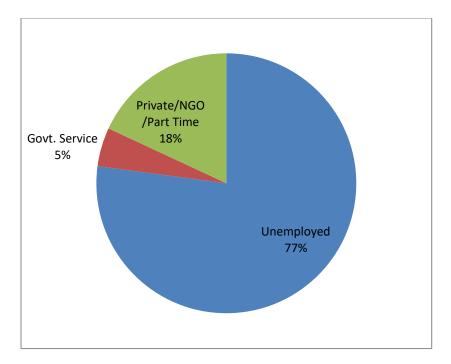


Figure 2: Employment Status on the basis of Type of organization

## 4.3 Status of Technology Relevancy

Among the employed female diploma engineers (38) a significant number (10) of them are doing technology irrelevant job (Nursing, defense, Non-tech part time teacher, accountant, receiptionist etc.), which indicates the technology related suitable job is not available for them.

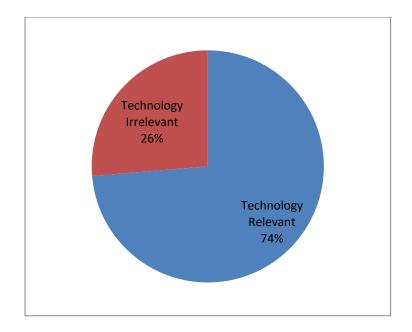


Figure 3: Status of Technology Relevancy

#### 4.4 Status of degree related govt. Job

Among 166 female diploma engineers 38 are in job out of which only 8 are in govt. job and 30 are doing private/NGO/part time job. Out of 8 govt. job only 5 number of female diploma engineers are doing their degree related job (SAE/ NTRCA Trade Instructor), rest 3 are doing non-degree related job (primary school teacher/ Cr. Ins./defense). In percentage, 18% are doing private or NGO or part time job, 3% are doing degree related govt. job and 2% are doing non-degree related govt. job. In this analysis we have seen that the scenario of degree related govt. job of female diploma engineer is very negligible (3%).

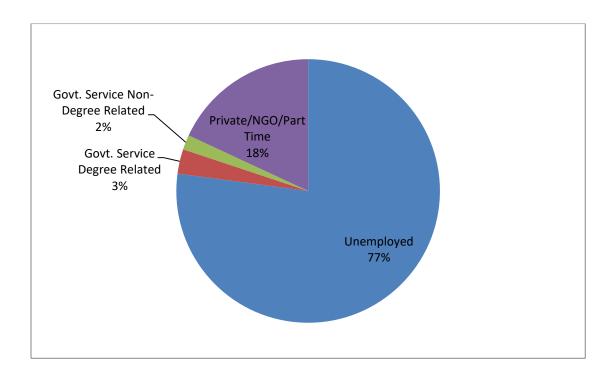


Figure 4: Status of degree related govt. Job

## 4.5 Status of degree related Job in respect of all kinds (Govt./Private/NGO):

Here we scanned how many percentages of female diploma engineers are doing their degree related job in all respects. We found that out of 38 employed diploma engineers 22 are doing their degree related job (Sub-Assistant Engineer or equivalent or higher level) and rest are doing other non-degree related job (Lower grade job: such as Craft Instructor, Nurse, Technician, Primary School Teacher). A significant percentage (42%) of employed female diploma engineers got no opportunity to do a job related to their studied degree.

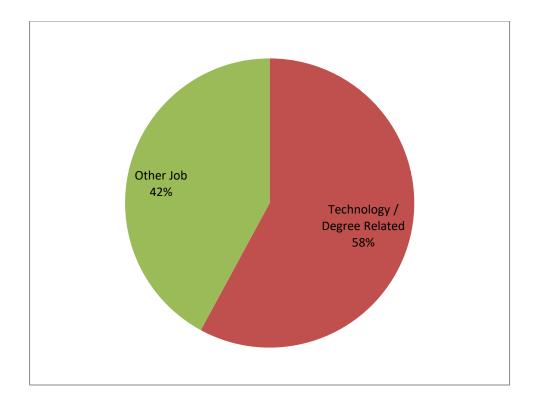


Figure 5: Status of degree related Job in respect of all kinds

#### 4.6 Category of Job

Female Diploma Engineers are doing mainly 3 types of job, as: Engineering or Related Managerial, Teaching or teaching related and other type. Here we scanned the percentage of each category. We found that 10% of total respondents are doing teaching or teaching related jobs, 9% are doing Engineering or related Managerial jobs and rest 4% are doing other type of jobs. It implies that they are capable to do engineering or managerial or teaching related jobs.

