

**Information and Communication Technology Division
(ICT Division)
Bangladesh Computer Council (BCC)
People's Republic of Bangladesh**

**People's Republic of Bangladesh
Project for Skill's Development of
ICT Engineers Targeting Japanese Market**

Project Completion Report

September 2019

JAPAN INTERNATIONAL COOPERATION AGENCY

**PADECO Co., Ltd.
Kobe Institute of Computing (KIC)**

BD
JR
19-004

**Information and Communication Technology Division
(ICT Division)
Bangladesh Computer Council (BCC)
People's Republic of Bangladesh**

**People's Republic of Bangladesh
Project for Skill's Development of
ICT Engineers Targeting Japanese Market**

Project Completion Report

September 2019

JAPAN INTERNATIONAL COOPERATION AGENCY

**PADECO Co., Ltd.
Kobe Institute of Computing (KIC)**

Table of Contents

1. Overview of the Project.....	1
1.1 Background of the Project.....	1
1.2 Purpose of the Project	1
1.3 Target Area	1
1.4 Counterparts	1
1.5 Project Management Structure	2
2. Content of Activities	3
2.1 Project Progress.....	3
2.2 Progress by Activity	5
2.2-1: Preparation of Work Plan	5
2.2-1: Agreement of the Work Plan	6
2.2-1: Review of issues held by local ICT companies and expected issues to the government.....	6
2.2-2: Review BCC's ICT Human Resource Development.....	6
2.2-3: Conduct Baseline Survey for ICT Human Resource Development Implemented by BCC.....	7
2.2-4: Analysis of the Needs of Japanese ICT Companies.....	9
2.2-5: Conduct of Case Analysis of Other Countries	11
2.2-6: Analysis of the Existing Public-Private Collaboration Mechanism.....	14
2.2-7: Discussion and Proposal of Improvement Points on Public-Private Collaboration Mechanism	16
2.2-8: Review of BCC's Activities on the ITEE.....	16
2.2-9: Conduct of Case Analysis of the ITEE Management Programs of the Other Countries	19
2.2-10: Draft of ITEE Implementation Plan.....	22
2.2-11: Conducting Pilot Program Based on ITEE Implementation Plan.....	30
2.3 Reports	36
3. Issues and Lessons Learned through Project Implementation	37
3.1 Activity for Aiming at Asia No. 1 Passers on FE.....	37
3.2 Examination Instruction by Repetitive Learning and Pooling ITEE Trainers.....	37
3.3 Involvement of ICT Industry	38
3.4 Capacity Building of BD-ITEC.....	38
3.5 Initiative taken by BCC.....	38
4. Achievement of Project Objectives	39
5. Suggestions for Achieving the Overall Goal.....	41

Attached Documents

Attachment 1.	Project Design Matrix
Attachment 2.	Work Flow
Attachment 3.	Plan of Operation
Attachment 4.	Mobilization Plan + Result
Attachment 5.	Training in Japan
Attachment 6.	Equipment list
Attachment 7-1.	1st PSC Meeting Minutes
Attachment 7-2.	2nd PSC Meeting Minutes
Attachment 7-3.	3rd PSC Meeting Minutes
Attachment 8-1.	TOT Selection Criteria
Attachment 8-2.	TOT Structure
Attachment 8-3.	TOT Shortlist for Training in Japan
Attachment 9.	PR Manual
Attachment10-1.	Evaluating ICT Related Human Resource Development Activities Conducted by BCC
Attachment10-2.	ITEE Case Study
Attachment 11.	ITEE Event List
Attachment 12.	ITEE Implementation Plan (Draft)

Figures

Figure 1-1: Project Management Structure	2
Figure 2-1: Framework and Activities for March 2018 Exam	3
Figure 2-2: Result of FE in Bangladesh (including half passers).....	4
Figure 2-3: Pass Rate of FE in Bangladesh.....	5
Figure 2-4: Assistance for IT Week.....	16
Figure 2-5: Time Frame of ITEE Implementation Plan	26
Figure 2-6: Design of ITEE Public Relations Activities	27
Figure 2-7: Activities based on the Strategy	27
Figure 2-8: Correlation between Project Activity and TPP Activity	28
Figure 2-9: Design of ITEE Public Relations Activities	29
Figure 2-10: ITEE Training Plan.....	29
Figure 2-11: Capacity Development of BD-ITEC	30
Figure 2-12: ITEE Passer Page	32
Figure 2-13: Schedule of ITEE Training for 2018 Spring Exam	32
Figure 2-14: Outline of ITEE Training for 2018 Fall Exam	33
Figure 2-15: Outline of ITEE Training for 2019 Spring Exam.....	34
Figure 2-16: Outline of ITEE Training for 2019 Fall Exam	34

Tables

Table 1-1: Overall Goal, Project Purpose, Activities	1
Table 2-1: Summary of Interview Result of ICT Companies.....	6
Table 2-2: Summary of Training Courses Provided by BCC	6
Table 2-3: List of Events Related to ICT	15
Table 2-4: List of ICT-Related Projects Invested by Other Donors	15
Table 2-5: ITEE Fee Information	17
Table 2-6: Target for the Number of ITEE Candidates by 2020	17
Table 2-7: ITEE Attributes by Gender	18
Table 2-8: ITEE Attributes by Test Site	18
Table 2-9: Utilization of ITEE in the Philippines and Vietnam	20
Table 2-10: The number of IT engineers and ITEE statistics in three countries	22
Table 2-11: Items to be sorted for the ITEE Implementation Plan.....	23
Table 2-12: Result of Situation Analysis and Items to be Applied in ITEE Implementation Plan.....	24
Table 2-13: Roles of Government, University, and Industry.....	26
Table 2-14: Sample Content of TOT Manual	35
Table 2-15: List of Reports.....	36
Table 4-1: The number of ITEE Examinees and Pass rate during Project Period.....	39
Table 4-2: Content of Hand Over Orientation.....	40

Abbreviations

ADB	Asian Development Bank
BACCO	Bangladesh Association of Call Center & Outsourcing
BANBEIS	Bangladesh Bureau of Education Information and Statistics
BASIS	Bangladesh Association of Software and Information Services
BCC	Bangladesh Computer Council
BD-ITEC	Bangladesh IT-Engineers Examination Center
B-JET	Bangladesh-Japan ICT Engineers' Training Program
BPO	Business Process Outsourcing
BUET	Bangladesh University of Engineering and Technology
CUET	Chittagong University of Engineering & Technology
FE	Fundamental Information Technology Engineer Examination
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IMF	International Monetary Fund
IP	IT Passport
ITEE	Information Technology Engineers Examination
ITPEC	Information Technology Professionals Examination Council
ITSS	Information Technology Skill Standard
JFG	Japan Focus Group
JICA	Japan International Cooperation Agency
KOICA	Korea International Cooperation Agency
KUET	Khulna University of Engineering & Technology
LICT	Leveraging ICT Growth, Employment and Governance Project
MCF	Myanmar Computer Federation
MCPA	Myanmar Computer Professional Association
MOTC	Ministry of Transport and Communications
NGO	Non-Governmental Organization
NPO	Non-Profit Organization
OJT	On-the-Job Training
PAPSCU	Philippine Association of Private Schools, Colleges, and Universities
PDM	Project Design Matrix
PhilNITS	The Philippine National IT Standards
PIC	Project Implementation Committee
PSC	Project Steering Committee
PSITE	Philippine Society of Information Technology Educators
QMC	Question Making Committee
SNS	Social Networking Service
TOT	Training of Trainers
TPP	Technical Project Proposal
UIT	University of Information and Technology (Yangon)

UNDP	United Nations Development Programme
USAID	United States Agency for International Development
VITEC	Vietnam Training and Examination Center

1. Overview of the Project

1.1 Background of the Project

Driven by strong exports of the sewing industry and remittances by overseas workers, Bangladesh's economy has achieved more than 6% GDP growth for more than a decade, but it is now facing a new issue which is the need to promote a new industry to follow sewing. The Information and Communications Technology (ICT) / software industry is one of the priority industries for the government of Bangladesh, which has stipulated a policy called Digital Bangladesh¹. However, regarding ICT human resources development, the lower quality of education at higher education institutions and the lack of a qualification system are confirmed by private ICT companies as issues. To improve the qualification system, Japan International Corporation Agency (JICA) implemented a technical assistance project called the "Capacity Building on ITEE Management Project" (hereinafter referred to as Phase 1) to introduce the Information Technology Engineer Examination (ITEE). Although the ITEE was introduced in Phase 1, it has not been widely recognized and utilized, and further dissemination activities are required. As the successor to Phase 1, Project for Skill's Development of ICT Engineers Training Japanese Market (the main Project) is to strengthen the organization and enhance the capacity to disseminate the ITEE and utilize human resource development effectively.

1.2 Purpose of the Project

The overall goal, project purpose, and outputs of the main project are as follows:

Table 1-1: Overall Goal, Project Purpose, Activities

Overall Goal	Skilled IT engineers capable of working in the Japanese market are produced.
Project Purpose	The model for IT engineers' development targeting the Japanese market in private companies is formulated and the capacity of BCC to implement IT engineers' development support projects including the ITEE is enhanced.
Activity 1	The public-private collaboration mechanism for skilled IT engineers' development targeting the Japanese market is improved.
Activity 2	Model(s) for skilled IT engineers' development targeting the Japan market in private companies and BCC's support program(s) are developed.
Activity 3	The ITEE implementation plan with improved management structure is formulated.

The scope of the Project is to implement Activities 1 and 3, generate those expected outputs, and contribute to the overall goal of the main project. Activity 2 is implemented by other experts and resources; thus, Activity 2 is outside the scope of the Project.

1.3 Target Area

The target area is the city of Dhaka and throughout the country of Bangladesh.

1.4 Counterparts

Under the supervision of the ICT Division, the Bangladesh Computer Council (BCC) is the implementation agency to run the ITEE examination committee with assistance from BASIS (Bangladesh Association of Software and Information Service), with ICT departments, ICT companies, and B-JET (Bangladesh-Japan ICT Engineers' Training).

¹ Digital Bangladesh is a political framework which consists of four pillars: 1) e-government, 2) ICT in Business, 3) connecting citizens, and 4) human resource development. It aims to energize people's use and promote social development and economic development.

1.5 Project Management Structure

The following diagram describes the Project Implementation structure which is agreed under the Record of Discussion (R/D).

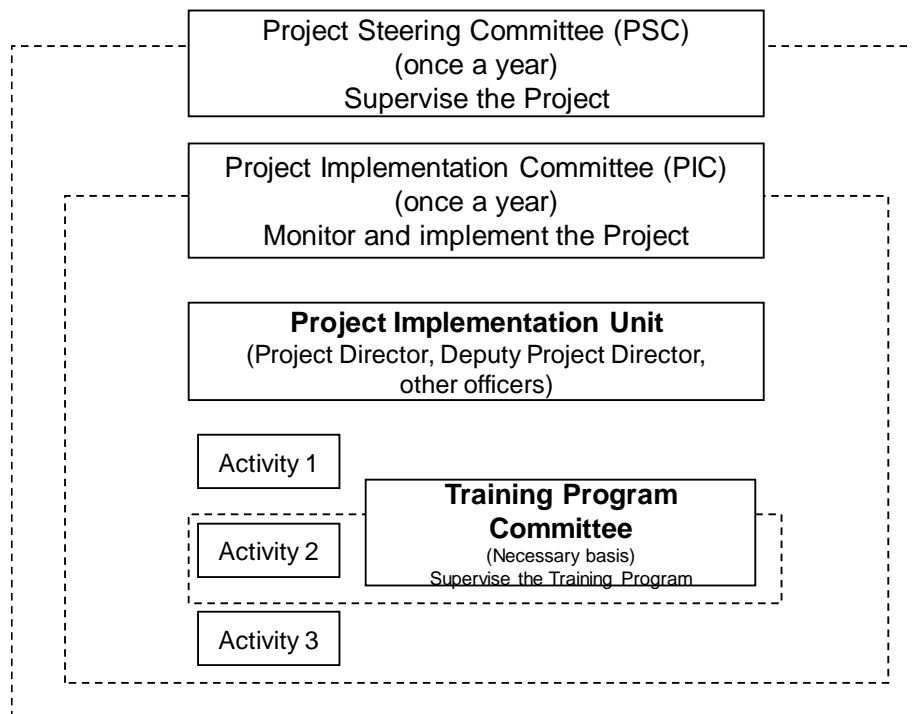


Figure 1-1: Project Management Structure

2. Content of Activities

2.1 Project Progress

The main project began in August 2017, and an activity plan was realized after discussion with stakeholders and JICA Bangladesh office. Regarding the utilization and dissemination of ITEE, the project team has identified that the small number² of successful candidates is one of the major obstacles. In that situation, it was difficult to motivate ITEE candidates, including in universities and companies, which can be facilitators of ITEE, so the project team planned to strongly impact the ICT industry by increasing the number of ITEE passers dramatically in a very short period and apply a policy to start utilization and dissemination of ITEE thereafter. In other words, by increasing ITEE passers, the ICT industry will recognize the value of ITEE and will promote ITEE human resource development, and this creates a good cycle of ITEE utilization. The team focused on the Fundamental Information Technology Engineer Examination (FE) as the entrance test for IT engineers and set a target to produce more than 100 passers³, which would be the No. 1 level in Asia according to the past exam results. The following diagram shows a framework for activities toward the exam in March 2018. The team actively promoted ITEE through university campus campaigns and company visits to increase ITEE passers, and then promote business linkage with Japanese companies. By accelerating utilization and dissemination of the ITEE during the project duration, the team formulated the ITEE implementation plan and take it over to the Bangladesh counterpart.

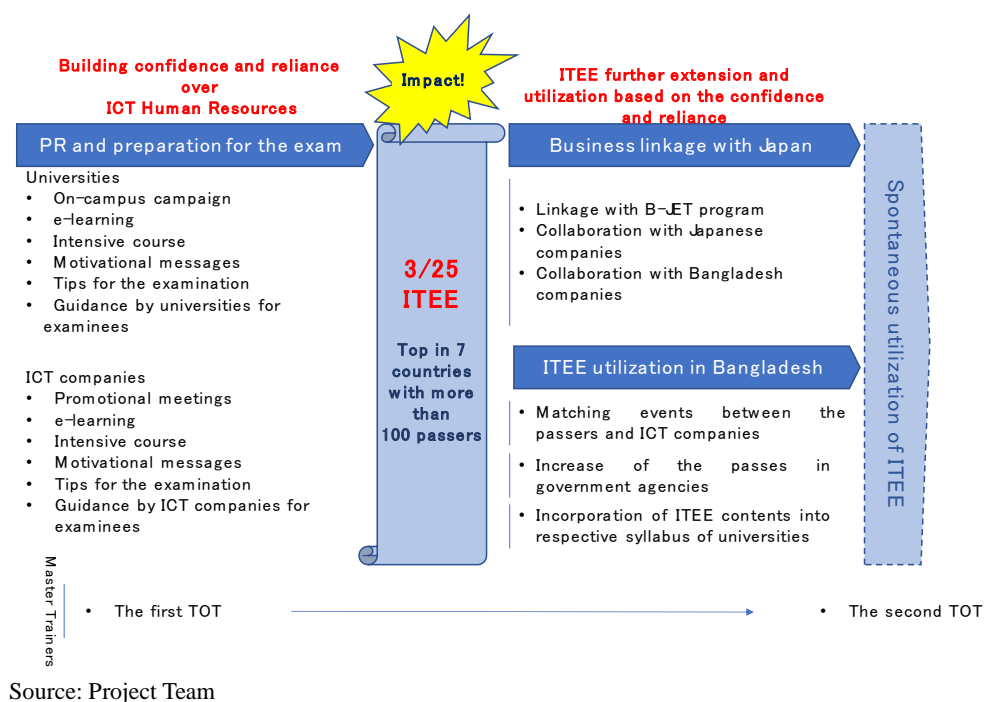


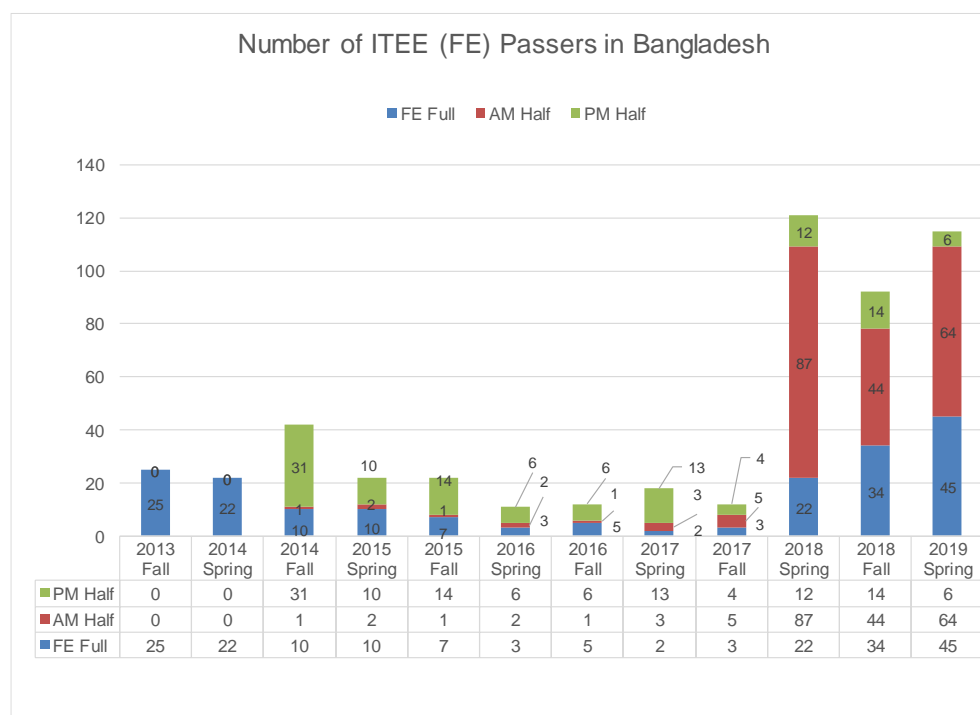
Figure 2-1: Framework and Activities for March 2018 Exam

By following the framework and activities mentioned above, the team planned to increase the number of candidates by improving ITEE awareness, and it conducted exam preparation for targeted candidates. In addition, the project team approached local ICT companies through BASIS to secure enough candidates from full-time engineers. As a result, as described in Figure 2-2, the

² The result of FE in 2017 Spring Exam which was the one before the project started was only two passers. <http://itpec.org/statsandresults/examination-statistics.html>

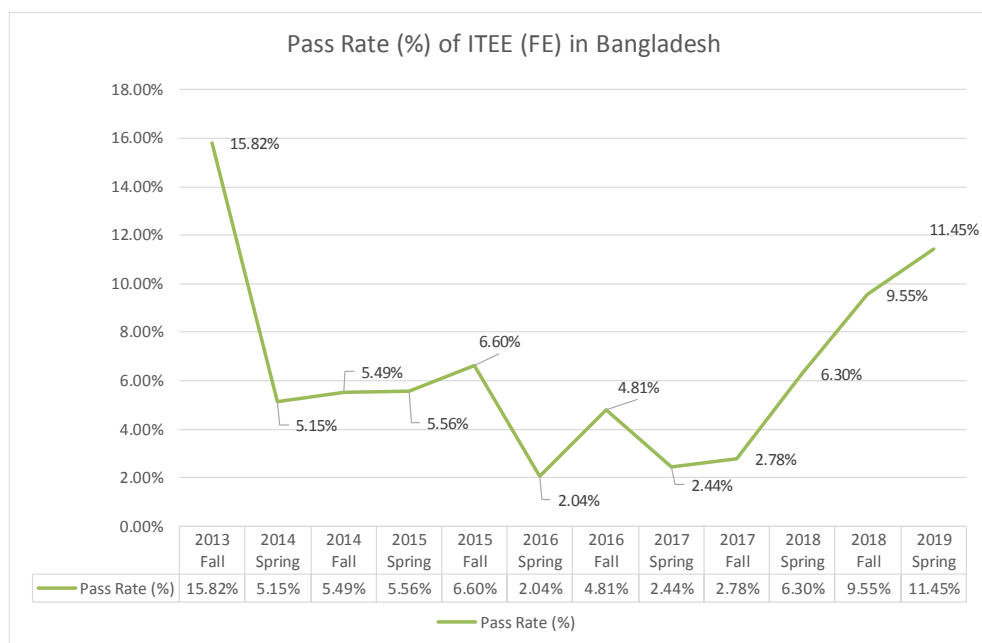
³ Vietnam and Philippines have produced 100 passers but not constantly, so the team referred to this number as target.

number of FE passers has been increased consecutively since the 2018 Spring exam (22 passers), 2018 Fall exam (34 passers), and 2019 Spring exam (45 passers). As Figure 2-3 illustrates, the passing rate of FE in Bangladesh has been increasing at 6.30%, 9.55%, and 11.45% respectively. Bangladesh also has risen to third position among Asian countries in the 2019 Spring exam. It is also noted that the highest FE scores in the 2018 Spring and Fall exams were from Bangladeshi. The team supported BCC to promote Bangladesh ICT industries during IT week in 2018 and 2019, and spread ITEE through the promotion of ICT business between Bangladesh and Japan. After conducting TOT in Japan in August 2018, the team has shifted to handover tasks which are maintained by the team to Bangladesh resource personnel gradually from the 2018 Fall exam, so that the Bangladesh side can take the initiative after the technical assistance ends. Through these activities, it can be said that the interest in ITEE has been increased in Bangladesh.



Source: Project Team

Figure 2-2: Result of FE in Bangladesh (including half passers)



Source: Project Team

Figure 2-3: Pass Rate of FE in Bangladesh

While maintaining close communication with stakeholders, the team was able to proceed with substantial activities and to have a certain impact. There was a delay in the approval process of the Technical Project Proposal (TPP), which caused a delay⁴ in personnel allocation and budget execution. In completion of the project, the team re-confirmed the importance of smooth and effective budget execution of TPP, and conducted handover orientation in September 2019 to make sure the future activities would be aligned with TPP budget execution.

Various surveys that are part of Activity 1 were conducted since the first half of the project, and they were compiled and submitted as a situation analysis report. Based on the report and past project activities, the project team drafted the first ITEE Implementation Plan (draft)⁵ and submitted it to BCC and JICA. In the future, ITEE Implementation Plan (draft) will be updated by through the activities by BCC.

2.2 Progress by Activity

The following is the progress by activity based on the assigned tasks:

Task 1: Preparation of Work Plan

1-1: Preparation of Work Plan

Based on the related materials, the project grasped the overall work of the Project, and re-examined the basic policy and method of the work and a business process plan to compile them into the Work Plan.

⁴ TPP was approved in November 2018.

⁵ Attachment 12 ITEE Implementation Plan (Draft)

Task 2: Agreement of the Work Plan

2-1: Agreement of the Work Plan

The Project team discussed the drafted Work Plan with the related stakeholders in Bangladesh and finalized and agreed on the Work Plan.

Task 3: Works Related to Activity 1

3-1: Review of issues held by local ICT companies and expected issues to the government

The team carried out a survey in September 2017 to determine the issues faced by private ICT companies and the expectations of the government. Some findings are summarized in a separate report, and some of the highlights are described in the following table.

Table 2-1: Summary of Interview Result of ICT Companies

Category 1	Category 2	Content
Issues held by ICT companies	Managerial issues	There are no major issues domestically, but when it comes to entering the Japanese market, there is no idea of how it should be started.
	Technical issues	Labor intensive with small-scale project, and shortage of labor with the skill to apply large-scale project.
	Human resource issues	High turnover rate; workers often quit after internal training
	Others	Request to provide soft skill training that is directly linked with business
Expectations of government	Satisfaction with service	Satisfied with government service in general
	Expectation	Expect the opportunity to establish business matching with Japanese companies through the government initiatives

Source: Project Team

3-2: Review BCC's ICT Human Resource Development

As a part of human resource development activities, BCC provides 1) training courses to gain computer knowledge including LICT training courses supported by the World Bank, 2) operation of ITEE management.

Table 2-2: Summary of Training Courses Provided by BCC

Course category	Content	Note
Short course	MS Office, computer languages, web application development	Application for twice a year, 15 hours to 156 hours per course
Long course (Diploma)	Extensive training in ICT technical skills and soft skills such as English	400- to 500-hour courses with requirements such as an engineering degree and a few years of work experience
Long course (Special diploma)	Five special diploma courses	Training period is 8 to 12 months and limited to 20 people in each course
Special training	Women in development course	Strengthening women's abilities and promoting in activities in ICT sector
	Hearing-/speaking- disabled and low-income persons	ICT course offering for people with disabilities and low-income persons

Course category	Content	Note
	Customized training	ICT course offered to government, semi-governmental agencies, independent administrative agency
	ICT basic training for teachers	ICT training for teachers who instruct students in how to use ICT technology in school

Source: Project team edits based on information provided by BCC

The training provided by BCC tends to target PC users to improve IT literacy. Specifically, there are many short-term courses that offer the acquisition of skills with general-purpose software such as Microsoft Office (Word, Excel, etc.). On the other hand, long-term courses and diploma courses are highly specialized, and the training conditions are not only for university graduates, but also for those who possess computer graduation conditions and specific skills (vendor qualifications such as Oracle). It was observed that nearly 50% of participants are students.⁶

ITEE-related training was not offered; however, an ITEE preparation course was implemented in cooperation with universities under the TPP budget. BCC is to manage and overseas mentioned training courses in universities which are implemented by universities' members who had taken ITEE TOT courses.

3-3: Conduct Baseline Survey for ICT Human Resource Development Implemented by BCC

The team conducted a survey on satisfaction levels, needs and services for training provided by BCC to local ICT companies. The targeted companies are in the Japan Focus Group (JFG), a group of BASIS members that are considering business transactions with Japanese companies. This baseline survey was outsourced and conducted by a local research company. Fifty companies of JFG were approached and 48 responses were received. After analyzing those responses, 10 companies were selected for on-site interviews to find more facts for a baseline survey. This baseline survey was conducted by a local Bangladesh company as outsourced work. The following is the purpose and methodology of the baseline survey.

(1) General Background of Baseline Survey

1) Purpose of the Baseline Survey

- Purpose: To ask local ICT companies about the satisfaction level of the training courses provided by BCC
- Scope: In addition to BCC's ICT human resource development project (training and ITEE trial operation), to investigate the demand for soft skill training such as foreign languages and business manners, and to determine expectations for BCC's ICT human resources development.
- Target: Local ICT companies that already engage in business with Japanese companies, or are planning to engage in business with Japanese companies
- Area: The city of Dhaka
- Duration: Two months from September to December 2017

⁶ Participant percentages of courses that BCC provide are 50.7% students, 25.7% professionals, 11.5% government officers, and 12.1% others.

2) Methodology

Conduct questionnaire surveys of members of the Japan Focus Group⁷ (about 50 companies) that are already engaging in business with Japan or planning to engage in business with Japan. After the questionnaire survey, select 10 companies and conduct face to face interviews to collect detailed information.

3) Selection Criteria of Outsourcing

Two stages of technical evaluation and price evaluation.

4) Selection Result

There were two proposals submitted and, based on the selection criteria described above, BacBon Limited was selected as the winner.

5) Delivery

“Report on Baseline Survey” (Attachment 10-1)

6) Evaluation Method

The project team reviewed the submitted report and compared it with the original TOR, and the team accepted the report.

(2) Characteristics of Responding Companies

A total of 48 companies responded to our questionnaires, and small companies with fewer than 50 employees accounted for approximately 60%. They provide IT services in many ways, with software solutions, website design and development, ICT consulting, and ICT support the focuses of their activities. Approximately 40% of the responding companies already engage in business with Japanese companies, and most of the work is offshore development.

(3) Recognition Degree of Training Provided by BCC

Reviewing the participation record of the BCC training courses, 37% of the companies have participated in BCC's short training, which implies that BCC's training has a certain status for ICT companies and their employees' training. On the other hand, reviewing the awareness of managerial positions at the companies regarding BCC training, about 75% of the respondents recognized the BCC training. As for the details of the course, their awareness has declined in that 44% of them said that they don't know much or don't know at all about what type of training program BCC offers. It can be assumed that the awareness of managerial position towards BCC training is not yet sufficient.

(4) Satisfaction Degree of Training Provided by BCC

Regarding the satisfaction level of BCC training courses, the report finds it is low. Regardless of short or long term, the content of course, the location, duration, and the quality of training including the lecturer, text, teaching method, the level of satisfaction is very low with more than two-thirds of responses for each question indicating not being satisfied. Among several other factors, statistics show more than 65 % of negative answers regarding the quality of training. Only about 4% of respondents answered that they were very satisfied with the quality of training. This is probably because the training provided by BCC has a lot of basic content for PC users, and it is not at the level required by ICT companies which the survey was conducted. On the other hand,

⁷ Japan Focus Group is the only group formed country-wise of the BASIS members, and it conducts activities such as holding periodical meetings to discuss how to enter Japanese market strategically, and participating Japan IT Week.

the team identified the fact that specialized training is a long-term course and employees cannot be dispatched.

(5) Expectations Regarding Soft Skills

In this survey, not only the ICT training but also the need for the related soft skill training were confirmed, and it was confirmed that the training needs for soft skills were generally high⁸. This survey highlighted Japanese language training because it was targeted at companies that have business with or are desiring business with Japanese companies; however, not only Japanese but courses in other languages such as English were also requested to be provided. In addition to foreign languages, soft skill training in areas such as business etiquette and communication (about 80%) and business knowledge (about 67%) is also required. The expectation for the BCC from the company side includes provision of an online training program, reasonable pricing⁹, placement of high-quality instructors, and a campaign to raise awareness of training.

(6) Summary of Baseline Survey

Although ICT training services provided by BCC are diverse, it became clear that there is a need for improvement in content and quality. Although reasonable pricing is raised as a need from the company side, it is a need related to dissatisfaction with the current low-quality training course, and the emphasis on quality is greater. Given the fact that it is an industry with rapid technological progress and evolving needs from the company side, it is desirable to arrange for high-quality lecturers currently involved in the ICT industry or others familiar with the latest technology. The higher the level, the longer the course, so there was a voice that employees could not be dispatched, so for highly specialized training, it might be better to consider setting strict prerequisites and providing training courses in a short period of time. Course areas that are high priorities of the companies but are not currently provided by BCC are soft training skills such as foreign language training and business manners, and online training that does not impose place and time restrictions on trainees. Regardless of whether BCC directly provides this training or not, to develop ICT companies it is necessary for BCC to grasp the needs of the ICT enterprises in the country.

3-4: Analysis of the Needs of Japanese ICT Companies

The Japanese ICT market is said to have a shortage of Japanese engineers, and the Japanese government is promoting the use of foreign talent¹⁰. Demand for foreign ICT talent is rising, and it is diversified, including direct employment in Japan and offshore development in the form of indirect investment in foreign countries. In this section, the project team conducted surveys and interviews with Japanese ICT companies, and the results are summarized in the following categories: 1) overseas transaction experience and the foreign employment situation, 2) skills required by foreign ICT engineers, and 3) foreign engineers' impression of ITEE. As for the online questionnaire, the project team distributed it to over 800 companies and received responses from 178 companies. Among them, seven companies accepted having face-to-face or telephone conversations for a detailed interview.

After conducting this research, the team followed up and confirmed the needs of Japanese companies through extensive interviews with Japanese companies. It was identified that there is

⁸ Additional interviews were conducted at a few ICT companies to determine if they are willing to take a Japanese language course even if they must pay, and they responded that they are willing to pay to take such a course, if a governmental institution such as BCC provides it.

⁹ Since BCC provides a wide variety of training courses with many different fee settings, the team could not identify a reasonable price, but there were comments that the training fee should be lower than that of the training offered by private companies, because BCC is a public institution. As for the Japanese language course, it is typical that a three-month course costs 10,000 taka in Dhaka.

¹⁰ More information on Japanese policy for high-skill foreign talent is available as follows (in Japanese):

https://www.kantei.go.jp/jp/singi/keizaisaisei/pdf/saikou_jpn.pdf

https://www.kantei.go.jp/jp/singi/keizaisaisei/pdf/miraitousi2017_t.pdf

a high demand for offshore orders, but at the same time many companies are also cautious about offshore orders to Bangladesh, where there has been no business. To fill this gap, there is a high demand for Japanese intermediators between Japanese and Bangladesh parties as well as Japanese-speaking bridge engineers. In this regard, BASIS is well aware of the issues and has requested government assistance to establish the Japan Desk, which is the interface for functionality of business transactions between Bangladesh and Japan. With the accelerated B-JET program, employment of Bangladesh ICT engineers could be a lower risk than requesting offshore orders, and the level of direct employment of Bangladesh ICT engineers has been increasing.

(1) Overseas Transaction Experience and Foreign Employment Situation

Sixty percent of companies responded that they had some form of dealings with foreign countries (offshore development, local office, etc.). Nearly 40% of these firms had the experience of directly hiring foreigners in Japan. The nationality of foreign employees who were directly employed were, in order from the top, China (including Taiwan) and Korea; Asian countries including Vietnam and India exceeded 80% of the total; however, Bangladesh engineers were not identified. Regarding indirect investment (offshore, overseas office), many answered that they participated in offshore development before, but they are not doing it now. As the reason for withdrawing, many answered such things as rising wages, language and customs barriers, and high barriers of local laws.

(2) Skills Required by Foreign ICT Engineers

It turns out that the job type required by foreign ICT engineers is that which specifies a range of human resources and also aspects of a programmer. Knowledge of programming implementation was required more than knowledge of general software and knowledge of the system development method taught at university because ICT companies expect immediate contributions directly linked with business. However, the programmer as described here is not a programmer who does only coding intensively as often seen in offshore development, but rather having a high level of talent who can correctly understand specifications in Japanese and design a logical program. After programmers, systems engineers (SEs), who can deal with requirement gathering and system design, are also sought by Japanese companies, especially bilingual system engineers who can bridge the language barrier, who are often called "Bridge SEs". Knowledge other than of technology tends to be related to skills for teamwork and quality control. There were also many comments asking for equivalent skills without distinguishing between the Japanese engineers. In the interview, there was a comment that there is a shortage of Japanese engineers so, if a foreigner can speak Japanese, IT skills such as coding can be taught in-house. The tendency to require Japanese language as an essential skill remains deep-rooted in Japanese ICT companies. The questionnaire results indicated that more than 98% of the responding companies ask for more than a basic conversational level of Japanese, and more than 60% strongly require foreigners to have Japanese Language Proficiency Test Level 1 or 2 capability.

(3) Foreign Engineers' Impression of ITEE

The questionnaire and interview indicated that specific skills for foreign ICT engineers are not expected, but many respondents said that if the engineers speak Japanese they will be treated as equals of Japanese ICT engineers. Then questions were asked about, if foreigners obtained ITEE qualifications, are they seen more favorably for recruiting, and of the answers, many replies indicated a neutral position. Since ITEE originally comes from a national qualification in Japan, there were opinions to evaluate foreigners who obtained such qualifications by mutually certifying with them as well as ITEE. However, there was still stronger demand for Japanese language skill than ITEE achievement. There were many responses that they were not aware that Japanese information processing engineer exams were mutually certified and operated as ITEE

in Asia, thus 80% of the respondents did not know that there is a merit point¹¹ on immigration if ITEE is obtained.

3-5: Conduct of Case Analysis of Other Countries

ITEE is conducted in Bangladesh, Mongolia, Myanmar, Vietnam, Thailand, Malaysia and the Philippines. Among these, the Philippines, which actively organizes an ITEE passer association through a local NPO (PhilNITS Society), and Vietnam, with large numbers of Japanese learners and good ITEE, are implementing and spreading ITEE in line with the IT industry and policy. In this section, a case analysis of the Philippines, Vietnam, and Myanmar is described and mainly focused on 1) the IT industry outline and IT policy, 2) business and employment status regarding Japanese companies, 3) ICT human resource development targeting Japan, and 4) the status of public-private partnerships. Utilization of ITEE in those three countries is described in 4-2.

(1) Philippines

1) IT industry Outline and IT Policy

In the Philippines, the IT industry is an export-oriented industry, and IT-business process outsourcing (BPO) reached sales of 18.1 million USD in 2014, growing by about 10% every year. Most of the sales are exports and contribute greatly to Philippine economic development, including foreign currency acquisition capability, to a trade surplus in the service industry and to the income of IT engineers. BPO in the Philippines is a major customer of US, Chinese and Japanese companies and aims to train personnel to meet the demands of each country's companies, focusing on public-private partnerships to attract each country. In the future, the Philippines plans to increase the number of IT engineers who can do business in English, taking advantage of the fact that English is a native language there. The industrial road map (Philippine IT - BPM Roadmap 2022) was also formulated, and seeks expansion, by 2022, through direct engagement of engineers, mainly young people, to 1.80 million people, and indirectly 7.6 million people, to achieve sales of 40 billion USD.

2) The Business and Employment Status of Japanese Companies

Foreign-affiliated ICT companies have many offices in the US and China because the official language is English, but the expansion of Japanese companies from India and China to the Philippines in recent years is on the rise. As an issue when Japanese companies enter the Philippines, there are barriers of Japanese language ability for locals, but Japanese language ability can be improved through in-house training at each company. As for specialized IT knowledge, each company has various requirements so, when adopting IT, basic knowledge and potential ability are the adoption criteria. Applicants who are acquiring ITEE, which is an examination of basic IT knowledge in Japan, are Japanese companies that consider it advantageous at the time of employment.

3) ICT Human Resource Development Targeting Japan

Because there are many engineers who can work in English, the interest in Japanese is low, and the number of candidates for the Japanese Language Proficiency Test is relatively low¹². For Japanese IT companies employing highly skilled human resources, IT technology and Japanese language education are handled in in-house training after new employees join the company. Some

¹¹ More information on immigration merits is available (in Japanese):
http://www.immi-moj.go.jp/newimmiact_3/
http://www.moj.go.jp/nyuukokukanri/kouhou/nyukan_hourei_h09.html

¹² According to JLPT statistics, in the first round in 2017, the number of passers including N1 to N5 were as follows: Vietnam, 33,307; Thailand, 10,916; the Philippines, 4,908; Myanmar, 3,746; Malaysia, 1,274; and Bangladesh, 756 (<http://www5a.biglobe.ne.jp/~t-koron/jlpt-data1.html>).

recruiters evaluate applicants who have ITEE as job seekers with minimal IT knowledge. However, since the Philippine government does not have IT human resource development policies for Japanese companies, it seems that Japanese companies in the Philippines tend to have their own IT recruitment policies and human resource development plans.

4) Public Private Partnership Status

JICA and the Philippines University IT Engineer Development Project began in 2004¹³, and an IT training center (UP-ITTC) was established at the University of the Philippines. In addition to the IT technology and software development skills required by Japanese IT companies, the center conducts business skills training, Japanese language training, and an ITEE preparatory course.

(2) Vietnam

1) IT Industry Outline and IT Policy

The Vietnamese IT industry was undeveloped until about 2010, but after the entry of foreign-affiliated companies since then, it has developed rapidly and is catching up with other Southeast Asian countries. Especially the software industry and the BPO industry are developing. In Vietnam, there are many students who wish to study at IT-related faculties because employees in IT companies are well-treated compared to those in other industries, and many people find jobs in IT-related private companies even after graduation. "Vietnam's Socio-Economic Development Strategy 2011-2020" describes how Vietnam is aiming to be a modern industrialized country by 2020, along with the stability of society and improvement of people's standard of living. Vietnam is also trying to improve its competitiveness and states that IT (software) is one of the important industries in the development plan. It is planned that 200,000 IT-related students will be trained by 2020, and 100,000 of them will be software developers.

The Vietnamese IT industry receives many benefits from foreign-affiliated companies, so there are many policies to attract foreign capital. Specifically, to facilitate investment by foreign-funded enterprises, there are reductions in or exemptions of corporate income taxes, and there is a policy of attracting foreign capital through such measures as the first four years being exempted for the first time and the next nine years being reduced by half.

2) The Business and Employment Status of Japanese Companies

Vietnam has an average age of less than 30 years old and this young population structure produces an abundant labor force of 1 to 1.5 million people every year. The Vietnamese government sees the IT industry as one of the important employers of this rich labor force and is working on nurturing IT engineers based on IT industry promotion support. Policy effects have already appeared, and the country has grown to become the top-priority offshore development destination for Japan. For Japanese IT companies, there is no competition for securing engineers with foreign companies in English like in the Philippines, so there are environments where better engineers are easily found. Japanese IT companies are looking at the potential of IT technology and Japanese language ability to hire skilled engineers and to hire them for long-term employment, and they see the ITEE qualification as a measure of IT technology.

3) ICT Human Resource Development Targeting Japan

As an order-receiving country for BPO from Japan, Vietnam was the second largest in the world, exceeding India in 2010, and received about 20% of the total orders. In addition, it is gaining attention as a supply alternative to China, because the labor cost is low in Vietnam for BPO. For example, as of 2014, engineers could be hired at a salary less than a quarter of that in Japan.

¹³ Information Technology Human Resource Development Project

Meanwhile, when a Japanese IT company hires a local engineer in Vietnam, it requires Japanese language ability and a basic knowledge of IT as the employment standard.

Vietnam is one of the countries that focuses on ITEE. For example, it is possible to take an ITEE preparatory course as an elective subject at FPT University, a private university established by FPT Corporation, the biggest IT company in Vietnam. Many national universities offer ITEE-related classes as well. In addition, FPT Corporation, has educated 5,000 people, half of the FPT University students, with the goal of fostering 10,000 bridge engineers for Japan by 2020. It can be said that cultivating ICT human resources targeting Japan is very active.