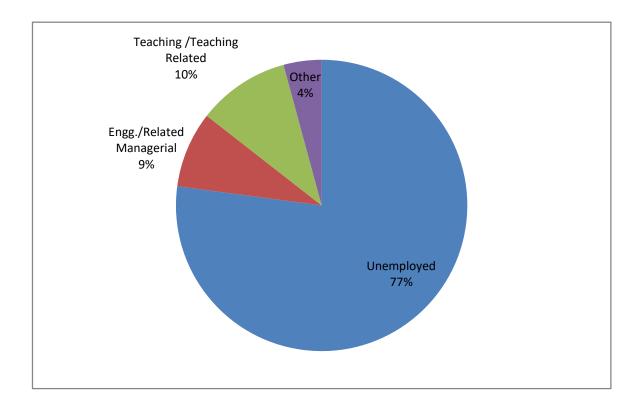


Figure 6: Category of Job

## 4.7 Location of Job

Here we scanned the job location of employed female diploma engineers. Out of 38 female diploma engineers 22 are doing jobs in home district Barishal (58%), 09 are in Dhaka city (24%), 03 are in Narayangonj which is near to Dhaka, and 01 each in Jhalokathi, Patuakhali, Mymensing, and Manikgonj. It implies that majority of employed female diploma engineers are like to do job in home district/city.

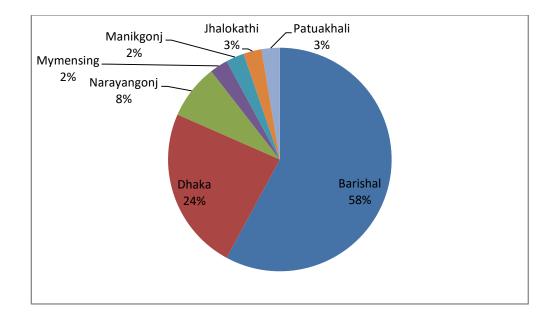


Figure 7 Location of Job

#### 4.8 Job Satisfaction Level

Here we examined job satisfaction level of employed female diploma engineers in respect of salary satisfaction, job relevancy, scope of promotion, employer attitude, job environment, working hour, shifting duty, recognition of work, separate toilet, insurance facility, medical facility and child care. A 5-point Likert scale is used for assessing the variables of questionnaire. We found the satisfaction levels as: salary satisfaction 43%, job relevance 61%, scope of promotion 28%, employer attitude 66%, job

environment 66%, working hour 61%, Shifting duty 48%, recognition of work 43%, separate toilet 42%, insurance facility 19%, medical facility 26% and child care 12%.



Figure 8: Job Satisfaction Level

#### 4.9 Causes of Unemployment

We identified five reasons for not getting a job asking female diploma engineers why they didn't get a job. Out of 128 unemployed respondents 16 said family barrier (such as: marriage, small baby, husband doesn't like etc.), 32 said no satisfactory job offer, 17 said both of family barrier & no satisfactory job offer, 39 said continuing higher education, 04 said no interest to do a job and 03 showed other reasons (such as illness/sack in covid'19 situation/waiting for govt. job).

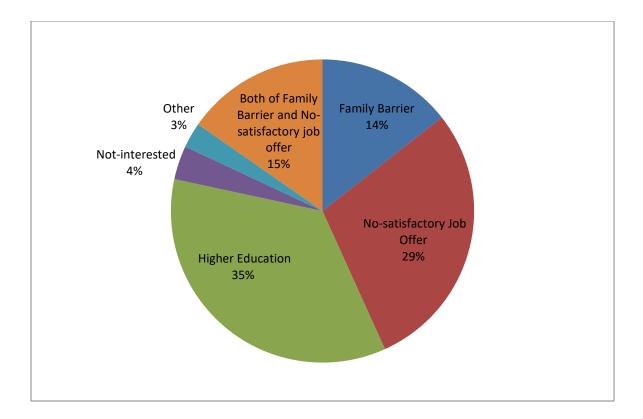


Figure 9: Causes of Unemployment

## 4.10 Status of Higher Education

Here we examined the status regarding higher education. Out of total respondents 166, only 46 are engaged with higher education of which 5 female diploma engineers are awarded B.Sc. Engineering degree, and the rest 122 are not engaged with further education.

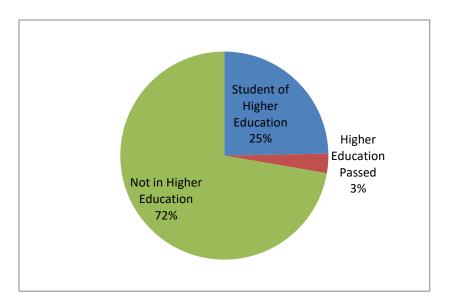


Figure 10: Status Higher Education

# 4.11 Status of Location of University where Female Diploma Engineers are completing their Higher Study

Here we scanned in what location female diploma engineers are completing their further education. Here we found that out of 46 female diploma engineers of those who are engaged in further education, 28 (61%) are in the private university located in Barishal city, 16 (35%) are in the private university of Dhaka city and only 02 (4%) are in the public university located in Gazipur (DUET).