4) Public Private Partnership Status

In the case of Vietnam, the survey found that public and private partnerships based on university institutions are working actively. For example, in a project using Japanese ODA loans, Hanoi University of Science and Technology had a project called the “Higher Education Development Support Program on ICT” with the aim of nurturing students who can respond to the needs of Japanese IT companies. This project incorporates a curriculum compliant with Japanese ICT policy called “IT Skill Standard (ITSS)¹⁴”. In addition, many undergraduate departments of Vietnam National University of Hanoi have IT-related courses, and it is a requirement for graduation to pass FE.

FPT University cultivates IT human resources both at home and abroad. Students in engineering departments are required to study English as well as Japanese (also Chinese). Almost all students are learning Japanese. IT-related classes are conducted in English, but the curriculum on IT standards, etc. in Japan is also included.

Because there are also many job seekers for Japanese companies, opportunities are offered for studying abroad in Japan (conducted with Shinshu University and Kyushu Institute of Technology as student exchanges) and for internships studying abroad.

(3) Myanmar

1) IT Industry Outline and IT Policy

Myanmar has long lost direct investment and exports due to US economic sanctions, and industry, agriculture, forestry and fisheries were undeveloped. According to the IMF, GDP grew to 68 billion USD in 2018, but it is still one of the poorest countries in Southeast Asia. Although the GDP growth rate has continued to be 7-8% and is expected to continue growing in the future, the economy is still small. On the other hand, the IT industry is expected to grow as a future market. The hardware industry in Myanmar is basically trade and assembly, and the parts industry is still weak, but the software industry is targeting domestic software development and expanding business internationally by collaborating with foreign companies for offshore businesses.

The IT master plan in Myanmar has been drafted and revised by MCF (Myanmar Computer Federation) and MOTC (Ministry of Transport and Communications) with support of South Korea. The ICT Master Plan 2011-2015 has four major areas: (1) ICT infrastructure, (2) ICT industry, (3) ICT human resource development, and (4) e-Education. ITEE in Myanmar is considered to be consistent with “introduction of national qualifications” which is one of the ICT human resource development efforts.

¹⁴ At the time of introduction, it was organized by Ministry of Economy, Trade, and Industry (METI), but currently it is managed by the Information-Technology Promotion Agency (IPA).

2) The Business and Employment Status of Japanese Companies

Although the demand at Japanese companies for local engineers is high, there are not enough engineers to meet the demand at present. IT universities also have very limited opportunities to access personal computers, and it is necessary to educate the engineers after hiring them. The number of Japanese companies stationed in Myanmar is still small and, according to two companies interviewed in the survey, they both commented that they have a difficult time hiring employees even if they graduated from a computer science department, or they require intensive in-house training after hiring.

3) ICT Human Resource Development Targeting Japan

In Myanmar, IT universities are basically responsible for IT human resource development, and IT universities play a major role in IT human resource development targeting Japanese companies. Among IT university students, Japanese companies are popular for employment. Also, as mentioned above, Japanese companies are also cooperating with universities as part of recruitment activities, and the universities are aware of both parties' demands and are trying to respond to these movements. Because of active promotion activities to universities conducted by MCPA (Myanmar Computer Professional Association), an ITEE executing agency, ITEE is recognized as important among many universities in terms of IT human resource education targeting Japan. Many university students are encouraged to take the ITEE exam.

4) Public Private Partnership Status

There is a private-sector partnership with an IT university, which is a national university in Myanmar. However, the team was not able to identify a government-private activity related to ITEE or IT in general.

3-6: Analysis of the Existing Public-Private Collaboration Mechanism

Based on the on-site research, the project team has discovered that there are two major associations related to ICT in Bangladesh.

- Bangladesh Association of Software and Information Services (BASIS)
- Bangladesh Association of Call Center & Outsourcing (BACCO)

The BCC/ICT Division supports collaborative relationships with these associations, supports exhibitions and summits, and cooperates in Bangladesh's ICT promotion both in Japan and abroad. The following tables describe ICT-related events and projects of public-private collaboration. Like the case analysis results in other countries, public-private partnerships are limited in Bangladesh. Regarding public-private partnerships related to ITEE, initiatives related to the promotion of ICT business in Japan such as participation in IT Week are important from the viewpoint of stimulating demand for the utilization of ITEE. This is on-going activity towards the establishment of Japan Desk, as previously mentioned. The role of industry, government, and academia related to ITEE dissemination and establishment will be described later.

Table 2-3: List of Events Related to ICT

Name	Description
Digital World	The largest IT exhibition in Bangladesh (sponsored by ICT Division)
ICT Expo	The largest computer hardware trade fair in the country (sponsored by ICT Division, by ICT Division of Hi Tech Park Authority and by Postal Telecommunications IT Department)
BPO Summit	An international conference on outsourcing (sponsored by BACCO) that has been undertaken since 2016
BASIS Soft Expo	Software-related exhibition (sponsored by BASIS)
Japan IT Week	IT exhibition sponsored by Japan (BASIS, hosted by government agencies)
Gitex Event	IT exhibition sponsored by Saudi Arabia (BASIS, hosted by government agencies)

Source: Project Team

In addition to JICA, the World Bank and Asian Development Bank (ADB) and other overseas donors are investing in ICT-related projects in Bangladesh. Below is a list of projects and investment donors.

Table 2-4: List of ICT-Related Projects Invested by Other Donors

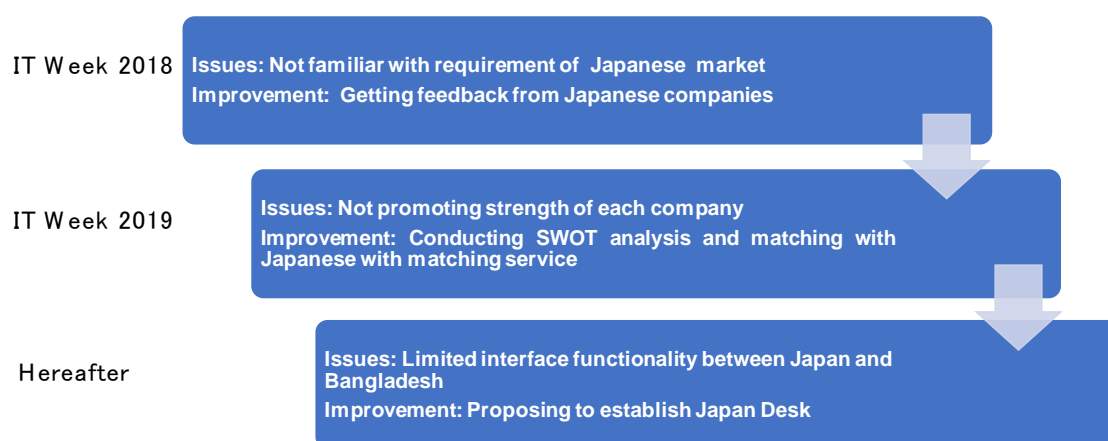
Name of Project	Description	Donor	Counterpart	Duration	Targeted organization and number
LICT (Leveraging ICT for Growth, Empowerment, and Governance)	Project aimed at nurturing the IT/ITES industry, creating employment opportunities, export diversification, and e-government development	World Bank	BCC	2013-2018	Government officers: 34,000
SEIP (Skills for Employment Investment Program)	Training for improving skills with emphasis on the ICT sector	ADB	BASIS, BACCO, etc.	2014-2015 2017-2018	BASIS: 23,000 BACCO: 16,785
A2i (Access to information)	Project to improve the usability of public services	UNDP, USAID	Prime Minister's office	2012-2018	Government officers: 10,776 Public servants: 29,165 Teachers: 29,000
BKITEC (Bangladesh Korea ICT Training Center for Education)	Training secondary education teachers and providing ICT training centers	KOICA	Bangladesh Bureau of Education Information and Statistics (BANBEIS) Ministry of Education, BCC, etc.	2007 -	Approximately 1,000 people are trained annually in six training centers

Source: Project Team

3-7: Discussion and Proposal of Improvement Points on Public-Private Collaboration Mechanism

As mentioned above, public and private partnerships include BASIS and BACCO as associates of major private enterprises, and the BCC/ICT Division has a cooperative relationship with these associations through international exhibitions, but regular meetings or events to discuss relevant strategy could not be confirmed. However, Japan IT Week is held in Japan every May, and BCC, the IT High-Tech Park Agency, and BASIS participated in the last few years, and are actively entering the Japanese market. In the future, while the individual approach of public-private collaboration is being reinforced, periodic meetings and activities are expected for public-private collaboration to promote ITEE dissemination. In the future, a challenge will be to aim for a systematic public-private partnership framework by focusing on the promotion of ICT business between Japan and Bangladesh while further strengthening the individual collaboration between the public and private sectors. One of the possible mechanisms would be establishing Japan Desk.

As shown in the diagram below, efforts were made to improve the public-private partnership based on support for activities during IT Week. In IT Week 2018, the team supported activities for IT Week, but not knowing exactly what kind of supports were needed by Bangladesh side, the assistance was somewhat limited. To provide better assistance for IT Week 2019, the team conducted SWOT analysis with most of the Bangladesh exhibitors before IT Week to figure out how to approach Japanese companies. The team also linked with the Japanese offshore matching organizer, Offshore Kaihatsu.com, to introduce Bangladesh companies that seek more specific business activities with Japanese companies. Furthermore, the team analyzed the trends and attributes of IT Week visitors for Bangladesh exhibitors to be able to approach more potential future clients. However, there is still room for improvement in these activities, and it is recognized that it is necessary to further deepen through activities such as the activation of the Japan Desk.



Source: Project Team

Figure 2-4: Assistance for IT Week

Task 4: Work related to Activity 3

4-1: Review of BCC's Activities on the ITEE

Bangladesh IT Examination Center (BD-ITEC) under BCC has been implementing ITEE since October 2013, and the exam is held twice a year (in spring and fall). The Information Technology Professionals Examination Council (ITPEC) is the organization for a common IT examination in Asian countries, and it provides four levels of examinations, and Bangladesh carries out two

exams (IP and FE). ITEE is held in five venues in Bangladesh¹⁵: Dhaka (BUET and Dhaka University), Khulna (KUET), Rajshahi (RUET), and Chittagong (CUET). The number of examinees has increased to 393 in 2019 Spring, but there are no issues in terms of administration and operation of ITEE. While the current system seems manageable while aiming for 100 successful candidates¹⁶, it is necessary to strengthen the implementation system, such as promptly assigning personnel to BDITEC to increase the number of candidates. The gap between the number of applicants and examinees is still large¹⁷ mainly because the exam is held on Sundays, which is a weekday in Bangladesh. BCC has requested ITPEC to hold the exam on Saturdays again.

The examination fee of each exam is shown in the table below.

Table 2-5: ITEE Fee Information

Exam level	Fee	Textbook	Pass rate
Level-1: IT Passport Exam (IP)	205 Tk	Available (300 Tk)	55%
Level-2: FE Exam	510 Tk	Available (500 Tk)	60%

Source: BCC

(1) Goals for ITEE

As a part of skill development for ICT human resources, BCC sets target values as shown in the table below, using the number of ITEE passers as an index. It is stated in TPP that currently the passing rate is appropriately 5%, but it will be raised to 40% by strengthening the linkage between industry-government-academic collaboration and the aim to become a top-ranking ITPEC member country.

Table 2-6: Target for the Number of ITEE Candidates by 2020

Result/ Impact	Performance index	Current achievement	Target	Outlook		Note
		2016-2017	2017-2018	2018- 2019	2019- 2020	
Review skill level of IT professionals	Number of ITEE test takers	970	500	500	500	BCC and related offices

Source: APA of BCC 2017-2018

(2) Achievement of ITEE

Based on the records from past exams up to 2019 Spring, the project team summarized the trends and attributes of candidates.

¹⁵ The abbreviation for each university is as follows: Bangladesh University of Engineering and Technology (BUET), Khulna University of Engineering and Technology (KUET), Rajshahi University of Engineering and Technology (RUET), and Chittagong University of Engineering and Technology (CUET).

¹⁶ In the 2019 Spring exam, 393 examinees attended the exam out of 662 applicants; this implies that BD-ITEC was ready to facilitate exams for more than 600 people, which could produce 100 passers if the attendance rate were higher.

¹⁷ According to the 2019 Spring exam, the participant rate (the number of examinees / the number of applicants) was over 90% for all ITPEC member countries except for Bangladesh. For Bangladesh, the participant rate was 59%.

Table 2-7: ITEE Attributes by Gender

Exam type	Male		Female		Total
	Number	Share	Number	Share	Number
IP	3,053	90.1%	334	9.9%	3,387
FE	4,601	84.6%	840	15.4%	5,441
Total	7,654	86.7%	1,174	13.3%	8,828

Source: BCC Information edited by Project Team

Reviewing at the test site, the exams are taken in BUET in the capital, and the proportions of test takers at KUET and RU are low. In the future, it is necessary to consider increasing the number of candidates and the pass rates in those rural areas. For example, introducing ITEE's advertising activities could increase the number of candidates, and providing remote education such as e-learning, the trial version was introduced in Bangladesh in another project¹⁸, and real time video delivery could increase the number of passers. Exam preparations are also expected to be conducted by TOT trainers in rural areas which were produced by TOTs.

Table 2-8: ITEE Attributes by Test Site

Exam type	BUET		CUET		DHAKA		KUET		RU		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number
IP	1,450	42.8	494	14.6	1,176	34.7	128	3.8	139	4.1	3,387
FE	2,010	36.9	341	6.3	2,562	47.1	124	2.3	404	7.4	5,441
Total	3,460	39.2	835	9.5	3,738	42.4	252	2.8	543	6.1	8,828

Source: BCC Information edited by Project Team

(3) Budget for ITEE

Most of BCC's ITEE budget is to cover the expenses of conducting ITEE tests, and the costs of running the Question Making Committee (QMC). The project team obtained expenditures on ITEE test implementations in the past (April 23, 2017) and the QMC-related budget. A detailed breakdown of all expenditures is described in the attached documents, but it was found that it cost 159,950 Taka to run one examination in April 23, 2017.

Other than the budget described above, before the exam, the BCC makes an announcement through the daily newspaper and spends 100,000 taka as its expense. In addition to the budget for the examination, BCC pays 3,000 taka per meeting as a remuneration for the members of the QMC to attend the committee. There are 16 members of the committee, and meetings are held at least four times a year. Based on the above, the annual ITEE-related budget is estimated to be about 700,000 taka as follows (this estimate does not include personnel expenses of BCC staff members).

ITEE Budget (Year)

$$\begin{aligned}
 &= (\text{Examination execution cost} / \text{times} + \text{advertisement expenses} / \text{times}) \times 2 \text{ times} \\
 &\quad + \text{exam question creation committee fee} \\
 &= (159,950 \text{ taka} + 100,000 \text{ takas}) \times 2 \text{ times} + (3,000 \text{ taka} \times 16 \text{ people} \times 4 \text{ times}) \\
 &= 711,900 \text{ taka}
 \end{aligned}$$

(4) Issues for ITEE Operation

Although after Phase 1 up to starting this project, BE-ITEC has running the ITEE operations, some issues to be improved have been identified through the research as follows:

¹⁸ http://open_jicareport.jica.go.jp/pdf/12247219.pdf

- There is no ITEE utilization strategy, vision, or medium-/long-term plan.
- It is necessary to train TOT and trainers based on the medium- to long-term plan and make effective use of them. (There is no activity or contribution of the trainer taking TOT of Phase 1.)
- BD-ITEC staff has not been increased¹⁹. (At present, all activity is managed by two persons.) It is necessary to improve the capacity of staff if training is done.
- Candidates don't have a chance to prepare for the exam, so establishment of the ITEE training course and development/improvement of teaching materials are required.

To improve mentioned issues, the team has conducted a series of activities such as preparing an ITEE Implantation Plan to formulate mid-term plan, developing ITEE trainers by conducting TOT, assisting to formulate a mechanism of test preparations by utilizing ITEE trainers and preparing TOT manuals for the Bangladesh side to conduct independently, recommending to personnel allocation to BD-ITEC, conducting administrative orientations, and handing over all the assets including Japanese past exam collections.

4-2: Conduct of Case Analysis of the ITEE Management Programs of the Other Countries

Other than in Bangladesh, ITEE has been conducted in Mongolia, Myanmar, Vietnam, Thailand, Malaysia and the Philippines. Among them, the project team has researched how ITEE is spreading and penetrating, mainly in the Philippines, Vietnam, and Myanmar, which are implementing and spreading ITEE according to IT industry and policy.²⁰

Since the maturity of the IT industry differs between the Philippines, Vietnam and Myanmar, government policies and human resource development plans for Japanese companies entering the field are organized according to the situation of each country. The Philippines has a long history as an outsourcing destination of Japan and other developed countries, but recently Japanese companies have entered Vietnam due to the low wages. In Myanmar, Japanese companies are entering the country due to the cheapest wages after Vietnam. The development of the IT industry is important for government policy which shares common understanding in each country. However, there is a tendency for the Philippines and Myanmar to try to raise the whole IT industry sector, not heavily responding only to Japan, whereas Vietnam is focusing on attracting Japanese companies. In the Philippines, which has less preferential treatment for human resource development for Japanese companies as a policy, human resource development is carried out through individual training by each company. Some companies have encouraged workers to obtain ITEE to prove IT skills at the time of trading with Japanese companies, in addition to their Japanese language management abilities and business customs, so that they can communicate with Japanese engineers. Meanwhile, in Vietnam where there is a policy of preferential treatment for human resources for Japanese companies as a policy, in addition to promoting employment for Japanese companies by allowing students to obtain ITEE by studying various ITEE subjects in their university, so that they are trained to deal with Japanese companies. In this way, ITEE is used particularly for engineers aiming to trade with Japanese companies and students seeking employment in Japanese companies. On the other hand, in Myanmar, the IT master plan includes (1) ICT infrastructure, (2) ICT industry, (3) ICT human resource development, and (4) electronic education (e-Education). Among these master plans, ITEE is positioned in (3) ICT human resource development, to introduce ITEE as national certification.

¹⁹ The current BD-ITEC personnel are limited to the question making and the operation of exams, which are the main roles of ITEEC member countries. However, there is not enough personnel to conduct exam preparations and promotion to increase ITEE examinees and pass rate. It is recommended to increase at least two personnel to be in charge of promotion and exam preparation.

²⁰ Attachment 10-2 ITEE Case Study

Since ITEE is often said to be an examination that limits subjects to companies conducting business with Japanese companies and students seeking employment with them, ITEE-related organizations wish ITEE would be recognized by more people and would spread to increase the number of qualified persons. The main organizer of ITEE is IPTEC. However, the ITEE secretariat is active mainly in each country; for instance, PhilNITS in the Philippines, VITEC in Vietnam, and MCPA in Myanmar. PhilNITS conducts ITEE examinations as a secretariat as well as lecturers and trainers on teaching methods to contribute to the spread of ITEE. In addition, the PhilNITS Society is operated as an organization under PhilNITS formed by ITEE holders. The PhilNITS Society carries out dissemination activities through advertisements on social media and referrals to IT universities. Meanwhile, VITEC has only a minimal amount of activities other than those under the administrative office of ITEE, due to the imminent operating costs. In Vietnam there are universities that adopt ITEE as a unit subject, and dissemination through universities is common.

Although the method of dissemination of ITEE differs in those countries, it is contributing to the steady increase in the number of candidates and the pass rate through the formation of a passer alumni society (the PhilNITS Society) in the Philippines and by active participation of the universities in Vietnam and Myanmar. Interest in IT personnel in the Philippines focuses on the United States and China due to high English proficiency and having Japanese language ability has little benefit for engineers aiming to find employment at IT companies. However, for Japanese companies as well, there is a high demand for Philippine IT human resources who can communicate directly in English amid advancing globalization, and there is a merit of hiring local talent in the Philippines. The PhilNITS Society has been conducting dissemination activities to get them to take the exam. Especially employment placement using the members' community of the PhilNITS Society and dissemination of information on personal network formation are beneficial for local engineers, which is a catalyst to recognize ITEE. The activities of the PhilNITS Society are successful cases of disseminating ITEE in the Philippines. Meanwhile, the appeal of IT human resources in Vietnam lies in the Japanese language ability. Although the country produces nearly 50,000 university graduates in IT, it is also active in interacting with Japan from the university level, and it strongly desires Japanese to be learned and Japanese IT systems to be acquired. Each university carries out various efforts, not only for learning Japanese language but also Japanese business customs, and is training engineers who can communicate with Japanese engineers. A particularly successful case of developing engineers is FPT University-operated FPT Software. To expand the business for Japan, FPT Software increased the number of engineers from 4,000 to 10,000 in 2014. They also prepared an ITEE preparatory lecture which is advantageous for expanding transactions with Japanese companies in the curriculum of FPT University and for finding employment for Japanese companies. FPT University in Vietnam plays a major role in increasing the number of students taking the exam. On the other hand, IT universities are responsible for ITEE utilization in Myanmar. MCPA, which is the executing agency, promotes activities to universities, and many universities are encouraging students to take the ITEE examination. For example, the University of Information Technology (UIT), one of the country's top IT universities, reflects some of the ITEE in its curriculum. In addition, MCPA is also promoting the ITEE at universities, taking IT examinations is mandatory for third-year students and taking FE examinations is recommended in the fourth year.

Table 2-9: Utilization of ITEE in the Philippines and Vietnam

Country	Philippines	Vietnam	Myanmar
Institution	PhilNITS Society	Private sector	University
Type of organization	NGO/NPO Member-operated by ITEE holders	Private university (established by FPT Corporation, the biggest IT company in Vietnam)	University of Information Technology (UIT)

Country	Philippines	Vietnam	Myanmar
Purpose of establishment	Increase the knowledge of IT through dissemination of ITEE, leading to higher income	Established to nurture domestic and international IT human resources.	Understand students' level of understanding of IT
ITEE dissemination methodology	The community of ITEE holders is spreading awareness by communicating information on the advantages of ITEE (employment, standard of living, salary, personal relationships). To be recognized by the students, the members become instructors of the ITEE preparation lecture and conduct lectures, and in collaboration with university organizations such as PSITE and PAPSCU, training is given to professors and lecturers at universities and vocational schools. Spreading ITEE using social media such as Facebook.	Although it is not a direct dissemination method, it is increasing the number of successful applicants by incorporating it into the curriculum. To collect IT human resources who can get a job in a Japanese company or deal with Japanese companies, 1) a guarantee of almost 100% ²¹ employment rate for students, 2) over 100 people receiving subsidized full tuition every year ²² . For advance employment by Japanese companies by taking the ITEE qualifications and Japanese language courses are set as promotion conditions.	The university curriculum and FE components were compared to make up for the shortfall. Revision of the curriculum that meets the needs of the industry with contacts with the industry. Third-year students are required to take the IP test, and they are given three weeks of training as part of the class before the test. Fourth-year students are recommended to take the FE exam with registration fee discount.
Application for Japanese companies	Since some members are already employed by IT companies, they are engaged in business arrangements by the members' network, and in cooperation among IT companies.	All undergraduate students in IT departments take compulsory courses in Japanese (or Chinese). They implement policies aimed at cooperation with Japanese companies such as curriculum on IT standards in Japan, short-term study abroad in Japan, internships, etc.	Although Japanese companies are popular among local students, the Japanese language hurdles are high, but the university offers a Japanese language course free of charge and is also taking measures to increase the motivation for taking the ITEE.
Note		FPT has 50% of sales orders from Japan, increases its own IT engineers who can speak Japanese, and responds to engineer demand of Japanese companies in Vietnam.	

Source: Information collected on-site and edited by the Project Team

As described above, ITEE is spreading differently in those countries, and there are differences in the number of candidates who take ITEE and the number of successful candidates. In the Philippines as of October 2017, there are said to be about 1.2 million technicians in such fields as software and digital content (PSIA 2017). If the total number of FE candidates started in 2001 is

²¹ According to the latest information, it is adjusted to 98%.

²² Initially it was a full guarantee, but with the latest (2018) information, a total of 130,000 USD for 50 MBA and master of engineering students and 50% of the maximum class as a scholarship.

12,571 and the number of successful applicants is 1,994, then 0.2% of engineers in software IT systems acquire ITEE qualifications.

Meanwhile, the number of IT engineers in Vietnam is 780,926 (IT White Book 2017²³) as of 2016, of which there are 205,753²⁴ in software, digital content and IT services. Since 2001, the total number of examinees is 9,880, the number of successful candidates reached 1,934, and 0.9% of software engineers possess ITEE. In Myanmar, examinations have been conducted since 2001, and 50-150 people take IP and FE each year but, since 2016, the number of examinees has increased and IP has been around 200, and FE has increased to 300 in 2017. The acceptance rate has also improved gradually, with the FE acceptance rate exceeding 30% and the IP exceeding 60%. This is still a small fraction of the total number of engineers, but by raising the profile of students as Vietnamese universities' essential subjects, ITEE is gradually being recognized by the community of ITEE holders, like the case in the Philippines, and the number of holders is increasing. In Vietnam in particular, about 1% of all Vietnamese IT engineers are ITEE holders, so certain effects can be seen on efforts to disseminate in each country.

This is a case in which the government has proactively raised the awareness of ITEE and has been steadily increasing the number of examinations and pass rate as in Myanmar. The following table summarizes the number of IT engineers and statistical information regarding ITEE up to the 2019 Spring exam in each country.

Table 2-10: The number of IT engineers and ITEE statistics in three countries

Country	# of IT engineers	FE applicants in total	FE passers in total
Philippines	Approximately 1.2 million	12,571	1,994
Vietnam	Approximately 0.8 million	9,880	1,934
Myanmar	N/A ²⁵	881	236

Source: Information collected on-site and edited by the Project Team

4-3: Draft of ITEE Implementation Plan

(1) Vision of ITEE Utilization

As already mentioned, there are no strategies and plans to continuously operate ITEE on the issues in the ITEE Implementation Plan. To tackle this issue, a framework of the ITEE Implementation Plan is required and it is drawn by reflecting each survey analysis result from Activity 1. Other issues that are already clarified such as 2) utilization of ITEE are not well recognized, 3) ITEE's trainers are insufficient, 4) the functionality of BD-ITEC is insufficient. These are organized in the separate item. The following table illustrates how items are classified in the categories of the ITEE Implementation Plan and matched with pilot program in Activity 3.

²³ IT White Book 2017: <http://english.mic.gov.vn/Upload/ENGLISH/Statistics/ICT-WHITEBOOK2017-Final.pdf>

²⁴ The number was calculated based on IT White Book 2017, Page 12.

²⁵ The number of IT engineers in Myanmar was not able to be identified in the research but the project team found information that approximately 6,000 students were graduates from Computer Science Engineering Department at Universities throughout Myanmar.

Table 2-11: Items to be sorted for the ITEE Implementation Plan

	Issues	Solutions	Items for ITEE Implementation Plan	Content of Pilot Program (4-4)
1	There is no strategy or plan for ITEE implementation.	Compilation of analyzed data from Activity 1	1. Framework	
2	Utilization of ITEE is not well recognized.	Promotion to universities and companies	2. Dissemination and Promotion Plan	(1) Dissemination and Promotion Activity, 1) Running Pilot Program of Dissemination and Promotion for Examination
				(1) Dissemination and Promotion Activity, 2) Public Relation Activities for ICT Private Companies
3	ITEE's trainers are insufficient.	Training plan and implementation of TOT	3. Training Plan	(2) ITEE Training
4	Functionality of BD-ITEC is insufficient.	Capacity building of BD-ITEC (Increase staff size, training, exam management, budgeting)	4. Capacity building Plan for BD-ITEC	(1) Dissemination and Promotion Activity, 3) Revision of BD-ITEC Website

Source: Project Team

In addition, for the first draft of the ITEE Implementation Plan, the survey regarding Activity 1 conducted on the current situation of BCC and corporate needs was compiled as a current situation analysis report. The situation analysis from the previous project to the present was sorted and categorized in the item of ITEE Implementation Plan as shown in Table 2-12 which supports acceleration of the discussion. Based on the experience of the project activities, the draft of the ITEE Implementation Plan was drafted reflecting the discussions with related parties and shared with the related parties in May 2018 and February 2019. The correspondence between the result of analysis and the items in the first draft of the ITEE Implementation Plan is described in the following table. While further reflecting the results of the pilot program related to the ITEE Implementation Plan (Dissemination / Publicity Activities and ITEE Training) implemented in Activity 3, it was finalized as ITEE Implantation Plan (Draft) through discussions with stakeholders and submitted to BCC and JICA on July 2019.

Table 2-12: Result of Situation Analysis and Items to be Applied in ITEE Implementation Plan

#	Situation Analysis Item	Findings	Items to be applied to ITEE Implementation Plan	Category
1	BCC's Activities on the ITEE	1) There is no strategy or plan.	1) Draft a mid- to long-term plan that will become a framework for ITEE IP.	1. Framework
		2) Low ITEE passing rate	2) Plan public relations activities to find the value of ITEE.	2. Dissemination/promotion plan
		3) No plan for exam preparation or TOT	3) Formulate the TOT plan and implement seminars, exam preparation, explanation of answers.	3. Training plan
		4) Test takers are not well prepared for the exam.	4) Formulate and implement exam preparation including the intensive course in the TOT plan.	3. Training plan
		5) Staff of BD-ITEC has not increased.	5) Increase number of staff members as TPP approves.	4. Capacity building of BD-ITEC
2	BCC's ICT Human Resource Development	1) Low degree of recognition of training provided by BCC	1) Cooperate with industry, government and university to conduct activities to raise awareness through ITEE training.	1. Framework
		2) Reputation of training including content, location, and timing is not good.	2) Understand the demands of the test takers and consider introducing e-learning.	1. Framework
		3) Soft skills training other than IT is requested.	3) Consider incorporating soft skill training such as foreign languages into training conducted by BCC.	1. Framework
3	Public-Private Collaboration Mechanism	1) Activity is limited.	1) In response to issues identified in situation analysis item 2, 4, and 5, initiate public and private collaboration.	1. Framework
4	Issues Held by Local ICT Companies	1) High demand to enter Japanese market but level of transactions is very low.	1) The government boosts the deal to increase transactions with Japan.	1. Framework
		2) Criteria of IT knowledge can be judged objectively is needed when applying human resource training	2) Since ITEE gains standard knowledge of IT, conduct promotion activities toward ICT companies to inform them of the merits of ITEE.	2. Dissemination/promotion plan
		3) Industrial structure is not well-balanced (majority of SMEs).	3) To change the structure of the industry with cooperation between the public and private sectors, plan to aim for raising the whole industry by disseminating ITEE qualifications.	2. Dissemination/promotion plan
5	Needs for Foreign Engineers of Japanese ICT Companies	1) For skills required of foreign engineers, soft skills such as teamwork are required other than Japanese.	1) Consider incorporating training of soft skills other than Japanese language.	1. Framework
		2) Offshore development tends to be withdrawn due to many problems.	2) Plan how to attract Bangladesh as a base of offshore development. Plan to send Bangladesh IT engineers to Japan.	2. Dissemination/promotion plan
		3) Degree of recognition degree of ITEE is low (merit point for immigration).	3) PR activities to raise awareness of ITEE among Japanese companies at events such as IT Week.	2. Dissemination/promotion plan
6	Case Analysis of Other Countries (Philippines)	1) ITEE dissemination activity by the PhilNITS Society (NPO) ● The community of ITEE passers is striving for lecturers for public relations activities and exam preparation.	1) Bangladesh is also considering establishing an alumni association with ITEE passers (government).	1. Framework
	Case Analysis of Other Countries (Vietnam)	2) Strengthen expansion of business for Japan with FPT software of major IT company in Vietnam. ● By establishing PFT university, an ITEE course can be implemented that expands the possibility of doing business with Japanese companies.	2) Bangladesh is also considering if major ICT companies are actively participating in entering the Japanese market (industry).	1. Framework

Source: Project Team

The roles of government, university, and industry in the ITEE Implementation Plan were arranged as shown in Table 2-13 on ITEE utilization, learning environment and promotion. As for the government's use of ITEE, those who passed the ITEE are preferentially treated according to the existing recruitment rule. Regarding the government's ITEE learning environment, examination preparation courses will be conducted in collaboration with universities using the TPP budget. Regarding the government's ITEE promotion, there are several activities can be considered, such as coordination of IT exhibitions with industry like IT Week and Soft Expo as examples. Among those activities, the establishment of the Japan Desk is one of the priorities to be conducted. The university has begun studying the introduction of ITEE to the syllabus and is planning to implement an exam preparation course for government-academia collaboration using the TPP budget. In addition, the stage has been reached where some of the ITEE trainers started to encourage their students to take ITEE²⁶. In the industry, recruitment of FE passers and rewards for FE pass engineers have been implemented by several companies²⁷, and ITEE trainers²⁸ have also been developed by industry. As mentioned above, the functionalization of the Japan Desk is important as a public-private ITEE promotion initiative.

BASIS considered the following functionalities of the Japan Desk and proposed it to the government.

- 1) Interfacing between Japanese and Bangladesh companies and operation of the Japan Desk website
- 2) Providing technical assistance such as Japanese language education technologies frequently used in Japan and encouraging acquisition of global standard qualifications to Bangladeshi companies.
- 3) Marketing activities such as advertisements and journals to promote the Japanese market to Bangladesh companies

In addition to this, the team discussed and proposed to the following functions to promote public-private partnerships and to create a mechanism for the Japan Desk.

- Holding regular meetings to report and discuss the status of the Japan Desk operations
- Conducting activities related to human resource development (job fair held by the Japan Focus Group)
- Conducting ITEE related assistance (adoption of JITEC's past questions and translation work by utilizing Japanese human resources)

²⁶ One of the activities introduced for the 2019 Spring exam was mentorship by TOT trainers. In this mentorship, TOT trainers provided exam preparation to ITEE candidates through emails and phone calls for a month before the exam.

²⁷ During the project period, private companies Datasoft, Leadsoft, and Nascenia actively collaborated in ITEE.

²⁸ TOT was conducted in February to March in 2018 to produce 50 trainers, and among them 19 participated from industry.

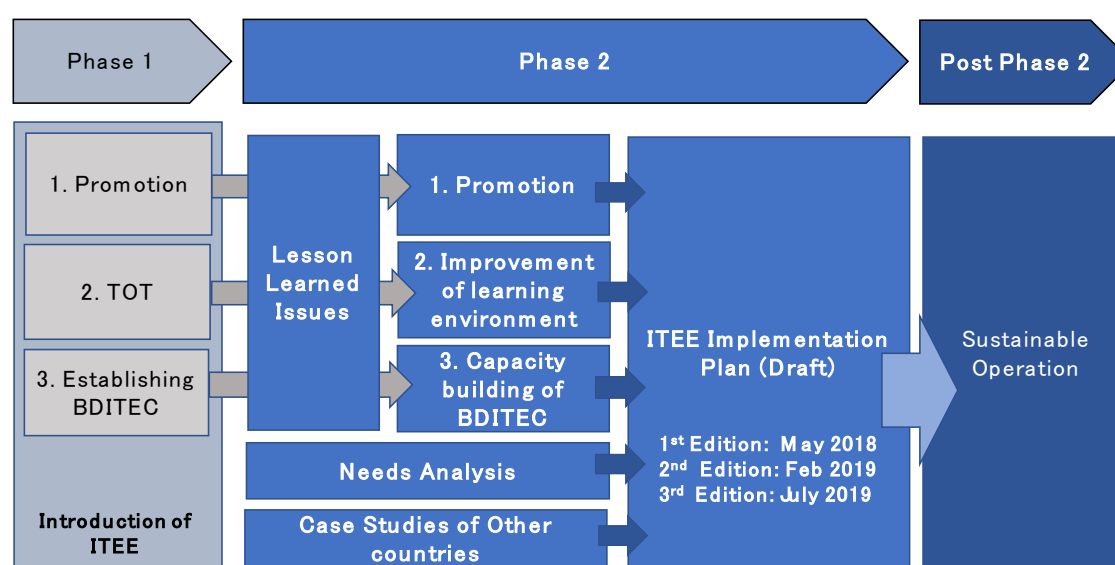
Table 2-13: Roles of Government, University, and Industry

	Utilization	Learning Environment	Promotion
Government	Priority on ITEE holders for recruitment	TOT Certification ITEE Training	Support Japan Desk (Networking with JP)
University	Incorporation of ITEE in syllabus <ul style="list-style-type: none"> • 3rd-year students for IP • 4th-year students for FE 	Regular ITEE Training In-campus	Motivate students to take ITEE
Industry	Priority on ITEE holders for recruitment	Contribution as ITEE trainers	Functionalize Japan Desk

Source: Project Team

The time frame of ITEE Implementation Plan is as follows:

Reviewing the activities in Phase 1, which has been introducing ITEE and conducting test management since 2012, and in Phase 2, focusing on 1) ITEE promotion, 2) learning environment development, and 3) BD-ITEC capacity enhancement, these activities have been being carried out. In addition to this, the ITEE Implementation Plan has been created with case studies of the Philippines, Vietnam, and Myanmar, which have long experience in ITEEC member countries. In the future, the ITEE Implementation Plan will be updated as needed by the Bangladesh side to become a sustainable operation plan for ITEE.

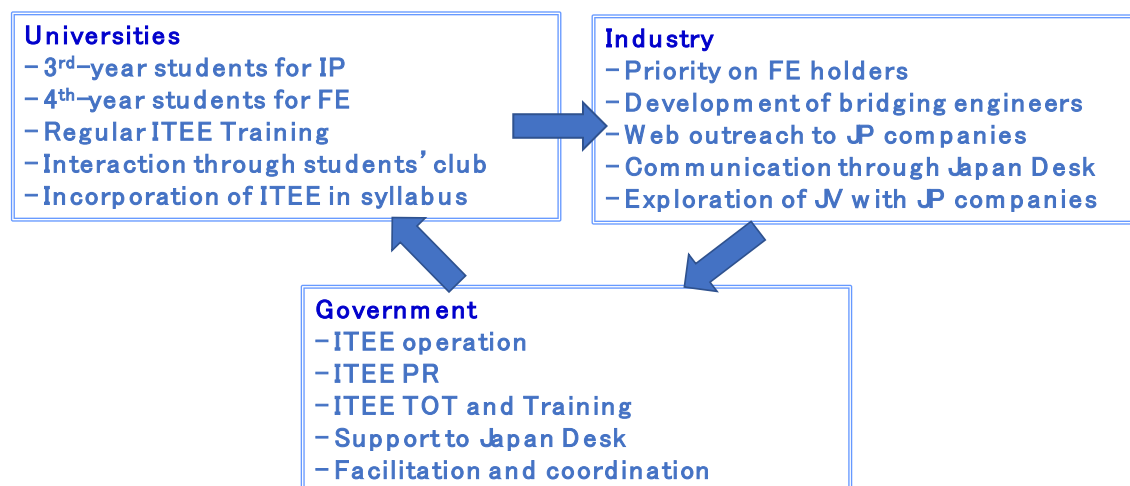


Source: Project team

Figure 2-5: Time Frame of ITEE Implementation Plan

The ITEE Implantation Plan consists of a strategic structure for industry-public-academic collaboration. Each role of the key stakeholders is described in the following diagram. First, the recommendation is to focus on universities which produce the most ITEE passers-by reflecting ITEE contents into their curriculum and which encourage students to take the exams, similar to what was done in universities in Myanmar. Next, through the qualification of ITEE, it is recommended to the industry side to utilize ITEE to measure IT skill and knowledge and

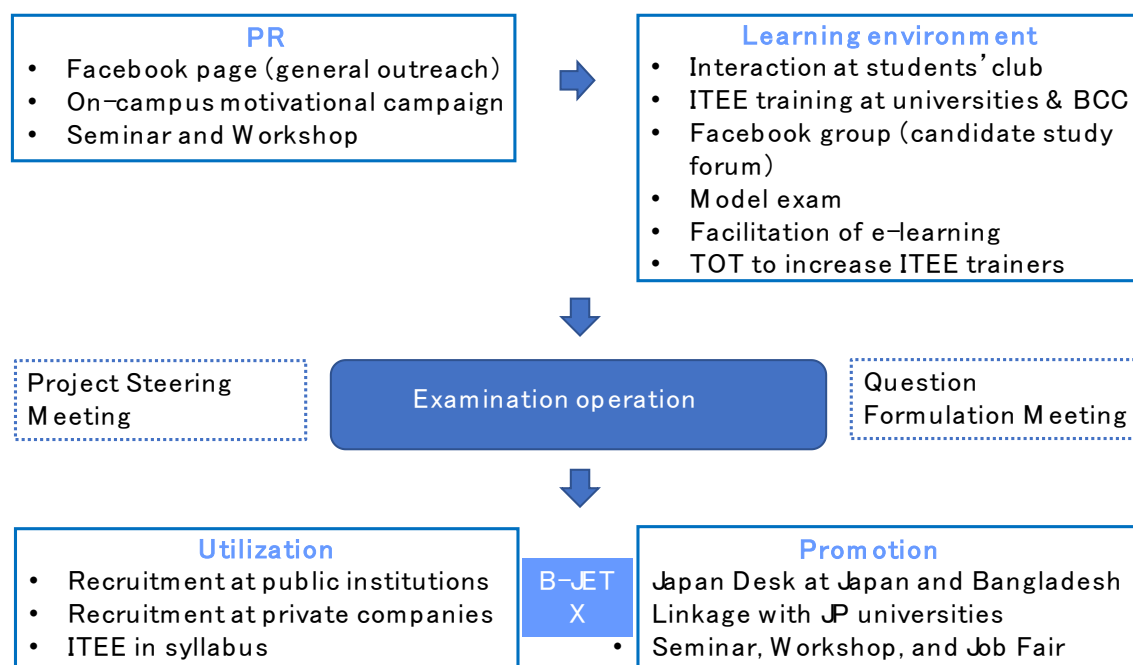
encourage industry to hire ITEE passers. The government can then assist this movement by actively promoting and managing the test operation properly. It can create a flow that enables aiming for nationwide expansion of test sites, although currently there are five sites. This whole operational flow accelerates the activities through industry-government-academic collaboration.