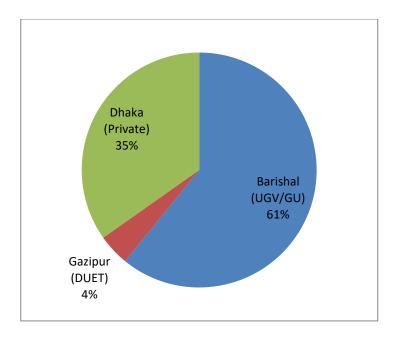


Figure 11: Status of Location of University where Female Diploma Engineers are completing their Higher Study

#### 4.12 Summary of Challenges & Barriers

Analyzing the information from respondents, FGDs, KIIs, and Personal Interviews challenges and barriers of target Female Diploma Engineers tried to find out. Key information regarding challenges and barriers are points out under this headline are given below.

#### 4.12.1 Number of Interviews faced by the Female Diploma Engineers

Highest number of interviews faced by the Female Diploma Engineers those who are employed is 15 and lowest number of interviews is 02. In the other hand highest number of interviews faced by the Female Diploma Engineers those who are not employed till now is also 15 and the lowest number is 0.

# 4.12.2 Challenges of Female Diploma Engineers of Polytechnics of Barishal city to be employed

Most of the girls studying in the polytechnics of Barishal city are from Barishal region, so this study has tried to find out their regional challenges to be employed. The challenges found through research are: a) Unavailability of technology related jobs for Female Diploma Engineers in Barishal Zone, b) Going to Dhaka or a far distance from Barishal to participate in interview, c) Cost of conveyances for facing the interviews, d) Recruitment on low pay in private sector of Barishal City. Some found out challenges may be considered as common for over all the country, those are: a ) Excessive non-refundable application fees for jobs, b) Excessive Working hour in private sectors, c) Seeking experience for job and d) In some cases consider as incapable.

#### 4.12.3 Barriers of Female Diploma Engineers to be employed

Most of the respondents expressed that the main barrier for employment of this region is 'the distance and long journey to appear in front of interview board in Dhaka for job'. They also expressed that for long distance and journey parents/family doesn't want to leave alone due to security issues. Some of them also added that husband or family makes barrier for doing job. Some of them added that family & child management, night/evening shift duty, economic problem, gender inequality, lack of basic employability skills and lack of job searching skill as barriers.

#### 4.12.4 Field of interest of Female Diploma Engineers

A question was asked to the respondents to know their field of interest in job sectors. Major portion of Female Diploma Engineers expressed their field of interest for job accordingly in: 1<sup>st</sup> choice- Teaching, 2<sup>nd</sup> choice- Sub-Assistant Engineer in government organization, 3<sup>rd</sup> choice- Any job in government organization and 4<sup>th</sup> choice is white collar job.

## **Chapter 05 Discussions of results, implications and conclusions**

#### **5.1 Introduction**

A major portion of Female Diploma Engineers are unemployed causing of no better job offer & family barrier for distance and security issues though most of them are interested to do a job. Through the point of view of employer attitude, it is clear that performance of Female Diploma Engineers is satisfactory for any type of job, but opportunity of employment is not so satisfactory. Most of them who are employed are also not satisfactorily paid. For increasing the enrollment of Female Student in Diploma in Engineering course, opportunity of job and other facilities must be increased for developing aspiration of the intake female student. For

increasing empowerment of women in Bangladesh it is very important to improve female intake in diploma in engineering course.

#### 5.2 Discussion of results addressing the Research questions

**5.2.1 Research Question 1:**What is the present employment status of Female Diploma Engineering Graduates?

This study finds the scenario of employment status as: only 23% of Female Diploma Engineers are employed; among them only 3% are doing their degree related govt. job (sub-assistant engineer or equivalent), 2% are doing non-degree related (lower than sub-assistant engineer grade) job, 18% are doing private or NGO or part time job. Irrespective of govt. job 13% are doing their degree related job and 10% are doing other lower than sub-assistant engineer grade job (out of employed 23%). Out of employed 23% Female Diploma Engineers: 9% are doing engineering related job, 10% are doing teaching related job and rest 4% are doing other jobs. A major portion of employed Female Diploma Engineers (61%) are doing jobs in their home district/city (Barishal); 25% in Dhaka and rest are in other. 25% of total Female Diploma Engineers are engaged in further education, in which of them 61% are taking further education in their home city (Barishal), 35% are in Dhaka city and rest 4% are in DUET (Gazipur).

**5.2.2 Research Question 2:** What challenges do the Female Diploma Engineering Graduates face to being employed?

Most of the job interviews are commencing in Dhaka city. Due to long distance, journey, cost and security issues family makes a barrier to go to Dhaka alone for appearing a job interview. Due to unavailability of job sectors in Barishal city, suitable job offer with standard salary in private sectors is almost absent. As a result 77% of Female Diploma Engineers passed from polytechnic institutes of Barishal city are unemployed. Overcoming the family barrier, to go to Dhaka for appearing a job interview, security issues are the main challenges to be employed for a Female Diploma Engineer passed from Barishal polytechnic institute.