Source: Project team

Figure 2-6: Design of ITEE Public Relations Activities

The following figure illustrates specific activities, which start with promotion activities. The learning environment is developed while considering the incentives and motivation of each actor, which leads to active promotion and ITEE utilization.



Source: Project team

Figure 2-7: Activities based on the Strategy

The main activities for the project were exam preparations, ITEE promotion, and TOT, but the team carefully considered those activities could be covered by the TPP budget. Exam preparation can be placed in a 120-hour training program scheduled in TPP (examination training course at a collaborating university), and ITEE promotion is already scheduled in TPP as seminars to be held, and TOT can also be placed in scheduled TPP. In preparing for the exam, it is particularly important to use the ITEE trainer, and use the Japanese FE past exam collection prepared in the course of work; maintaining the Facebook group is another important factor to operate exam preparations. It is important to promote the initiative of motivated students with ITEE trainers in the promotion, and to involve the ITEE trainers in TOT as shown in the following diagram.

		TPP	Note
Exam Preparation	Model exam	120-hour course	<ul style="list-style-type: none"> Utilize ITEE Trainers Utilize the past question book Maintain Facebook group
	Commentary	120-hour course	
	Intensive	120-hour course	
Promotion Activity	University	Seminar	<ul style="list-style-type: none"> Utilize ITEE Trainer Utilize motivated students
	Company	–	
TOT	Bangladesh	TOT	<ul style="list-style-type: none"> Activate current trainers
	Japan	–	

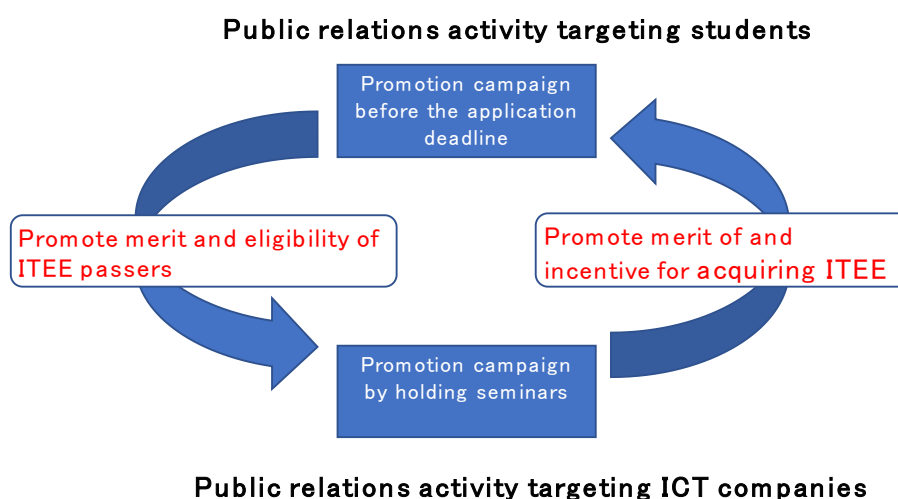
Source: Project team

Figure 2-8: Correlation between Project Activity and TPP Activity

(2) Dissemination and Promotion Plan

To disseminate and promote ITEE effectively, the team planned the PR for students aiming to pass ITEE and for ICT companies using ITEE passers as shown in following diagram. At the beginning of the project, the team explained this plan to BCC by combining a university campaign, dissemination through SNS, and meetings with ICT companies. In addition, although initially the focus was on increasing the number of candidates, the motivation for test takers to study is more important, so the examination measures were to be taken as part of PR. The Manual for Dissemination and Promotion is attached in the Appendix²⁹.

²⁹ Attachment 9 PR Manual



Source: Project team

Figure 2-9: Design of ITEE Public Relations Activities

(3) Training Plan

The training plan was made to include the steps of 1) preparation of the training curriculum, 2) training of trainers, 3) preparation of training materials, and 4) implementation of pilot training. Since it was found that the past questions of Japanese basic information engineer examinations in recent years are effective for ITPEC examination measures, the team planned to use the past questions in a booklet, to be included in repetitive learning (Hanpuku learning). The training is conducted in conjunction with other activities shown in the following diagram, in accordance with spring and fall exams.

2018 Jan to Feb	<ul style="list-style-type: none"> • Drafting training manuals • Drafting past exam collections (translation into English)
2018 Mar to Apr	<ul style="list-style-type: none"> • Conducting TOT in Bangladesh (50 trainers) • Conducting model lectures by TOT trainers
2018 Aug	<ul style="list-style-type: none"> • Conducting TOT in Japan for master trainers (selected 6 out of 50)
2018 Sep to Oct	<ul style="list-style-type: none"> • Exam preparations by master trainers for Autumn 2018 (Intensives, model exams)
2019 Feb to Apr	<ul style="list-style-type: none"> • Exam preparations by master trainers for Spring 2019 (Intensives, model exams)
2019 July	<ul style="list-style-type: none"> • Conducting TOT by master trainers (28 trainers)

Source: Project team

Figure 2-10: ITEE Training Plan

(4) Capacity Development Plan for secretariat at DB-ITEC

The project has been making progress while maintaining close communication with BCC, thus it can be said that this provides capacity development for strengthening the secretariat at DB-ITEC. Meanwhile, there are no additional personnel in BD-ITEC, so it is not possible to strengthen the secretariat by accumulating practical work. Along with making personnel assignments as quickly as possible, the following diagram describes the formulation and implementation of an annual

plan based on the ITEE Implementation Plan, examination fee examination, adjustment of examination preparation courses, implementation of ITEE, and coordination with other institutions.

Annual operational plan

- Prepare working papers.
- Re-evaluate examination fee based on the annual cost.
- Coordinate with TOT trainers and prepare annual lecture plans and intensive course assignments.

Maintain the quality of ITEE

- Organize, supervise and monitor course material development.
- Develop multimedia-based courseware development for rural areas.

Liaison and coordination

- Work with concerned ministries, universities, ICT industries, etc.
- Work exclusively with foreign experts, other officers, accountant and staff members.
- Maintain BD-ITEC website by updating statistical data such as exam announcement, passer information, and future examination..

Source: Project team

Figure 2-11: Capacity Development of BD-ITEC

4-4: Conducting Pilot Program Based on ITEE Implementation Plan

(1) Dissemination and Promotion Activity

In accordance with the PR plan formulated at the beginning of the project, the project team conducted popularization and public relations activities as described below. Mock exams and TOTs were also an opportunity for ITEE students and stakeholders to be involved in dissemination and publicity activities. Major efforts are on-campus university campaigns, dissemination through Facebook pages, mock examinations, explanatory lectures on examinations, examination preparation through Facebook groups, intensive courses for TOT, on-site examination preparation, special lectures on university and companies, and so on.

1) Running Pilot Program of Dissemination and Promotion for Examination

As the 2017 Fall exam took place shortly after the start of the project, the team did not implement full-scale PR campaigns or promote awareness through Facebook. On the other hand, for the 2018 Spring examination, from November 2017, the team actively conducted on-campus campaigns at three universities³⁰ to call for application for FE examination. In this campaign, in addition to a direct appeal, the project also launched an open seminar that will broadcast the video to show characteristics of the exam. Furthermore, the team distributed ITEE pamphlets at 12 universities in Dhaka and 22 outside Dhaka³¹ and implemented campaigns such as putting up posters and

³⁰ BRAC University, East West University, and Daffodil University

³¹ TOT orientation was underway at the same time, and the list of universities created there was used as a reference. The selection criteria were not specifically set, and the campaign was conducted for the universities that responded to the universities on the list.

distributing flyers. As a result, the number of FE candidates increased from 108 in the 2017 Fall exam to 374 in the 2018 Spring exam.

Mock experiments conducted for the 2018 Spring examination were also important activities for motivating the students. In addition to notifying them through Facebook, the team invited their participation in the model examination through the university, and directly contacted the students on campus, which led to securing enough participants. Not only the feedback from the students but also comments by exam instructors at the university indicated that it is necessary to continue the mock examinations. After the model examination, JICA experts gave an explanatory lecture, and the Facebook group also shared commentary articles. When implementing TOT for training ITEE trainers, the team also motivated the examination leaders and candidates for ITEE. Even in intensive courses for exam preparation measures, JICA experts in charge of PR motivated students directly to talk with students and conducted examination and motivation seminars for visiting universities and individual companies.

With the PR activities from November 2017 until the day of the examination united together, a population of FE examinations with remarkable motivation was formed. On June 1, after the 2018 Spring exam, the team held a celebration seminar by inviting successful applicants (including half passers). Half passers that pass the full test in the 2018 Fall exam will be the backbone of achieving 100 ITEE passers.

In March 2019, an event was held to celebrate successful applicants at Soft Expo Japan day, one of the largest in Bangladesh. At the same time, a celebration was held for launching a website for those who passed ITEE. In line with Japan Day, there were more than 30 ICT companies and related organizations from Japan participating in the event, and it became a place where many Japanese companies were able to promote the use of ITE in Bangladesh.

2) Public Relations Activities for ICT Private Companies

Since starting the project, the team continued discussions with BASIS and continued to promote interest in ITEE. For the 2018 Spring Examination, the team conducted PR activities including encouraging their own engineers to take ITEE and are setting incentives for ICT companies through BASIS. Among them, two companies³² with over 300 employees, called major ICT companies in Bangladesh, were able to secure the exams of many fulltime engineers. In addition, when participating in IT Week in Japan in May 2018, the team aided BCC to appeal to Japanese companies to tackle ICT human resource development through ITEE in the country. On June 26, 2018, a collaboration seminar on ITEE was held at BASIS.

3) Revision of BD-ITEC Website

The team has aggregated content (photos, movies, etc.) that can be posted on the homepage, for cognitive enhancement of exams and content for exam preparation.

On the other hand, in order to make effective use of those who passed ITEE, a site for these individuals was launched. This site can refer resumes of those who have passed ITEE and who seek employment, and the purpose is to match employment opportunities with those who have passed ITEE; the website started operation on March 20, 2019. <https://iteegokakubd.com/>³³

³² Those two companies are Datasoft and Leadsoft.

³³ The cost of development and maintenance for the website up to the project period is covered by the project, and BCC will maintain the website after the end of the project.

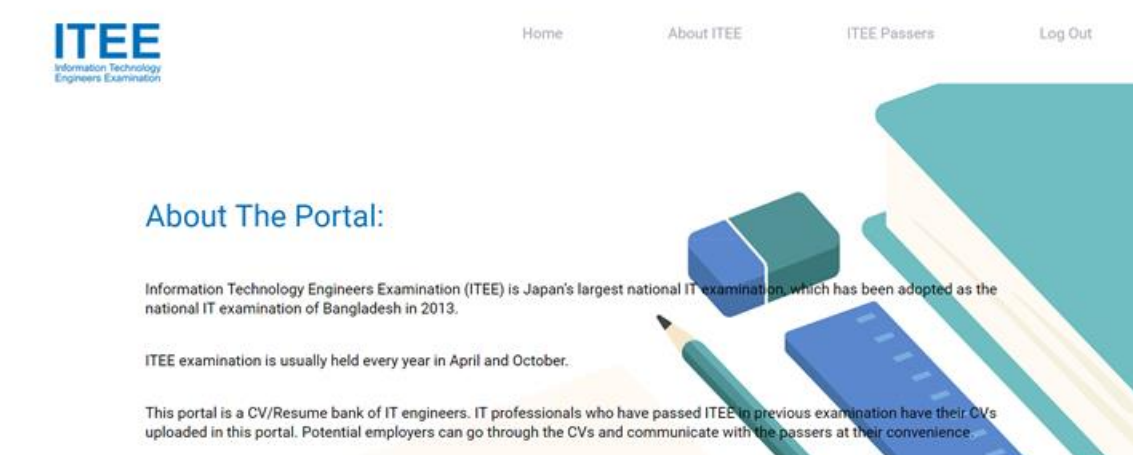


Figure 2-12: ITEE Passer Page

(2) ITEE Training

Toward the 2018 Spring exam, ITEE training was conducted as systematic examination instruction covering most of the students, centering on direct guidance of JICA experts. Specifically, as described above, the team distributed past questions of Japanese basic information engineer exams as texts and encouraged them to be studied repeatedly. To make independent learning easier, the team devised a way to present repetitive learning (Hanpuku learning) of past questions multiple times. In addition, intensive lectures were held in the last term to ensure the practice of iterative learning. The introduction of the model examination was also well received and enabled effective examination instruction based on the data. Providing systematic examination instruction such as interactive web-based practice contributes to motivating participants. The outline of repetitive learning (Hanpuku learning) prior to the 2018 Spring exam is shown in Figure 2-13.

Activities for 2018 Spring Exam	2017		2018			
	11	12	1	2	3	4
ITEE		Registration 1st		Dead line 28th	25th	
PastExam Collection		Hanpuku learning				
ModelExam			19th	23rd		
Commentary Session						
Intensive Course		20th			2nd,3rd,9th,10th	
TOT				25th	1st	

Source: Project team

Figure 2-13: Schedule of ITEE Training for 2018 Spring Exam

On the other hand, for the 2018 Fall exam, the project decided to shift the examination instruction led by TOT master trainers who were trained in Japan. Exam preparation for the morning session was effective but it wasn't effective for the afternoon session for the 2018 Spring exam. The team assisted in strengthening the afternoon session for the 2018 Fall exam.







In addition, there were many comments from many ITEE trainers that it is preferable to lengthen the intensive lecture period as preparatory studies for FE exams, so the team started intensive courses from July 2018 prior to the 2018 Fall exam. Guidance based on past exams was held on weekends for eight weeks, in so-called eight-week intensive courses. In this eight-week training, there were no JICA experts in the classroom, but rather there were Bangladeshi ITEE trainers. Examinations and commentary in the Facebook group were carried out as before. However, the explanatory lecture was carried out only in the first trial and followed the policy to reduce input by JICA experts. An overview of iterative learning up to the 2018 Fall exam is shown in Figure 2-14.

Activities for 2018 Fall Exam	2018					
	5	6	7	8	9	10
ITEE		Registration 1st			Deadline 30th	28th
Past Exam Collection		Hanpuku learning				
Model Exam					7th 28th	
Commentary Session					14th	
Intensive Course (8-week course)			13th, 20th, 27th	8th, 10th	21st	5th, 12th
TOT (training in Japan)			30th	10th		

Source: Project team

Figure 2-14: Outline of ITEE Training for 2018 Fall Exam





Although it was a big achievement that the implementation of the eight-week course was able to realize the resources on Bangladesh side, it was observed that there was a disadvantage that the concentration of the students did not continue when taking the exam preparation measures well before the exam. For this reason, the team shortened the five-week course and period for the 2019 Spring exam. In addition to the implementation of the lectures by the resources on Bangladesh side, all activities shifted to the implementation on Bangladesh initiative. An overview of iterative learning up to the 2019 Spring exam is shown in below.

Activities for 2019 Spring Exam	2018		2019			
	11	12	1	2	3	4
ITEE		Registration 1st			Deadline 31st	 28th
PastExam Collection		Hanpuku learning				
ModelExam				 15th		 5th
Commentary Session				 20th		 12th
Intensive Course (5-week course)					 1st, 8th, 15, 22nd, 29th	
TOT						

Source: Project team

Figure 2-15: Outline of ITEE Training for 2019 Spring Exam

In preparation for the 2019 Fall exam, the team focused on implementing test preparation measures with ITEE trainers, such as an orientation course for test-taking preparations in conjunction with TOT. In the second TOT, the training was given by the master trainer trained in the first TOT. In particular, with a view to running a 120-hour course at a university that is scheduled to be implemented with a TPP budget, the second TOT focused on faculty members at the university and trained 27 new trainers. An overview of iterative learning up to the 2019 Fall exam is shown below. All the activities related to exam preparations mentioned above are summarized in the ITEE event list³⁴.

Activities for 2019 Fall Exam	2019					
	5	6	7	8	9	10
ITEE		Registration 1st			Deadline 30th	 27th
PastExam Collection		Hanpuku learning				
ModelExam				 30th		
Commentary Session						
Intensive Course			 26th			
TOT			 23rd-25th			

Source: Project team

Figure 2-16: Outline of ITEE Training for 2019 Fall Exam

³⁴ Attachment 11 ITEE Event List

1) Preparation of Training Curriculum

The team compiled the TOT manual as a curriculum that classifies the knowledge necessary for ITEE education into multiple curricula and teaches it. The team prepared for using it in TOT in Bangladesh and in Japan training. Below is one of the most important content excerpts from the TOT manual.

Table 2-14: Sample Content of TOT Manual

#	Title	Note
9	Examples of education at technical schools	Introduction of educational examples of Japanese technical schools for information processing engineers' exam
9.1	Department composition	Description of department composition divided into two-year system, three-year system, and four-year system
9.2	Curriculum	According to the composition of the department, which grade and course will be taken in the table
9.3	Syllabus	Detailed syllabus in which eight areas such as ICT introduction, algorithms and computer language are described.
9.4	Timetable	An example weekly schedule is described for each grade level.
9.5	Evaluation criteria	Description of the grade evaluation, the requirements for graduation, the definition of progress requirements
9.6	Class organization	Description of the effect of classification by maturity, etc.
9.7	Subject	Description of the relationship between subjects
9.8	Benefits	Description of the effect when introducing the above content

Source: Project Team

2) Training of Trainers (TOT)

One of the challenges identified in the current situation analysis related to ITEE is to improve the learning environment. This means not only the university responsible for education, but also the need to develop a well-balanced learning environment in the ICT industry utilizing ICT human resources. Therefore, in Phase 1, there were many BCC-related persons as TOT subjects, but this project proposed a well-balanced allocation of participants from the ICT industry and universities. The project team conducted training of about 50 ITEE trainers³⁵ domestically. Then six of them were selected to conduct master trainer TOT development in Japan. In December 19, 2017, a TOT orientation was given to domestic TOT-participating candidates and the significance of TOT and the process in the future were explained³⁶. After that, the team sent a letter inviting participation in TOT to government, university and industry institutions and conducted TOT in February and March of 2018. In domestic TOT, those who attended TOT have conducted lectures at intensive courses for students as part of OJT by reviewing the past exam questions commentary. Performance evaluation at domestic TOT, shortlisted candidates for participation in the training in Japan³⁷, and conducted a final interview at BCC. Through this process were one candidate from the ICT division, one from Chittagong University (national), one from Rajshahi University (national), one from BRAC University (private), one from Lead Soft and one from Nascenia. It turned out that a well-balanced selection was realized. Training in Japan was carried out from 30 July to 10 August 2018. ITEE trainers attend the eight-week course under way from July to October 2018, which is positioned as TOT by OJT.

In July 2019, the second TOT was held in Bangladesh. Since ITEE training is conducted in universities by utilizing the TPP budget, the participants of trainees are selected from university professors and lecturers who will be conducting the training courses in their universities. TOT was conducted for three days from July 23 to 25, 2017, and certificates were awarded to 27 university teachers. Although it was implemented mainly by Bangladesh ITEE master trainers

³⁵ At the time of registration there were 61 people, and 49 people (19 from industry, 5 from government, and 25 from universities) fully participated in the training and received the awards.

³⁶ Attachment 8-1 TOT Selection Criteria, Attachment 8-2 TOT Structure

³⁷ Attachment 8-3 TOT shortlist for Training in Japan

under the supervision of JICA experts, there were some issues in which the overall management required input from the business execution team, including JICA experts, especially in practical terms. In order to solve this the team held an extra technical transfer session for the BCC team in September.

3) Preparation of Teaching Materials

As described above, the team compiled the training curriculum and teaching materials as a TOT manual. The team also compiled a past questions collection for the explanatory lecture.

4) Implementation of Pilot Training

Pilot training (simulated lecture) by TOT candidates was conducted in the form of an intensive lecture. As described above, in March 2018 TOT, OJT from Japanese experts to ITEE trainers, was conducted for university students and full-time engineers. Examination commentary lectures and special lectures by visiting universities and companies were given directly by the JICA experts and set up and strengthened the examination instruction. After extensive training in Japan to develop master trainers, those six master trainers mainly conducted the rest of the intensive courses and model exams with the assistance of JICA experts for the 2019 fall exam. In order to realize this, OJT from six master trainers to other ITEE trainers were conducted during the eight-week course for the 2018 fall exam and TOT in July 2019.

Task 5: Draft Monitoring Sheet

Based on the PDM of this technical cooperation project, the team produced and submitted PDM version 5, and monitoring sheets in accordance with Activity1 and 3. The 3rd PSC was held in July 2019, and the team reported final reports in the PSC meeting.

Task 6: Draft Project Progress Report

The team drafted a project progress report which was submitted in September 2018.

Task 7: Draft Project Completion Report

Discussions were held with related parties, mainly BCC, to complete the work, and a work completion report was prepared and submitted.

2.3 Reports

The following table lists reports submitted to the JICA Bangladesh Office.

Table 2-15: List of Reports

	Name of report	Deadline	Language and Volume
1	Inception Report	10 days after the contract is made	Japanese: 7 copies
2	Work Plan	Beginning of August 2017	Japanese: 7 copies English: 20 copies
3	Project Progress Report	August, 2018	Japanese: 7 copies English: 20 copies
4	Project Completion Report	September, 2019	Japanese: 10 copies English: 20 copies CD-R: 2 copies

Source: Project team

- Output of Technical Assistance: ITEE Implementation Plan (Draft): Submitted in July 2019
- Monthly Report: This report is submitted every month to the JICA Bangladesh Office.

3. Issues and Lessons Learned through Project Implementation

After conducting the activities, some important factors such as items that added a new twist, lessons learned up to this point, and future tasks, are described in this chapter.

3.1 Activity for Aiming at Asia No. 1 Passers on FE

Because there are fewer FE applicants in Bangladesh, it was not at a stage to consider ITEE utilization at the beginning. The project team has observed that there was a lack of interest in or attention to ITEE from applicants especially on the ICT industry side. Looking at past achievements, it is expected that about 100 successful candidates will be the best in Asia, and at least about 100 successful candidates will not be able to start the discussion of human resource development through ITEE, it seems that it was a reasonable policy. The number of successful applicants has continued to increase from the 2018 Spring Exam to the 2019 Spring Exam, and the number of passers has increased and is currently No. 3 in Asia. The lesson learned from the past is that one of the most promising approaches is to think strategically that it will produce results, in order to proceed with specific discussions. In the future, it will be important to continue to aim for the first place in the number of passers in Asia but, first, it is important to provide guidance on examinations on the 120-hour course by executing the TPP budget. This is because it is urgent to shift to the ITEE guidance system before the interest in ITEE has declined.

3.2 Examination Instruction by Repetitive Learning and Pooling ITEE Trainers

FE examination guidance has been based on repetitive learning, or Hanpuku learning, practiced at Kobe Institute of Technology (KIC), which is a joint venture partner for this project. In this repetitive learning, using the Japanese past exam collections was particularly effective for the morning exam. In addition, the introduction of mock exams was the core of repetitive learning which is one of the multiple learning methods. Applicants are encouraged by the Facebook group to teach each other by posting questions and answers. As for implementing a systematic instruction method, the project team introduced repetitive learning, or it is often referred to in Japan, Hanpuku learning, which was introduced by a well-known Japanese IT technical college that has produced large numbers of exam passers in Japan. It is as described earlier that studying by repeatedly practicing past questions of Japanese exams is a very effective method for passing an exam. Regarding this iterative learning, it can be said that it was a great asset that the ITEE trainers that were JICA experts were nurtured. The team also devised to shift to the examination guidance by this ITEE trainer in order to establish the guidance system for iterative learning. In the future, it is hoped that the BCC will coordinate and facilitate not only the exam preparation courses but also the motivational seminars and other fundamental activities by utilizing those master trainers for the dissemination of ITEE. Regarding the sustainability of TOT, since TPP has no budget for TOT activities, nearly 80 trainers including six master trainers trained in this project are expected to be maintained and utilized. Effective use must be made of the experience of TOT only conducted by six master trainers without relying on Japanese experts. For example, 120-hour course conducted in the TPP, so that know-how of teaching methods taught at TOT can be incorporated in the 120-hour course through class tours, which can be one of the ways to spread teaching methodology to other trainers to sustain the quality of trainers.

3.3 Involvement of ICT Industry

The involvement of the ICT industry in Bangladesh, where FE passers play an active role, is extremely important as an ITEE demand factor. Some ICT companies³⁸ have actively encouraged in-house engineers to take the exams, have set incentives, and have preferentially hired FE candidates, but this does not mean that the flow from FE passing to employment in ICT companies has been established. In this regard, dealing with one or two business transactions between Bangladesh ICT companies and Japanese companies will boost the use of those who have passed FE, and is extremely important as a pull factor for the spread of ITEE. Having worked on the promotion of ICT business in Bangladesh through support for ICT companies in Bangladesh participating in IT Week held in Japan is an important way to spread ITEE. In this process, the importance of a bridge engineer who can understand Japanese is also revealed, and securing employment is a major issue. While individual companies cannot take risks, alternative efforts by the Japan Desk are expected. The potential needs for offshore orders from Japanese companies to Bangladesh are recognized through the assistance of IT Week, and utilization of network of ICT Japanese companies obtained through the project, more promotional efforts of ITEE and business activity are strongly expected.

3.4 Capacity Building of BD-ITEC

It is essential to strengthen the functions of BD-ITEC to establish and disseminate ITEE in Bangladesh, to conduct and apply the ITEE Implementation Plan that is proposed by the project team based on the collected project outputs and achievement. However, due to budget constraints, appropriate functions have yet to be initiated. Prompt guidance of BD-ITEC is one of the major issues in the future.

3.5 Initiative taken by BCC

In carrying out this work, the team always respected Bangladeshi initiatives and worked to maintain close communication with the relevant parties. The team has set up goals such as Asia No. 1 for those who passed the FE and it has been carrying out operations in order to make a big impact early, but keep close communication before, during and after the activity and with the BCC. It is observed that BCC's commitment and confidence grew in proportion to the progress of the project since the pass rate has become close to their target (40%) which is stated in TPP. As the project is completed, activity input and activity speed may decline initially, but it is expected that the BCC will restructure and continue the activity as its own.

³⁸ Datasoft (400+), Leadsoft (248), Nascenia (70) actively participated in ITEE event. The numbers in parentheses represent the number of employees according to a brochure of IT Week 2018.

4. Achievement of Project Objectives

As of September 2019, all of Activity 1 and 3 are completed toward the achievement of the project goal, coping with the progress of Activity 2. In this chapter, the progress of each activity is described based on the given task.

Activity 1	The public-private collaboration mechanism for skilled IT engineers' development targeting the Japanese market is improved.
-------------------	---

Since the start of the project, under close communication with BCC, activities have been promoted with the cooperation of BASIS, and the public-private partnership system has been improved. Specifically, this is through 1) inclusion of the ICT industry in the TOT, 2) taking an examination of an active engineer belonging to the ICT company in the FE examination, 3) the presentation and implementation of ITEE utilization (human resource development and incentive setting and recruitment) by the ICT company, and 4) collaboration in IT Week. About other public-private partnerships, some collaborations can be seen such as the Japan Day event at Soft Expo, one of the largest ICT trade fairs in Bangladesh, and the Japan Focus Group meeting. Bangladesh engineers who are active in Japanese companies through the B-JET program of Activity 2 are steadily increasing, and it can be said that the momentum of public-private partnerships in Bangladesh is increasing. As already mentioned, BASIS has submitted proposals for the establishment of the Japan Desk at the ICT Division, and has begun to move toward its start-up, which can be said to have greatly improved the public-private partnership. The growth of contracts between Bangladesh and Japan for ICT business is an important test in the future.

Activity 2	Model(s) for skilled IT engineers' development targeting the Japan market in private companies and BCC's support program(s) are developed.
-------------------	--

This activity is progressing smoothly, and the employment status of those who have completed the B-JET program is successful. As reported in the progress report, it can be said that this was an important component for raising the interest of Bangladesh. Discussions on the post-B-JET program have begun, but the issue is how to spin it out to the private sector in the future.

Activity 3	ITEE implementation plan with improved management structure is formulated.
-------------------	--

The ITEE dissemination and PR plan has been drafted and implemented, and the number of successful FEs has continued to grow since the 2018 Spring exam. The following is an excerpt of the number of ITEE examinees and pass rate which are indicators of Activity 3.

Table 4-1: The number of ITEE Examinees and Pass rate during Project Period

Indicator	2017 Fall	2018 Spring	2018 Fall	2019 Spring
Examinees	108	349	356	393
Pass rate (%)	2.78	6.30	9.55	11.45

Source: Project team

Together with the B-JET program, interest in ITEE among students and ICT companies has increased, and it can be said that a foundation has been established for practical discussion of the dissemination and management of ITEE. From the 2018 Fall exam, the implementation system was developed mainly by Bangladesh centered on the ITEE trainer trained at TOT, and the activities were continued with the TPP budget. Based on the lessons learned from the current situation analysis and activities and discussions with relevant parties, the draft of the ITEE

Implementation Plan was prepared and submitted, and it can be said that Activity 3 was achieved. Regarding the improvement of the ITEE implementation system, the hand over orientation was carried out divided into PR activities, test measures, TOT, etc. Administrative procedures in each activity are explained, as well as how these activities can be incorporated into TPP activities. In the future, continuing activities with the TPP budget will be an extremely important process for establishing and strengthening the implementation system. Some issues are identified during the handover orientation, such as that some activities conducted by the project have not been covered in the TPP budget, such as PR and TOT. Through the discussion in the handover orientation, the project recommended to utilize the item called Seminar for PR, and conduct course tours by ITEE trainers in the 120-hour course for TOT. The following table illustrates the content of the handover orientation which was conducted in September 2019.

Table 4-2: Content of Hand Over Orientation

	Day 1 (Sept 8 th)	Day 2 (Sept 9 th)	Day 3 (Sept 11 th)
Session 1	Introduction	Intensive course, Model exam	TOT
Session 2	PR	Commentary session	Industry linkage

Source: Project team

Project Purpose	The model for IT engineers' development targeting the Japanese market in private companies is formulated and the capacity of BCC to implement IT engineers' development support projects including the ITEE is enhanced.
------------------------	--

Considering the progress of Activity 1-3, it is highly probable that the project purpose will be achieved by the end of the project. To that end, it is essential to strengthen the system on the Bangladesh side by continuing activities with the TPP budget. The activities of Activity 1 and 3 by the project are completed as parts of the whole project, but the continuation of examination guidance is an important element in the activities until the end of September 2019. In addition, it can be said that the improvement of the recognition and importance of ITEE, the improvement of the examination guidance system, etc. were the factors that advanced the use of ITEE. Increasing demand factors for ITEE, such as business promotion, can be said to be an issue with a view to the end of the project.

The status of the progress in consideration of the project outcome from August 2017 to September 2019 and the PDM indicator for achieving the target will be attached separately³⁹.

³⁹ Attachment 1 Project Design Matrix, Attachment 3 Plan of Operation

5. Suggestions for Achieving the Overall Goal

In this project, Activity 1 and 3 from the technical assistance team and Activity 2 from the B-JET program are expected to achieve the project purpose as described earlier. To realize the overall goal which is “Development of skilled IT engineers capable of working in the Japanese market,” it is important to secure and provide an environment for ICT human resources in both university and industry who can actively contribute their work as a part of meeting demand factors.

With regard to universities, it is important to understand ITEE by universities, so it is important to gain corporation from universities that conducted promotional activities in the project and universities that will be conducting 120-hour courses, increase the pass rate of ITEE by students, to aim for a bottom-up approach for ICT human resource development from universities. In addition, the University Grand Commission, which organizes universities in Bangladesh, is working on partially reflect the contents of the ITEE topics in the university curriculum, so it is expected that ITEE will be utilized in the academic area in Bangladesh.

As for industry the characteristics of the Bangladesh ICT industry have been seen from past activities as follows: 1) the ICT industry itself is not a well-balanced pyramid hierarchy since most of the companies are small enterprises with 5 to 10 employees, and there are almost no large-scale enterprises, 2) promotion activities for the Japanese market are not being made effectively. On the other hand, in Japan, 1) there is a shortage of ICT engineers, and there is demand for foreign engineers, and 2) for foreign ICT engineers, with knowledge of Japanese (or English) and soft skills such as Japanese business manners are required.

Therefore, there is an urgent need to build a system that can meet the demands of the Japanese market, such as efforts to fill this gap, that is, securing bridge engineers who understand Japanese. The promotion of ICT business in Japan and Bangladesh will increase the employment of ICT human resources in the ICT industry in Bangladesh and start a cycle of further ICT human resource development. The movement to establish the Japan Desk directly contributes to the promotion of ICT business in Japan and Bangladesh, and support for efficient and effective functioning of the Japan Desk is desired.

However, the Bangladesh industry cannot withdraw from overseas dependence which depends on low-cost labor. In the medium to long term, it can be said that it is desirable to aim for upstream collaboration on advanced ICT utilization with overseas ICT companies while fostering large-scale enterprises.

On the other hand, the way in which Bangladesh engineers play an active role in Japan through the B-JET program is also of great interest to educators in Bangladesh. This activity can be one of the major factors in achieving the overall goal. The movement has already come, and it is expected that the Japanese side will be facilitating it in response

Attached Documents

Attachment 1

Project Design Matrix

Project Design Matrix

Project Title:Project for Skill's Development of ICT Engineers Targeting Japanese Market

Implementing Agency: Bangladesh Computer Council (BCC), ICT Division, MoPTIT

Target Group:BCC Officials, IT Engineers

Period of Project: May 2017 ~April 2021(4 years and 0 months)

Project Site: All Bangladesh

Model Site:

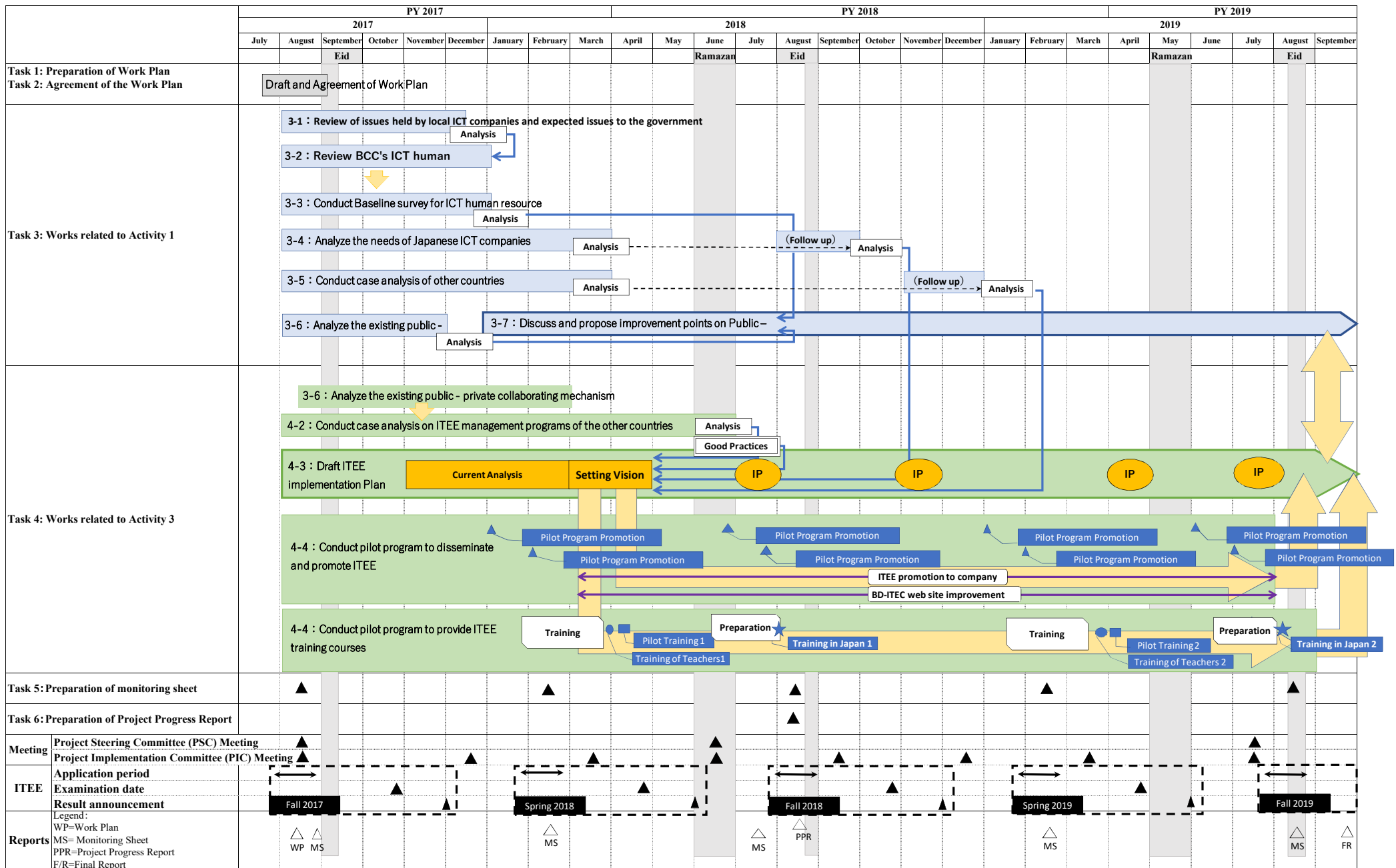
Version 5

Dated: August 31, 2019

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal Skilled IT Engineers capable to work for Japanese Market are produced.	The number of IT Engineer working for Japanese market	•BASIS annual Report •Interview Survey			
Project Purpose The model for IT Engineers development targeting Japanese market in private companies is formulated and the capacity of BCC to implement IT engineers development support projects including ITEE is enhanced.	•Related stakeholders' (private companies, IT Engineers) satisfaction level on the BCC's programs •Status of Implementation of IT engineers development support projects by IT private companies	•Interview Survey	•The willingness of Bangladeshi IT companies to target the Japanese market is maintained. •The Market in Japan continues to attract Bangladeshi IT Engineers.		
Outputs (1) Public-private collaborating mechanism on skilled IT engineers' development targeting the Japanese market is improved. (2) Model(s) for skilled IT engineers' development targeting Japan market in private companies and BCC's support program(s) are developed. (3) ITEE implementation plan with improved managing structure is formulated.	(1) -Number of public-private collaboration program (2) - Number of BCC's support program - Private companies' satisfaction level on BCC's support program - Number of private companies, which utilize/refer the Model (3) - Progress of the ITEE Implementation plan (Revision of Budget Plan, number of trainings, number of PR programs, etc.) -Number of examinees of ITEE -Pass rate of ITEE -Number of companies which consider ITEE as one of the criteria in recruitment	(1) - Minutes of the Meeting - Progress Report (2) - Progress Report - Interview Survey - Progress Report (3) - ITEE Implementation Plan - Progress Report	•Current level of the relationship between GoB and ICT industry is maintained. •BCC's budget and human resources are allocated. •Private IT companies continue training for their IT Engineers. •BCC's budget and human resources are allocated. •BCC's Budget and human resources for ITEE management are allocated. •Related stakeholders such as private IT companies and universities keep their interest on ITEE.		
Activities	Inputs		Important Assumption		
[1-1] Analyze the needs of the private sector [1-2] Analyze the existing public-private collaborating mechanism [1-3] Formulate a draft action plan to enhance public-private collaboration [1-4] Implement the draft action plan [1-5] Review and monitor the implementation of the action plan [1-6] Finalize the action plan [2-1] Review BCC's programs [2-2] Analyze the needs of Japanese Companies [2-3] Conduct case analysis of other countries [2-4] Develop a plan on joint training program(s) with private companies targeting Japanese market and BCC's support program(s) [2-5] Implement the joint training program(s) [2-6] Monitor and review the implementation of the Training Programs [2-7] Formulate a Model training program to develop IT engineer targeting Japanese market [2-8] Formulate implementation plan for the BCC's support program [3-1] Review BCC's activities on ITEE [3-2] Conduct case analysis on ITEE management programs of the other [3-3] Draft an ITEE Implementation Plan [3-4] Implement the drafted ITEE Implementation Plan, monitor, and review it [3-5] Finalize the ITEE Implementation Plan	The Japanese Side	The Bangladeshi Side			
	1. Dispatch of Experts - Team leader /IT Industry - IT Engineer development - ITEE Education / Management - Promotion and Branding - Japanese Language - Training Course Management - Training Course Curriculum and Others	1. Suitable personnel 2. Office Space with office equipment 3. Necessary data 4. Regular Implementation of ITEE (twice a year) 5. Others - Conference - Running expenses necessary for the Project			
	2. Training Trainings and Study Tours in ASEAN countries and Japan		Pre-Conditions		
	3. Equipment Necessary equipment for project activities		•Political and security situation will be kept stable.		
			<Issues and countermeasures>		

Attachment 2

Work Flow



Attachment 3

Plan of Operation

Plan of Operation

Project Title:Project for Skill's Development of ICT Engineers Targeting Japanese Market

[illegible]

■ : Activity by Technical Assistance Team

Attachment 4

Mobilization Plan + Result

Mobilization plan and result
Project name: Project for Skill's Development of ICT Engineers Targeting Japanese Market