#### 5.3 Implications of the Findings of the Study

Girls those who are enrolled in polytechnics of Barishal city almost all are from Barishal Division. If there is an option to organize interviews of job of govt. or corporate organizations in Barishal city employment status of Female Diploma Engineers from this zone will improve. It is undeniable that improve employment status improve human living standard. Moreover reduction of unemployment status will mobilize the elimination of poverty and women's empowerment will increase.

#### **5.4 Further Research**

We suggest for further research in this context-

- 1. A research on Employment status and its challenges for Female Diploma Engineers graduated from Government Polytechnic Institutes of Bangladesh.
- 2. A research on Employment status and its challenges for Female Diploma Engineers graduated from Private Polytechnic Institutes of Bangladesh.
- 3. A research on Employment status and its challenges for Female Diploma Engineers graduated from Polytechnic Institutes of Bangladesh.

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## Appendix

Annexure-1	Data Collection Tool-A, Questionnaire
Annexure-2	Data Collection Tool-B1, FGD Employed graduates Guide_Line
Annexure-3	Data Collection Tool-B2, FGD Unemployed graduates Guide Line
Annexure-4	Data Collection Tool-B2, FGD Graduates those who are searching for a job Guide Line
Annexure-5	Data Collection Tool-C1, KII (Principal/Teacher) Guide Line
Annexure-6	Data Collection Tool-C2, Personal Interview From Graduates those who are entrepreneur Guide_Line
Annexure-7	Data Collection Tool-C3, Personal Interview From Industry Personnel
Annexure-8	Summary of the answers from FGD, KII and respondents

## Annexure-1 Data Collection Tool-A, Questionnaire

# Tool A : Questionnaire for Female Diploma Engineers (FEMALE DIPLOMA ENGINEER) of passing year 2015 to 2019

Questions for all: Q 1-6

**Optional Questions: Q 7-9** (only those who were admitted for further higher education or obtained a further higher education degree)

#### And or

**Q** 10 – 24 (answer only those who are employed)

Q 25 – 33 (answer only those who are unemployed)

Q 34 – 45 (answer only those who are entrepreneur)

### **Personal Information**

(Note: Answer to the questionnaire in English/Bangla and or tick where necessary)

- 1. Name:
- 2. Employment status: Employed / Unemployed / Entrepreneur / Higher Study

#### **Education**

#### Diploma in Engineering

- 3. Name of your Institute (Diploma in Eng.):
- 4. Your Technology (Diploma in Eng.):
- 5. Your Passing Year (Diploma in Eng.):
- 6. Your further higher education: No/admitted in university/obtained degree from university

#### **Bachelor Degree / Higher Education**

- answer only those who were admitted for further higher education or obtained a further higher education degree
- 7. Name of the Degree: .....
- 8. Passing Year :...... / Student (write the year of passing if completed, or tick on student if necessary)
- 9. Name of the University :

#### Job / Employment Information

#### \* answer only those who are employed

- 10. Name of organization where you are employed :
- 11. Location of organization:
- 12. Designation of your job :
- 13. Type of organization : Govt. /Autonomous / corporation / NGO/ Private company or Farm or Ltd. company or Part-time
- Category of Organization: Factory (e.g. Industry, Production etc.)/ Construction or works/ Service (e.g. –consultancy, advocacy, sales etc.)/teaching/.......
   If any other, mention please.

15. Category of Job: Managerial / Supervision / Operation or Production or

Maintenance/Teaching / ..... if any other, mention please

- 16. Whether the job is your technology related or not : Yes / No
- 17. Monthly Gross Salary status : 8,000.00– 12,000.00 or Less / 12,001.00 20,000.00 /

20,001.00 - 30,000.00 / 30,001.00 - above

- SI. Subject of Fully Satisfactory=3 Somewhat Dis Scale consideration satisfactory=4 Satisfactory satisfactory=1 No =2 Job Relevancy (technology related or not) i. ii. Nature of work Scope of Promotion iii. iv. Salary Working Hour (consider 8 hrs. is standard & fully ٧. vi. Shifting Duty vii. Leave Facility viii. **Employer** Attitude Job Environment ix. **Residence Facility** х. xi. Separate Toilet **Recognition of your Work** xii. Insurance Facility xiii. Medical Facility xiv. xv. **Transport Facility** xvi. Canteen
- 18. Rate of your satisfaction level (tick the box):

19. Do you want to switch your job? Ans.: Yes / No

if yes then why?

Childcare Facility

xvii.

20. Are you engaged job with higher study? Ans.: Yes / No

If yes then why?

- 21. What were the challenges to get (search) this job?
- 22. How many interviews you have faced to search for a job till now?

Fully

y=0

Dissatisfactor

- 23. What are the challenges in your current job?
- 24. What were the challenges in your past job (write if you had a past job, if no please tick on this 'Not Applicable')?

#### \* answer only those who are unemployed

- 25. Period of unemployment (in length of time): Less than 1 yrs / 1-2 yrs / 2-3 yrs / more than 3 yrs
- 26. Causes of unemployment: Continuing or waiting for Higher Education / No satisfactory job offer/ Family Barrier / You are not interested to do a job / Lack of available related job opportunity/ Insufficient Salary offer ...... If any other, mention please.
- 27. Are you searching for a job? Ans.: Yes/No
- 28. How many interviews you have faced to search for a job till now? Ans.:
- 29. Challenge(s) to get a job: Ans.:
- 30. Were you in a job in the past? : Ans.: Yes / No
- 31. Causes of resignation from your past job (if any): Job was not satisfactory / Salary was not satisfactory / Employer does not like an FEMALE DIPLOMA ENGINEER as his/her employee furthermore (Employer attitude) / Family or social barrier or you are not interested to do the job furthermore / Not Applicable /......if any other mention please.
- 32. Causes of sack from your past job (write if you had a past job, if no please tick on this 'Not Applicable'):
- 33. What were the challenges in your past job (write if you had a past job, if no please tick on this 'Not Applicable'):

#### answer only those who are entrepreneur

- 34. Name of your present enterprise:
- 35. Whether present enterprise your technology related or not: Yes / No
- 36. Type of your present enterprise: Engineering Design and Consultancy / Production / Shop / Online business / ------ if any other mention please.
- 37. Are you satisfied with your present enterprise? Ans.: Yes / No
- 38. What are the challenges in your present enterprise?
- 39. Are you engaged with a job also? Ans.: Yes / No

If yes then what are challenges in your present job?

- 40. Did you do any job in the past? Ans.: Yes / No
  - if yes, what were the challenges in your past job?
- 41. Do you searching for a job (though you are an entrepreneur presently)? Ans.: Yes / No
- 42. Name of your past enterprise (write if any, if no please tick on this 'Not Applicable'):
- 43. What were the challenges in your past enterprise (if you have no past entrepreneur, please tick on this 'Not Applicable')?
- 44. Were you searching for a job though you were an entrepreneur in the past? Ans.: Yes / No

If yes then Why?

45. How many interviews you have faced to search for a job till now?:

# Annexure-2 Data Collection Tool-B1, FGD (Employed graduates) Guide Line

Tool B1:

FGD (Employed graduates) Guide Line

**Personal Information:** 

Job Information

- 1. Name and location of your organization:
- 2. Designation of your job :

- 3. Type of organization : Govt. /Autonomous / corporation / NGO/ Private company or Farm or Ltd. company or Part-time
- 5. Whether the job is your technology related or not :
- 6. Job Satisfaction:
  - a. Salary
  - b. Employer Attitude
  - c. Job Environment
  - d. Maternity Leave
  - e. Child Care
  - f. Separate Toilet
  - g. Residence:
  - h. Recognition of your Work

#### **Challenges/Barriers/Interest**

- 7. What are the challenges in your workplace?
- 12. Do you want to switch your job?
- 13. Are you engaged job with higher study?
- 14. Your expectations in work place:
- 15. Your field of interest:
- 16. How many interview have you faced to be employed?

### Annexure-3 Data Collection Tool-B2, FGD (Unemployed graduates) Guide Line

#### **Personal Information:**

#### **Challenges/Barriers/Interest**

- 1. How many interview have you faced and in what organization and where?
- 2. What challenges have you faced to employed?
- 3. What challenges have to face an FEMALE DIPLOMA ENGINEER of Polytechnic of Barishal city to be employed?
- 4. What barriers are you facing to be employed?
- 5. Your expectations in work place:
- 6. Are you interested for further study?
- 7. Your field of interest:
- 8. Your opinion if any

# Annexure-4 Data Collection Tool-B2, FGD (Graduates those who are searching for a job) Guide\_Line

#### **Personal Information:**

#### **Challenges/Barriers/Interest**

- 1. How many interview have you faced and in what organization and where?
- 2. What challenges have you faced to employed?
- 3. What challenges have to face an FEMALE DIPLOMA ENGINEER of Polytechnic of Barishal city to be employed?
- 4. What barriers are you facing to be employed?
- 5. Your expectations in work place:
- 6. Are you interested for further study?

7. Your field of interest:

### Annexure-5 Data Collection Tool-C1 for KII (Principal/Teacher) Guide Line

Tool C1: KII (Principal/Teacher) Guide Line

- 1. How many female students approximately admitted in your institute in 2015 to 2019?
- 2. How many female students are graduated in 2015 to 2019?
- Please provide a list of employed Female Graduates (your student) from 2015 to 2019 (as far as you know).
- Please provide a list of unemployed Female Graduates (your student) from 2015 to 2019 (as far as you know).
- 5. What are the challenges of a Female Diploma Engineer in her workplace (Your opinion please in short)?
- 6. What are the barriers of a Female Diploma Engineer to be employed (Your opinion please in short)?
- 7. How to engage more Female Diploma Engineers in a job? Please give your valuable opinion in short:
- 8. How to make more Female Diploma Engineer entrepreneurs? Please give your valuable opinion in short:

### Annexure-6 Data Collection Tool-C2, Personal Interview (Graduates those who are entrepreneur) Guide Line

#### **Personal Information:**

#### **Enterprise Information**

- 1. Name of your Enterprise:
- 2. Type of your Enterprise:
- 3. Items of your enterprise?