	Name	Person in charge	Class		# of trip	PY 2017						PY 2018												PY 2019									Total days	Total MM
						2017						2018												2019										
						7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9		
Field Assignment	Yojiro Fujiwara	Team Leader/ICT human resource development	2	Plan	10		<div><div></div>(14)</div>	<div><div></div>(14)</div>		<div><div></div>(14)</div>	<div><div></div>(7)</div>				<div><div></div>(3)(6)</div>			<div><div></div>(9)</div>		<div><div></div>(7)(1)</div>		<div><div></div>(10)</div>			<div><div></div>(8)</div>			<div><div></div>(10)</div>		103	3.43			
				Res ult	5		<div><div></div>5-18 (14)</div>	<div><div></div>9-22 (14)</div>		<div><div></div>9-22 (14)</div>	<div><div></div>22-28 (7)</div>			<div><div></div>29-31 1-6 (3)(6)</div>			<div><div></div>11-19 (9)</div>		<div><div></div>24-30 1 (7)(1)</div>		<div><div></div>10-18 (9)</div>					<div><div></div>21-31 1 (11)(1)</div>		<div><div></div>(10)</div>		96	3.20			
	Ryo Saito	Deputy team Leader/ICT human resource development	3	Plan	2			<div><div></div>(14)</div>				<div><div></div>(5)(9)</div>										<div><div></div>(15)</div>			<div><div></div>(16)</div>					59	1.97			
				Res ult	2			<div><div></div>16-29 (14)</div>			<div><div></div>24-28 1-9 (5)(9)</div>										<div><div></div>9-23 (15)</div>				<div><div></div>20-31 1 (12)(1)</div>		<div><div></div>10-18 (9)</div>		65	2.17				
	Akira Takagi	ICT human resource development1	3	Plan	4		<div><div></div>(14)</div>						<div><div></div>(12)(2)</div>								<div><div></div>(14)</div>								42	1.40				
				Res ult	2		<div><div></div>5-18 (14)</div>				<div><div></div>20-31 1-2 (12)(2)</div>										<div><div></div>10-23 (14)</div>								42	1.40				
	Yasushi Takahashi	ICT human resource development2	4	Plan	0																								0	0.00				
				Res ult	0																								0	0.00				
	Shizuma Yokozawa	ICT human resource development3	3	Plan	0						<div><div></div>(14)</div>																			14	0.47			
				Res ult	1						<div><div></div>14-27 (14)</div>																			14	0.47			
Yukinobu Miyamoto	ICT education	3	Plan	7		<div><div></div>(15)</div>		<div><div></div>(15)</div>	<div><div></div>(8)</div>	<div><div></div>(6)(12)</div>		<div><div></div>(4)(6)</div>		<div><div></div>(10)</div>		<div><div></div>(8)(1)</div>		<div><div></div>(16)</div>	<div><div></div>(16)</div>		<div><div></div>(14)</div>			<div><div></div>(14)</div>				131	4.37					
			Res ult	5	<div><div></div>4-18 (15)</div>		<div><div></div>8-22 (15)</div>	<div><div></div>21-28 (8)</div>	<div><div></div>23-28 1-12 (6)(12)</div>		<div><div></div>28-31 1-6 (4)(6)</div>		<div><div></div>10-19 (10)</div>		<div><div></div>23-30 1 (8)(1)</div>		<div><div></div>16-24 (9)</div>	<div><div></div>8-24 (17)</div>				<div><div></div>19-31 1 (13)(1)</div>				125	4.17							
Hiroki Watanabe	ITEE promotion	3	Plan	0	(Since this position is stationed in Bangladesh, it is counted as home assignment)									<div><div></div>(9)</div>						<div><div></div>(10) 7-13 (7)</div>						19	0.63							
			Res ult	1	(Since this position is stationed in Bangladesh, it is counted as home assignment)									<div><div></div>7-15 (9)</div>													16	0.53						
Yuji Makimoto	ITEE promotion2/Project coordinator	4	Plan	3			<div><div></div>(10)</div>													<div><div></div>(8)</div>						<div><div></div>(10)</div>		28	0.93					
			Res ult	1			<div><div></div>16-25 (10)</div>										<div><div></div>16-23 (8)</div>						<div><div></div>8-14 (7)</div>		25	0.83								
																									Total of field MM		Plan Result	396 383	13.20 12.77					

[illegible]

Grand total	Plan	38.00
	Result	38.00

[illegible]

Attachment 5

Training in Japan

Introduction of training Program for Master Trainers of ITEE

1. Background:

Although ITEE was introduced in Bangladesh in 2014, the number of test takers and passing rate remains low compared to other ITPEC member countries. JICA has started a project, “The Project for Skills Development of IT Engineers Targeting Japanese Market”, and one of the activities is to develop good ITEE learning environment by fostering ITEE trainers. TOT (Training of Trainers) was conducted in Dhaka, in March 2018, and approximately 50 ITEE lecturers were trained from the various backgrounds such as government, industry, and university. 6 candidates among those 50 lecturers were carefully selected for conducting more intensive ITEE training in Japan for 2 weeks in August 2018.

2. Purpose:

The purpose of this 2 weeks intensive training in Japan is to nurture ITEE master trainers to lead other 50 members of ITEE trainers to instruct and disseminate ITEE so that the operation of ITEE in Bangladesh will be sustainably continued after the JICA technical assistance.

3. Training contents:

1. Learn ITEE instruction and methodology from Kobe Institute of computing
2. Exchange opinions on ITEE guidance and dissemination in Bangladesh
3. Visit Japanese ICT companies and understand the trend and culture
4. Obtain the latest needs of ICT human resources in Japan
5. Draft and present ITEE instruction plan

Please see the training schedule for more details.

Item 1 and 2 will be covered for the most of training period from August 1st to 8th. Item 3 and 4 will be covered in the afternoon of August 8th, and 9th. Item 5 is not covered in the training contents; however, trainers are expected to prepare ITEE instruction plan such as how to organize and lead 50 trainers, how to collaborate government, industry, and university to set up good ITEE learning environment. The guidance on it will be given in the class on July 31. The ITEE instruction plan will be prepared during the training period and will be presented at the end of training session on August 10th.

4. Expected outputs:

- Acquire skill and knowledge of instructing ITEE teaching methodology including Hanpuku learning.
- Exchange opinions on how to utilize and disseminate ITEE in Bangladesh
- Learn Japanese ICT industry trend and needs of ICT human resources
- Promote Bangladesh ICT industry by presenting characteristics in each sector (government, industry, and university) at seminar
- Draft ITEE instruction plan to set up good ITEE learning environment including utilization of 50 TOT trainers, collaboration mechanism among government, industry, and university

Training Program for Master Trainers of ITEE

Training Serial Number: J1622386

Department in Charge: JICA Kansai

Period: 2018/7/29 ~ 2017/8/12

Number of Participants: xxx

Number of Participants: six (6)

Cordinator: xxx

Date	Time	Content	Lecturer / Person in charge		Place	Hotel
			Name	Title/ Organization		
7/29	13:35 ~ 17:00	Move to Bangkok from Dhaka (TG322)				In flight
7/30	23:30 ~ 7:00	Move to Kansai Airport from Bangkok (TG622)				JICA Kansai
	TBA ~ TBA	Move to JICA Kansai				
7/31	10:00 ~ 12:00	Briefing/Orientation			JICA Kansai	JICA Kansai
	12:00 ~ 13:00	Lunch			JICA Kansai	
	13:30 ~ 14:00	Move to KIC from JICA Kansai				
	14:00 ~ 17:00	Introduction	Dr. Yukinobu Miyamoto	Associate Professor, Graduate School of Information Technology, Kobe Institute of Computing	KIC	
	17:00 ~ 17:30	Move to JICA Kansai				
8/1	8:30 ~ 9:00	Move to KIC from JICA Kansai				JICA Kansai
	9:00 ~ 12:30	ITEE training (Morning exam)	Ms. Kumiko Tsunaki	Lecturer, College of Computing, Kobe Institute of Computing	KIC	
	12:30 ~ 14:00	Lunch				
	14:00 ~ 17:00	ITEE training (Morning exam)	Ms. Kumiko Tsunaki	Lecturer, College of Computing, Kobe Institute of Computing	KIC	
	17:00 ~ 17:30	Move to JICA Kansai				
8/2	8:30 ~ 9:00	Move to KIC from JICA Kansai				JICA Kansai
	9:00 ~ 12:30	ITEE training (Afternoon exam)	Mr. Yoji Endo	Lecturer, College of Computing, Kobe Institute of Computing	KIC	
	12:30 ~ 14:00	Lunch				
	14:00 ~ 17:00	ITEE training (Afternoon exam)	Mr. Yoji Endo	Lecturer, College of Computing, Kobe Institute of Computing	KIC	
	17:00 ~ 17:30	Move to JICA Kansai				
8/3	8:30 ~ 9:00	Move to KIC from JICA Kansai				JICA Kansai
	9:00 ~ 12:30	ITEE training (Algorithm)	Mr. Hiroki Notsu	Lecturer, College of Computing, Kobe Institute of Computing	KIC	
	12:30 ~ 14:00	Lunch				
	14:00 ~ 17:00	ITEE training (Algorithm)	Mr. Hiroki Notsu	Lecturer, College of Computing, Kobe Institute of Computing	KIC	
	17:00 ~ 17:30	Move to JICA Kansai				
8/4		Day trip around Kansai area (pending)			TBA	JICA Kansai
8/5		Self work (presentaion prepration)				JICA Kansai

Date	Time	Content	Lecturer / Person in charge		Place	Hotel
			Name	Title/ Organization		
8/6	8:30 - 9:00	Move to KIC from JICA Kansai				JICA Kansai
	9:00 - 12:30	ITEE training (C language)	Ms. Akane Yamaguchi	Lecturer, College of Computing, Kobe Institute of Computing	KIC	
	12:30 - 14:00	Lunch				
	14:00 - 17:00	ITEE training (C language)	Ms. Akane Yamaguchi	Lecturer, College of Computing, Kobe Institute of Computing	KIC	
	17:00 - 17:30	Move to JICA Kansai				
8/7	8:30 - 9:00	Move to KIC from JICA Kansai				JICA Kansai
	9:00 - 12:30	ITEE training (Java language)	Mr.Yasushi Takahashi	Lecturer, College of Computing, Kobe Institute of Computing	KIC	
	12:30 - 14:00	Lunch				
	14:00 - 17:00	ITEE training (Java language)	Mr.Yasushi Takahashi	Lecturer, College of Computing, Kobe Institute of Computing	KIC	
	17:00 - 17:30	Move to JICA Kansai				
8/8	8:30 - 9:00	Move to KIC from JICA Kansai				JICA Kansai
	9:00 - 12:30	Wrap up for ITEE Training	Dr. Yukinobu Miyamoto	Associate Professor, Graduate School of Information Technology, Kobe Institute of Computing	KIC	
	12:30 - 13:30	Lunch				
	13:30 - 14:00	Move to seminar venue				
	14:00 - 17:00	Seminar with Kobe ICT industries		JICA Kansai, supported by Kobe City	TBA	
	17:00 - 17:30	Move to JICA Kansai				
8/9	9:00 - 12:00	Company visit 1 and 2			TBA	JICA Kansai
	12:00 - 14:00	Lunch				
	14:00 - 17:00	Company visit 3 and 4			TBA	
8/10	9:00 - 11:00	Presentation			JICA Kansai	
	11:00 - 11:30	Wrap up meeting			JICA Kansai	
	11:30 - 13:00	Lunch			JICA Kansai	
	13:00 - 15:30	Check out and move to airport				
	17:35 - 21:25	Move to Bangkok from Kansai Airport (TG673)				
	23:15 - 0:50	Move to Dhaka from Bangkok (TG321)				

Participants of training in Japan

Name	Present Post & Place of Employment
Mr. ISLAM Mohammad Zahidul	Assistant Programmer System and Training Department of Information and Communication Technology
Mr. SEDDIQUI Md Hanif	Professor Dept of Computer Science & Engineering Universtiy of Chittagong
Mr. ROKANUJJAMAN Mohammad	Associate professor Computer Science and Engineering Universtiy of Rajshahi
Mr. RASEL Annajiat Alim	Lecturer Department of Computer Science and Engineering (CSE) Brac University
Mr. HUQUE Mir Fayzul	Manager Software Services Division Lead Soft Bangladesh Limited
Mr. ALAM Md Fattahul	Chief Technical Officer Software Development Nascenia Limited

Attachment 6

Equipment List

Equipment list

Project: Project for Skill's Development of ICT Engineers Targeting Japanese Market

Country: Bangladesh

(As of September 2019)

[illegible]

Attachment 7-1

1st PSC Meeting Minutes

Government of the People's Republic of Bangladesh
Ministry of Posts, Telecommunications and Information Technology
Information and Communication Technology Division
ICT Tower, Agargaon, Dhaka-1207
Project Section
www.ictd.gov.bd

No.56.00.0000.022.14.134.17- 668

Date: 09/12/2018

Subject: Minutes of the 1st Project Steering Committee (PSC) Meeting of "The Project for Skills Development of IT Engineers Targeting Japanese Market" Project.

Chairperson : Zuena Aziz, Secretary, ICT Division
Date & Time : 26 November 2018 (Monday) at 03:45 PM
Venue : Conference Room, (4th Floor), ICT Tower, Agargaon, Dhaka.
The list of attendees in the meeting is attached as Annexure-I.

The meeting began with the welcome note from the Chair. Afterwards, the Chairperson briefed the attendees on the proposed project and requested the Project Director to start discussion according to the agenda and invited others to discuss on the following points:

2. Agenda, Discussions and Decisions:

No.	Agenda & Discussion	Decision
1.	Presentation on The Project for Skills Development of IT Engineers Targeting Japanese Market: Project Director made a brief presentation on background of the project, basic information of the project, project objectives & activities to be performed under this project. He informed the committee members that the project period is from August 2017- April 2021. Total Project cost is 4475.02 Lakh Taka of which JICA Grant is 3857.68 Lakh Taka. Project Director said that the overall objective of the project is to produce skilled IT Engineers capable to work in Japanese Market with the skillsets of Japanese Language, Business Manner and IT. PSC members advised the Project Director to take necessary actions to expedite activities as per TAPP.	1.1) Project Director will take necessary actions to expedite activities as per TAPP.
2.	Fund Allocation: Project Director informed that fund allocation for the project was under processing in the Planning Commission. After getting fund allocation, necessary steps to be taken for fund release from finance division. Representative from planning commission informed that fund will be allocated soon.	2.1) Action should be taken to quicken fund allocation from planning commission and to release the fund accordingly.
3.	Annual Procurement and work Plan: Project Director presented the Annual Procurement Plan for FY 2018-19 through power point. Project Authority was advised to revise the annual procurement and annual work plan after every three months if necessary.	3.1) If necessary, Project Authority may revise the annual procurement and annual work plan after every three months.

No.	Agenda & Discussion	Decision
4.	<p>Project Implementation Status:</p> <p>Project Director informed the committee that the official approval of this project was given on 24 September 2018 by Honorable Planning Minister for the duration of August 2017- April 2021. The counterpart of this project, JICA has already carried out some training programs, seminars, ToT by this time. It was informed that under Bangladesh-Japan ICT Engineers Training Program (B-JET) 78 persons got training and among them 58 persons got job in Japan and 18 persons got job in Japanese companies in Bangladesh. PSC members advised to take necessary measures to publish this as success of this project to the websites and Facebook pages of ICT Division & BCC.</p>	<p>4.1) Project Director will take necessary measures to publish the success of this project to the websites and Facebook pages of ICT Division & BCC.</p>
5.	<p>Miscellaneous:</p> <p>With the permission of chairperson, the Team Leader of the project Mr. Fujiwara briefly presented the opportunity of Bangladeshi ICT Engineers to work in Japan and offshore business opportunities by Bangladeshi companies and how Information Technology Engineers Examination (ITEE) can help to achieve these opportunities. He also mentioned that two examinees of March 2018 ITEE exam placed 1st & 3rd position in Asia which shows the capability of Bangladeshi ICT professions and carries brighter image of Bangladesh in this area.</p> <p>JICA expert Mr. Yuki briefly presented the current activities of Bangladesh-Japan ICT Engineers Training Program (B-JET). He also presented the trainee selection process of B-JET program. He also mentioned that 320 applicants will be trained as per TAPP under this project to build a role model of B-JET program which can be replicated by govt. and private industries in future.</p> <p>It was discussed among the members as the most successful B-JET training program is being conducted at BJIT Academy, members should visit the training academy and next PSC meeting can be held at that venue. Mr. Mehedi Masud, COO of BJIT welcomed the next PSC meeting at their venue. PSC members appreciated the invitation to hold next meeting at BJIT Academy.</p>	<p>5.1) BCC will take initiatives to increase the brand image of Bangladesh in this area of ICT.</p> <p>5.2) It was recommended to increase shortlisted candidates for written exam to get more qualified candidates.</p> <p>5.3) The next PSC meeting will be held at BJIT Academy, Baridhara. Project authority will take necessary steps.</p>

3. The Chairperson thanked all the participants and ended the meeting.

Signed/-
 09.12.2018
 (Zuena Aziz)
 Secretary
 Information and Communication
 Technology Division.

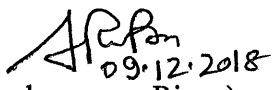


Distribution (not on the basis of seniority):

1. Secretary, Implementation Monitoring and Evaluation Division, Sher-e-Bangla Nagar, Dhaka.
2. Secretary, Economic Relations Division, Sher-e-Bangla Nagar, Dhaka.
3. Secretary, Finance Division, Bangladesh Secretariat, Dhaka.
4. Executive Director, Bangladesh Computer Council, ICT Tower, Agargaon, Dhaka.
5. Additional Secretary (Planning and Development), Information and Communication Technology Division, ICT Tower, Agargaon, Dhaka.
6. Joint Chief, PAMSTEC Wing, Socio-Economic Infrastructure Division, Planning Commission, Sher-e-Bangla Nagar, Dhaka.
7. Joint Chief, NEC-ECNEC and Coordination Wing, Planning Division, Sher-e-Bangla Nagar, Dhaka.
8. Joint Chief, Programming Division, Planning Commission, Sher-e-Bangla Nagar, Dhaka.
9. Deputy Chief, Information and Communication Technology Division, ICT Tower, Agargaon, Dhaka.
10. Deputy Secretary (Development), Information and Communication Technology Division, ICT Tower, Agargaon, Dhaka.
11. Director (Training and Development), Bangladesh Computer Council, ICT Tower, Agargaon, Dhaka.
12. Representative, JICA Bangladesh Office, 3rd Floor, Bay's Gallery, 57 Gulshan Avenue (CWS-A19), Gulshan-1, Dhaka.
13. Project Director, "The Project for Skills Development of IT Engineers Targeting Japanese Market" Project, BCC, ICT Tower, Agargaon, Dhaka.
14. Chief Accounts Officer, Information and Communication Technology Division, CGA Building, Segunbagicha, Dhaka.