#### **Challenges/Barriers/Interest**

- 4. What challenges are you facing in your enterprise?
- 5. What were the barriers to be an entrepreneur for you?
- 12. Mention please the behind reasons of you're to be an entrepreneur rather than to be employed in a govt. or any other organization:

# Annexure-7 Data Collection Tool-C3, Personal Interview (Industry Personnel) Guide\_Line

Tool C3:

Enterprise Information

- 1. Name of of the Industry:
- 2. Type of your Industry:
- 3. Products of your Industry?

#### **Challenges/Barriers/Interest**

- 4. How many female diploma engineers are employed in your organization? How many of them from Barishal?
- 5. In what sections they are doing their duty?
- 6. What is the designation function of them?
- 7. Can they avail leave facility if necessary?
- 8. Have any insurance facility for them?
- 9. Have any separate toilet for them?
- 10. Have any child care room for them?
- 11. Are they capable for their job?
- 12. Are they agree for shifting duty?
- 13. Is the salary structure same for male and female diploma engineer of same qualification/experience?
- 14. Have any other extra quality of them than male?

## Annexure-8 Summary of the answers from FGD, KII and respondents

#### FGD-1 Unemployed Graduates (those who are searching for a job)

#### Date: 19.02.2022

Place: Teacher's Conference Room, Barishal Polytechnic Institute

1How many interview have you faced?

- i. Respodent-1: 15,
- ii. Respondent-2: Does Not get any opportunity
- iii. Respondent-3: 2
- iv. Respondent-4: Not get any opportunity

- v. Respondent-5: 3
- vi. Respondent-6: 3
- 1. What challenges have you faced to be employed?
  - I. Distance and Long Journey
  - II. Location of job and required time for communication
  - III. Excessive non-refundable application fee
  - IV. Giving less priority
  - V. Giving no proper honor
  - VI. Combined interview questions
  - VII. Working hour
  - VIII. Examination center is at a long distance
  - IX. Making mistakes, time management and integrity issues
- 2. What challenges have to face an FEMALE DIPLOMA ENGINEER of Polytechnic of Barishal city to be employed?
  - i. Distance and Long Journey
  - ii. Night long launch journey
- 3. What barriers are you facing to be employed?
  - i. Economic (Big expenses)
  - ii. Family barrier (family not having the courage to leave them single for going to face interview at a long distance)
  - iii. Security issues
  - iv. Unavailability of relevant job
  - v. Insufficient (poor) salary offer
  - vi. Distance and Long Journey
  - vii. Needs training (One said)
  - viii. Needs job searching skill (One said)
  - ix. Lack of basic and employability skills
  - x. Lack of security
  - xi. Inequality

- 4. Expectations in work place:
  - i. Suitable job environment
  - ii. Satisfactory salary
  - iii. Required security assurance
  - iv. Proper honor
  - v. Priority to selection
  - vi. No setting extra daily working hours (not over 8 hrs.)
  - vii. Better opportunities
  - viii. Job opportunities in own division
- 5. Are you interested for further study?
  - i. Yes (all)
- 6. Your field of interest:
  - i. Teaching
  - ii. Official work
  - iii. Degree relevant job (Sub-Asst. Engr.)

#### FGD-2 (Unemployed Graduates)

Date: 01.03.2022

Place: Teacher's Conference Room, Barishal Polytechnic Institute

- 1. How many interview have you faced?
  - i. Respodent-1: 3
  - ii. Respodent-2: 5
  - iii. Respodent-3: 1
  - iv. Respodent-4: 1
  - v. Respodent-5: 1
  - vi. Respodent-6: 2
- 2. What challenges have you faced to employed?
  - i. Seeking experience
  - ii. Consider us as incapable

- iii. Not giving importance to the inexperienced
- 3. What challenges have to face an FEMALE DIPLOMA ENGINEER of Polytechnic of Barishal city to be employed?
  - i. Unavailable of Proper job
  - ii. Distance and Long Journey for interview
  - iii. Problem of going to Dhaka from Barishal to participate in the interview
  - iv. Unavailability of job
  - v. Unavailability of job in Barishal division
  - vi. Recruitment on low pay in private sector of Barishal City
  - vii. Site work for civil engineer is very difficult
  - viii. A major portion of Interview questions are of not technology related
- 4. What barriers are you facing to be employed?
  - i. Economic problem
  - ii. Family barrier
  - iii. Family doesn't want to leave alone
  - iv. No Barrier- (one said)
  - v. More time duty
  - vi. Security issues
  - vii. Not allowed to work away from home city
  - viii. No expectable salary in Barishal city
  - ix. Husband makes barrier/ dependent on husband will
  - x. Night/Evening shift duty
- 5. Your expectations in work place:
  - i. Standard pay
  - ii. Ensuring the safety and proper honor of girls in workplace
  - iii. Day care (one said)
- 6. Are you interested for further study?
  - i. Yes (4)
  - ii. No (2)

- 7. Your field of interest:
  - i. Teaching
  - ii. Govt. SAE
  - iii. Any govt. job (1 Nos.)
  - iv. Service type job (1 Nos.)
- 8. Your opinion if any
  - i. Giving priority in teaching job for Female Diploma Engineers
  - Employing more than one person in a shifting system without keeping one person in a position for higher salary in case of company employment.
  - iii. District town based employment opportunities
  - iv. Giving priority in govt. job
  - v. Giving priority to employment in one's own district
  - vi. Interested to govt. job rather than company
  - vii. In most of the cases Practical skill less than a male
  - viii. Society, family and company need to change them attitude
  - ix. Though 4 years degree but no opportunity to bank officer job
- 9. Summary:
  - Maximum Female Diploma Engineers are not interest for company job

#### FGD-3 (Employed graduates-6 Nos.)

Date: 02.03.2022

Place: Teacher's Conference Room, Barishal Polytechnic Institute

#### Job Information

- 1. location of organization: Barishal
- 2. Designation of your job :
  - i. Sub- Asst. Engineer (CIVIL)- 1
  - ii. Jr. Engineer (Private Com.)- 1
  - iii. Jr. Instructor (PTT)- 3
  - iv. Craft Instructor- 1

- 3. Type of organization:
  - i. Govt. 2

ii. Private company- 1 (Factory)

- 4. Category of Organization:
  - i. Factory -1
  - ii. Construction or works (Pourasava)-1
  - iii. Education-4
- 5. Whether the job is your technology related or not : Technology related-5, No-1
- 6. Job Satisfaction:
  - a. Answer -2 Nos. : Satisfactory
  - b. Answer -4 Nos.: Not satisfactory

#### **Challenges/Barriers/Interest**

- 7. What are the challenges in your workplace?
  - i. New product development and dealing subordinate to work properly
  - ii. No challenge in my workplace
  - iii. Over class load
  - iv. Cooperation of supportive staff
  - v. Successfully doing (SAE, Civil, Pourasava)
- 8. Do you want to switch your job?
  - i. Yes-4, poor and irregular Salary which is insufficient for living and helping family
  - ii. No-1, Govt. Job (SAE)
- 9. Are you engaged job with higher study?
  - i.
     Yes 01

     ii.
     B Sc. Eng. Completed-01

     iii.
     No 04
- 10. Your expectations in work place:
  - i. standard salary, good environment
  - ii. Separate wash room, separate prayer room and cooperative attitude of colleagues in heavy work

- iii. Standard and regular pay
- iv. Due honor
- i. Standard salary scale in private sector with govt. monitoring
- 11. Your field of interest:
  - i. Teaching-03
  - ii. Teaching but one enjoy her present SAE job
  - iii. BCS (Cadre or Non-cadre)
- 12. How many interview you have faced?
  - i.Respondent-1:2ii.Respondent-1:3iii.Respondent-1:10iv.Respondent-1:10v.Respondent-1:15
  - vi. Respondent-1: 5

13. What difficulties have to face an FEMALE DIPLOMA ENGINEER of Barishal city to get a job?

- Going to Dhaka for interview (residence and food problem in Dhaka),
   Security issues and Economic loss
- ii. More application cost,
- iii. Family problems, Social negative attitude
- Minimum Job sector, low salary Structure in private sectors, maximum load or duty, security issues
- Maximum interview center is Dhaka, No permission from family to go to a long distance for interview, No getting permission for job for married FEMALE DIPLOMA ENGINEER from family/husband, after graduation most of the Female Diploma Engineers get married.
- 14. How can raise employment rate of FEMALE DIPLOMA ENGINEER? Your opinion please.

- i. Arranging interview in Barishal city/Home city
- ii. Arranging Quota for Female Diploma Engineers for govt. job
- Ensuring Comfort (harassment free) zone for Female Diploma Engineers in work
   place
- iv. Improving security issues that family can supports for service and study
- v. Reducing application fee for govt. service
- vi. Ensuring standard salary in private job
- vii. Ensuring gender equity
- viii. Helping to make positive attitude of family against barriers to married Female Diploma Engineers
- ix. Don't showing negative attitude from family if getting a job lately
- x. Quota for desk work- one said

#### KII-1 (Polytechnic Institute)

Date: 22/02/2022

1. What are the challenges of a Female Diploma Engineer to get a job (Your opinion please in short)?

Ans.:

- > There is less Workplace in Barishal Division
- > The Company thinks less effort will be received from girls
- Govt. job circular is less
- 2. What are the barriers of a Female Diploma Engineer to be employed (Your opinion please in short)?

Ans.:

> A big number of Female Diploma Engineers got marriage in the stage of study

- Most of the Female Diploma Engineers are disinterested and demotivated to do work in the field level
- > Family does not want the girls to go elsewhere for get jobs
- 3. What are the barriers of a Female Diploma Engineer to be entrepreneur? Please give your valuable opinion in short:
  - Girls don't want to be entrepreneurs
  - Technology is less relevant
  - > Tendency of Female Diploma Engineers is to go to Dhaka is more
- 4. Please give your valuable opinion about Higher Education of Female Diploma Engineers in short:
  - Less interest for Higher Education
  - > Less motivation from Institute and or Family for Higher Education
  - > Family does not want the girls to go elsewhere for High Education

#### KII-2 (Polytechnic Institute)

Date: 22/02/2022

1 What are the challenges of a Female Diploma Engineer to get a job (Your opinion please in short)?

#### Ans.:

- Irrelevant technology
- Company consider an FEMALE DIPLOMA ENGINEER is incapable
- Eve-teasing in workplace
- > Less industry or organization exists in Barishal
- Communication issue with Dhaka

2 What are the barriers of a Female Diploma Engineer to be employed (Your opinion please in short)?

Ans.:

- A big number of Female Diploma Engineers Got marriage before completing her study
- Family does not want the girls to do job
- > A big number of Female Diploma Engineers don't try for job
- Lack of motivational speech
- 3 What are the barriers of a Female Diploma Engineers to be entrepreneur? Please give your valuable opinion in short:
  - Lack of mentality to be entrepreneurs
  - ➢ No support from family
  - > Financial problems
  - > No motivation from institute
  - Society takes it negatively
- 4 Please give your valuable opinion about Higher Education of Female Diploma Engineers in short:
  - > Expensive
  - Less interest for DUET due to costs and distances
  - > Less motivation from Institute and or Family for Higher Education

 $\triangleright$ 

#### KII-3 (Polytechnic Institute)

Date: 01/03/2022

1 What are the challenges of a Female Diploma Engineer to get a job (Your opinion please in short)?

Ans.:

- > Job circular for Female Diploma Engineers of Computer Technology is less
- > Job opportunities all over the countries including Barishal city are negligible
- Outdoor work is risky for girls

- > It is difficult to work alone in a distance city
- 2 What are the barriers of a Female Diploma Engineers to be employed (Your opinion please in short)?

Ans.:

- Husband does not allow the job
- > In the current social context, movement is risky for girls
- 3 How to engage more FEMALE DIPLOMA ENGINEER in a job?

Ans.:

- > Workplace opportunities need to be increased in Barishal
- 4 How to engage more FEMALE DIPLOMA ENGINEER in entrepreneurship?

Ans.

Increase the cooperation (financial etc.) required by the government

#### KII-4 (Polytechnic Institute)

Date: 15/03/2022

Barriers and Challenges of Female Diploma Engineers:

- Lack of jobs for Female Diploma Engineers in Barishal City
- Appearing interview in a distance city is a big problem for an FEMALE DIPLOMA ENGINEER
- Family barrier

#### KII-5 (Polytechnic Institute)

Date: 20/04/2022

Barriers and Challenges of Female Diploma Engineers:

- > Female Diploma Engineers do not like to go to other than home city for job
- > Lack of jobs for Female Diploma Engineers in Barishal City
- > Family barrier

#### KII-6 (Polytechnic Institute)

Date: 10.05.2022

Barriers and Challenges of Female Diploma Engineers:

- Despite having higher CGPA, barriers to admission in DUET from parents due to security issue
- 95% jobs (ET) are industry based which are not suitable for Female Diploma Engineers
- > Employers do not want to employ an FEMALE DIPLOMA ENGINEER
- Social barrier and security issues
- Insufficiency of residential facilities
- There is a skill gap for girls in practical class

#### Personal Interview-1 (Industry)

Date: 11.05.2022

Opinions about Female Diploma Engineers:

- Employed in Production Section
- Usually girls are not absent
- > They are gentle

- They do their work timely
- Maternity leave is granted
- There are insurance benefits
- Better environment
- Separate toilet
- Salary structure for girls and gents is same
- > Duty 12 hrs.
- Starting salary Tk. 12000

#### Personal Interview-2 (Industry)

- 11.05.2022
  - No need Female Diploma Engineers
  - There are problems in shifting duty
  - Require leave
  - > No Capable
  - > Environment is not so suitable for Female Diploma Engineers
  - Impossible for production section
  - > No one FEMALE DIPLOMA ENGINEER can continue her job
  - > They can't match jobs with their child and family
  - Salary structure same for girls and gents
  - Starting salary for Trainee Jr. Engr. is Tk. 7000

For improvement----

Haven't thought about girls yet

#### Personal Interview-3, FEMALE DIPLOMA ENGINEER (Entrepreneur)

Date: 01.03.2022

Types of Enterprise:

- Makeover and Physiotherapy
- Beauty Parlor

Barriers and challenges:

- Various Social Barriers
- > Lack of experience
- Lack of required training

#### Personal Interview-4, FEMALE DIPLOMA ENGINEER (Entrepreneur)

Date: 10.05.2022

Type of Enterprise:

Online based Dress Collection

Barriers and challenges of Female Diploma Engineers to be Entrepreneur:

- Lack of motivation
- > Lack of experience
- > Lack of required training