Copy for Information:

1. PS to Secretary, Information and Communication Technology Division, ICT Tower, Agargaon, Dhaka.
2. Office Copy / Guard File

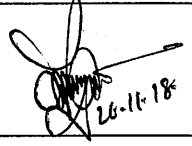
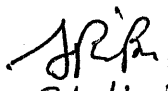
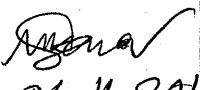
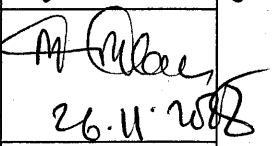

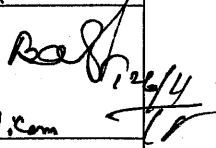

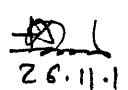
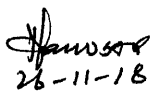
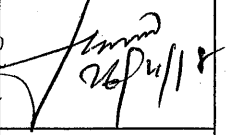
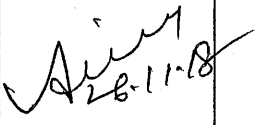
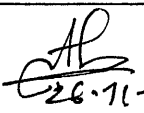
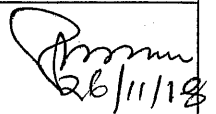
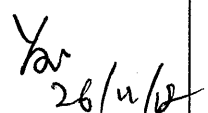

09.12.2018
(Assaduzzaman Ripon)
Senior Assistant Chief
Phone: 8181546

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
ডাক, টেলিযোগাযোগ ও তথ্যপ্রযুক্তি মন্ত্রণালয়
তথ্য ও যোগাযোগ প্রযুক্তি বিভাগ

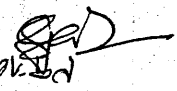
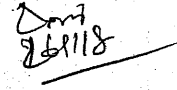
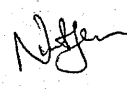
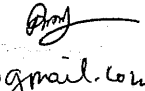


বিষয়: বাংলাদেশ কম্পিউটার কাউন্সিল কর্তৃক বাস্তবায়নাধীন “জাপানিজ আইটি সেক্টরের উপযোগী করে আইটি ইঞ্জিনিয়ারদের দক্ষতা উন্নয়ন” শীর্ষক প্রকল্পের স্টিয়ারিং কমিটির ১ম সভার উপস্থিতি তালিকা।

সভার তারিখ : ২৬ নভেম্বর ২০১৮ খ্রি.
সময় : বিকাল ০৩:৪৫ ঘটিকা (রোজ সোমবার)
সভার স্থান : তথ্য ও যোগাযোগ প্রযুক্তি বিভাগ

ক্রম	নাম ও পদবি	প্রতিষ্ঠান	মোবাইল/ই-মেইল	স্বাক্ষর
০১				
০২	Md. Mamun-Al-Rashid Add Secy P&D	ICTD		
০৩	Yoshihumi Bito	JICA	senior Rep	
০৪	Ginga Nakada	JICA	Rep	
০৫	Msd. Aspa Aktor Deputy chief	ICTD	01715-750827 aspa.de@ ictd.gov.bd	26.11.18
০৬	Hiroki Watanabe	JICA	01711-445-779	
০৭	Yukinobu MIYAMOTO	JICA	miyamoto @kic.ac.jp	
০৮	Syeda Sadi'a Hasan	JICA	sadiahasan.bd @jica.go.jp 01730340956	Sadia Hasan
০৯	Chuki Morishita	JICA	morishita0713y @gmail.com	
১০	Md. Shamsun Salehin, BJIT HR, Manager		salehin@ bjitgroup.com	Shalehin

ক্রম	নাম ও পদবি	প্রতিষ্ঠান	মোবাইল/ই-মেইল	স্বাক্ষর
১১	Md. Mirazul Alam. Audit & Accounts officer.	CAO/ICT Div. Begur bagicha.	01552-302084	 26.11.18
১২	Asso. Juttaman Khan Sn. Asst. Chief	ICT Div.	01911929784	 26.11.2018
১৩	Ujjal. K. Saha	BJIT /BJET	01611046665	 26.11.2018
১৪	Mehedi Masud, MD COO & Director	BJIT	01914212373	 26.11.2018
১৫	MD. MONIRUL ISLAM, Deputy Secretary.	ICT Division	01882406484 monirul@ictd.gov.bd	 -
১৬	Bashir Ahamed Joint Secretary	ERD	01717145057 bashirahamedsa@gmail.com	 26/11/18
১৭	Mohammad Enamul Kabir Director	BCC		 26/11/18
১৮	Dinesh Sarkar senior Assistant chief	Programming Division Planning commission	01738627887 dinesh_du260@yahoo.com	 26.11.18
১৯	FATMA MOHAMMED KAWSA ALAM Senior Assistant chief	ECNEC	01716-026072 md.kawsar200@yahoo.com	 26-11-18
২০	Md. Forhad Siddique deputy chief	GED	01755615270 forhadsiddique@yahoo.com	 26/11/18
২১	Salma Shabhin sultana DS	Finance Division	01712020954	 26.11.18
২২	Md. Rafiqul Alam Director	IMED	01711703008 rafiquel@gmail.com 19th@gmail.com	 26.11.18
২৩	Dr. Selima Akhter Joint Chief	P/C SEI Division		 26/11/18
২৪	Yogiro Fujitwara TL, ITEE	ITEE Project		 26/11/18

JICA Team

ক্রম	নাম ও পদবি	প্রতিষ্ঠান	মোবাইল/ই-মেইল	স্বাক্ষর
২৫	Md. Golam Siran Project Director	The project for Skills Development of IT Engineers targeting Japanese Market	01552306988 eng.saran@bce.gov.bd	
২৬	PARTHAPRATIM DEB, ED	BCL		
২৭	Nusrat Jahan	ITEE Project Team	01687020792	
২৮	Abdullah Al-Mosref Project Associate	JTEE Project JICA Expert Team	01675279876 rifat.mosref@gmail.com	
২৯	Sharmin Jahan Project Coordinate	ITEE Project JICA Expert Team	01936011698	
৩০	Md. Bellal Hosen MIS Coordinator	JICA Expert Team ITEE Project	01731-599479	
৩১				
৩২				
৩৩				
৩৪				
৩৫				
৩৬				
৩৭				
৩৮				

Attachment 7-2

2nd PSC Meeting Minutes

People's Republic of Bangladesh
Ministry of Posts Tele-
communications & Information
Technology
Information Communication
Technology
Project Section

Subject: Minutes of the 2nd Project Steering Committee (PSC) Meeting of
“The Project for Skills Development of IT Engineers Targeting Japanese
Market” Project.

সভাপতি N M Zeaul Alam
Secretary
সভার তারিখ 05 March 2019
সভার সময় 03:00 pm
স্থান Conference Room of ICT Division
উপস্থিতি Annex-A

The meeting began with the welcome note from the Chair. At the beginning previous meeting minutes was confirmed as there was no remark about the minutes. The Project Director then made a short presentation on background of the project, basic information of the project, project objectives & activities to be performed under this project. He informed the committee members that the project period is from August 2017- April 2021. Total Project cost is 4475.02 Lakh Taka of which JICA grant is 3857.68 Lakh Taka. Project Director said that the overall objectives of the project is to produce skilled IT Engineers capable to work in Japanese Market with the skillsets of Japanese Language, Business Manner and IT.

2. Agenda, Discussions and Decisions:

No.	Agenda & Discussion	Decision
1.	<p>Agenda-1: Implementation of the decision taken in the previous meeting:</p> <p>Decision-1.1: Project Director will take necessary actions to expedite activities as per TPP.</p> <p>Implementation: Project Director informed in the meeting Project activities are running smoothly through the fund of JICA. He added that some activities could not be started as GoB fund has not been released yet.</p> <p>Decision:- 2.1: Action should be taken to quicken fund allocation from planning</p>	<p>1.1: Project Director will take necessary actions to release the GoB fund as soon as possible. Project Director along with Deputy Secretary (Development Budget) will solve the problem</p>

commission and to release the fund accordingly.

Implementation: Approval for fund allocation from Planning Commission, ICT Division, and Finance Division already done and finally submitted bill to C&AG Office to release the fund.

Discussion: Chairperson advised the Project Director to take necessary actions to quicken releasing the fund. In this meeting, it has been discussed that Deputy Secretary (Budget Development), ICT Division will solve the problem relating to iBAS system with the help of the Project authority and Finance Division.

Decision:-3.1: If necessary, Project Authority may revise the annual procurement and annual work plan after every three months.

Implementation: Project Director informed that annual procurement and annual work plan has been updated as per PSC decision.

Decision: 4.1: Project Director will take necessary measures to publish the success of this project to the websites and Facebook pages of ICT Division & BCC.

Implementation: The success of this project has been published to the websites and Facebook pages of ICT Division & BCC.

Decision:- 5.1 BCC will take initiatives to increase the brand image of Bangladesh in this area of ICT.

Implementation: Soft campaign, seminar & workshops are ongoing at various universities in Dhaka, Chattogram, Rajshahi, Khulna and also among the leading ICT industries through this project. BCC will conduct such activities after completion of this project.

Decision:-5.2 It was recommended to increase shortlisted candidates for written examination to get more qualified candidates.

Implementation: Project Director presented the picture of the qualified applicants stated as below:

- In the 4th Batch:

No. of Applicants - 4002

Shortlisted for written exam - 800 (20%)

- In the 5th Batch:

No. of Applicants- 3221

Shortlisted for written exam - 1000 (31%)

relating to iBAS system with the help of Finance Division.


1.2. Project Authority will arrange a half-day long workshop on any suitable weekend at B-JET Academy.

1.3. Amongst others, PSC and PIC members should be invited to the seminars, conference and workshops organized by this project. The Project Authority will take necessary steps.

	<p>Decision:-5.3 The next PSC meeting will be held at BJIT Academy, Baridhara. Project authority will take necessary steps.</p> <p>Implementation: PSC meeting is being conducted at ICT Division as usual. Any day-long workshop/seminar might be arranged at BJIT Academy, Baridhara.</p> <p>Discussion: Members of the PSC suggested any day-long workshop/seminar might be arranged at BJIT Academy, Baridhara . PSC and PIC members should be invited to the seminars, conference and workshops organized by this project.</p>	
2.	<p>Agenda-2: Annual Procurement and work Plan:</p> <p>Project Director presented the Annual Procurement Plan for FY 2018-19 through power point presentation. The members of the meeting advised the Project Authority to revise the annual procurement and annual work plan after every three months if necessary. All members of the committee advised the project authority also to define what numbers of procurement and work has been finished already and is to be completed yet according to Annual Procurement plan and Annual work plan</p>	<p>2.1 Number of procurement and work which has been finished already and is to be completed yet must be clearly mentioned in the implementation status .</p>
3.	<p>Agenda-3: Project Implementation Status:</p> <p>Project Director informed the members of the committee the success story of B-JET training program where 117 participants completed their training successfully among them 87 got job opportunity in Japan and 29 got job in Bangladesh, job placement rate is 99%+. He especially mentioned that Question Formulation Meeting (QFM) for ITEE Questions Makers will be held @Cox'sbazar during 7-10 March 2019.</p> <p>PD raised his concern regarding difficulties to start 120 hours training program for CSE students at their universities from GoB budget due to time constraint as next ITEE exam will be held on 28 April 2019 and project fund not released yet. He informed the members as whether he can take necessary action to conduct this program for 60 hours as TPP has provision to change the training duration. The committee members agreed that 60 hours training can be conducted to expedite the implementation of the project.</p>	<p>3.1 As per discussion of the meeting 60 hours training program can be conducted instead of 120 hours in the universities according to the provision of the TPP.</p>

4.	<p>Miscellaneous:</p> <p>4.1. Additional Secretary (Planning & Development), ICT Division mentioned that necessary steps can be taken to incorporate the ITEE curriculum for the CSE/ICT related university level courses as ITEE certification has a big impact for the capacity development of IT engineers and also has a great opportunity for the certified person to work in Japan. Members opined that ICT division may send letter to UGC and Ministry of Education regarding this issue.</p> <p>4.2. JICA Representative, Mr. Taro Katsurai raised his concern about the sustainability of B-JET program after the completion of this project. Additional Secretary, ICT Division expressed his opinion that a new project can be taken for the sustainability of B-JET program funded by GoB and with the duration of at least 5 years. He also expressed that JICA may be associated with this project. All members emphasized on submitting a sustainability plan of the project by the project authority.</p>	<p>4.1 ICT division will send letter to UGC and Ministry of Education requesting adoption of ITEE syllabus to the course curriculum of the CSE/ICT related discipline for all the concern universities.</p> <p>4.2. The project authority will submit a sustainability plan in the next meeting.</p>
----	---	--

3. The Chairperson thanked all the participants and ended the meeting.


 N M Zeaul Alam
 Secretary

স্মারক নম্বর: 56.00.0000.022.14.134.17-131

তারিখ: ২৭ ফাল্গুন ১৪২৫

১১ মার্চ ২০১৯

Copy (not in order to seniority) :

- ১) Secretary, Economic Relations Division, Sher-e-Bangla Nagore, Dhaka
- ২) Secretary, Finance Division, Bangladesh Secretariat
- ৩) Executive Director, BCC, ICT Tower, Agargaon, Dhaka
- ৪) Additional Secretary (Planning & Development), ICT Division, ICT Tower, Agargaon, Dhaka
- ৫) Director General, Monitoring & Evaluation Sector-7, IMED, Sher-e-Bangla Nagore, Dhaka
- ৬) Joint Chief (PAMSTEC Wing), SEI Division, Planning Commission, Sher-e-Bangla Nagore, Dhaka
- ৭) Joint Chief (SEI Wing), Programming Division, Sher-e-Bangla Nagore, Dhaka

৮) Joint Chief, NEC-ECNEC Wing, Planning Division, Sher-e-Bangla
Nagore, Dhaka

৯) Joint Secretary (Development), ICT Division, ICT Tower, Agargaon,
Dhaka

১০) Deputy Chief, ICT Division, ICT Tower, Agargaon, Dhaka

১১) Director (Training), BCC, ICT Tower, Agargaon, Dhaka

✓ ১২) Project Director, Japanese IT Sector Development Utilizing IT
Engineer of Bangladesh, BCC, ICT Tower, Agargaon, Dhaka



Assaduzzaman Ripon
Senior Assistant Chief

Attachment 7-3

3rd PSC Meeting Minutes

[বিদেশী সংস্থা জড়িত থাকায় ইংরেজিতে লেখা
হলো]

People's Republic of
Bangladesh
Ministry of Posts Tele-
communications & Information
Technology
Information Communication
Technology Division
Project Section

Minutes of the 3rd Project Steering Committee (PSC) Meeting of "The
Project for Skills Development of IT Engineers Targeting Japanese
Market" Project.

সভাপতি N M Zeaul Alam
Secretary, ICT Division
সভার তারিখ 24 July 2019
সভার সময় 11:00 AM (Wednesday)
স্থান Conference Room of ICT Division
উপস্থিতি Annex-"A"

The meeting began with the welcome note from the Chair. At the beginning, previous meeting minutes was confirmed as there was no remark about the minutes. The Project Director then made a presentation on the implementation status of previous meeting's decisions and progress status of the project of completed FY 2018-19.

2. Agenda, Discussions and Decisions:

No	Agenda & Discussions	Decisions
0 1.	Agenda-1: Implementation of the decision taken in the previous meeting: Decision-1.1: Project Director will take necessary actions to release the GoB fund as soon as possible. Project Director along with Deputy Secretary (Development Budget) will solve the problem relating to iBAS system with the help of Finance Division. Implementation: Fund was release at the middle of the March solving the iBAS related problem. Decision-1.2: Project Authority will arrange a half-day long workshop on any suitable weekend at B-JET	1.1 PD will arrange a workshop on B-JET between 1st and 2nd week of September 2019 with the availability of Honourable State Minister's. PSC & PIC



Academy.

Implementation: Workshop could not be arranged due to Ramadan & Holy Eid-ul-Fitre and there was also one month vacation in the B-JET training program. Workshop date could be fixed today.

Discussion: It was discussed among the members and B-JET team that a workshop on B-JET could be scheduled between 1st and 2nd week of September 2019 with the availability of Honourable State Minister's. PSC & PIC Members would also be invited in this program of ICT Division.

Decision-1.3: Amongst other, PSC and PIC members should be invited to the seminars, conference and workshops organized by this project. The Project Authority will take necessary steps.

Implementation: Passers' Celebration event was organized at Basis Soft Expo 2019 @Bashundhara International Convention Center and invitation cards were sent to all the PSC & PIC members to attend the ceremony.

Discussion: PSC & PIC members would be invited in the important events in future too.

Decision-2.1: Number of procurement and work which has been finished already and is to be completed yet must be clearly mentioned in the implementation status.

Implementation: Complied according to decision.

Decision-3.1: As per discussion of the meeting 60 hours training program can be conducted instead of 120 hours in the universities according to the provision of the TPP.

Implementation: Training could not be conducted due to shortage of time (as exam date was 28 April), delayed in fund release and also lack of project personnel (DPD & Assistant Director). PD also informed that training program under GoB fund would not be organized if DPD/AD post could not be fulfilled immediately.

Discussion: It was discussed among the members in the meeting that supporting vacant posts should be fulfilled urgently. Executive Director, BCC assured that one Assistant Director (Training) would be appointed by today to the project from BCC in additional charge.

Decision-4.1: ICT Division will send letter to UGC and

Members would also be invited in this program.

1.2 PSC & PIC members should be invited in the important events of the project in future too.

1.3 ICT Division will send letter to UGC and Ministry of Education requesting adoption of ITEE syllabus to the course curriculum of the CSE/ICT related discipline for all the concern universities. Necessary seminar/workshop could be arranged with the stakeholders such as UGC, Ministry of Education, BUET, etc. and renowned professionals of this sector to justify the adaptation of ITEE syllabus, if necessary.

1.4 B-JET

Ministry of Education requesting adoption of ITEE syllabus to the course curriculum of the CSE/ICT related discipline for all the concern universities.

Implementation: A letter was sent from BCC to ICT Division along with ITEE syllabus for requesting UGC and Ministry of Education to incorporate the ITEE syllabus to the course curriculum of the CSE/ICT related discipline for all the concern universities. Moreover, a comparative study on "Gap Analysis between ITEE Syllabus and CSE/IT Curriculum in Bangladesh" was been prepared to clarify the running gap and point out the necessary subjects need to be included immediately to standardise the curriculum with global standard.

Discussion: PD presented the study report on "Gap Analysis between ITEE Syllabus and CSE/IT Curriculum in Bangladesh". It was understood by all the members that Strategy and Management related subjects are also very important to add in the curriculum to ensure the quality of CSE/IT related graduates for ICT sector. Members opined that request letters could be send to UGC and Ministry of Education from ICT Division regarding incorporation of ITEE syllabus. Besides, it was discussed that seminar/workshop could be arranged with the stakeholders like UGC, Ministry of Education, BUET and renowned professionals of this sector to incorporate ITEE syllabus if necessary. Additional Secretary (Planning & Development Wing) requested to send the copy of presentation to all participants.

Decision-4.2: The project authority will submit a sustainability plan in the next meeting.

Implementation: ITEE sustainability plan and B-JET exit plan have been prepared by JICA Expert team and it will be presented for members' opinion and decision.

Discussion: Mr. Yuki MORISHITA, JICA Expert (B-JET Program) submitted a short presentation about B-JET Exit Plan and draft Road Map. He proposed activities in 3 steps (i) Report to BCC with proposal, (ii) Sharing the Know how to run B-JET type program independently and (iii) Hand-over to certified organization to carried over the activities. He asked for the consent from the meeting to start the work as per plan. The members of the meeting convinced with proposed plan and gave their consent to start the work.

Mr. Yojiro Fujiwara, Team Leader, JICA Expert (ITEE) shared the output obtained from the current activities


team should prepare B-JET exit plan for sustainability of the B-JET training program.

1.5 Separate meeting should be arranged for ensuring ITEE sustainable plan.



	<p>and an ITEE implementation plan where categorically suggested the roles of key stakeholders to secure 100 FE ITEE passers and sound management of ITEE. He also focused on importance to make capable BD-ITEC, BCC through deployment of sufficient human resources.</p> <p>Considering the importance of ITEE implementation plan, the Chair expressed his interest to hold separate meeting to find out the perfect exit policy/plan for the project.</p>																																				
0 2.	<p>Agenda-2: Annual Procurement Plan and Working Plan (GoB Fund).</p> <p>Project Director presented the Annual Procurement plan for FY 2019-20 through power point presentation.</p>																																				
0 3.	<p>Agenda-3: Component wise implementation status of the project of FY 2018-19.</p> <p>Project Director presented the component wise implementation status of the project (Financial) of FY 2018-19 through power point presentation. The progress was:</p> <table><tr><th rowspan="2">Item</th><th colspan="2">Budget Allocation 2018-19</th><th colspan="2">Expenditure up to June 2019</th><th rowspan="2">Financial progress (%)</th><th rowspan="2">Physical progress (%)</th></tr><tr><th>GoB</th><th>DPA</th><th>GoB</th><th>DPA</th></tr><tr><td>Revenue</td><td>110.94</td><td>964.00</td><td>26.28</td><td>964.00</td><td rowspan="3">92.15%</td><td rowspan="3">95%</td></tr><tr><td>Capital</td><td>9.06</td><td>-</td><td>8.97</td><td>-</td></tr><tr><td>Total</td><td>120.00</td><td>964.00</td><td>35.25</td><td>964.00</td></tr><tr><td>Grand Total (GoB+DPA)</td><td colspan="2">1084.00</td><td colspan="2">999.25</td><td></td><td></td></tr></table> <p>PD also informed that under B-JET program so far 155 ICT graduates successfully completed 3-months long training and among them 114 got job in Japan and rest of them got job in Bangladesh.</p>	Item	Budget Allocation 2018-19		Expenditure up to June 2019		Financial progress (%)	Physical progress (%)	GoB	DPA	GoB	DPA	Revenue	110.94	964.00	26.28	964.00	92.15%	95%	Capital	9.06	-	8.97	-	Total	120.00	964.00	35.25	964.00	Grand Total (GoB+DPA)	1084.00		999.25				
Item	Budget Allocation 2018-19		Expenditure up to June 2019		Financial progress (%)	Physical progress (%)																															
	GoB	DPA	GoB	DPA																																	
Revenue	110.94	964.00	26.28	964.00	92.15%	95%																															
Capital	9.06	-	8.97	-																																	
Total	120.00	964.00	35.25	964.00																																	
Grand Total (GoB+DPA)	1084.00		999.25																																		

0	Agenda-4: Overview of JICA Activities.	4.1 Executive Director, BCC would ensure the appointment of one Assistant Director (Training) to the project urgently from BCC in additional charge.
4.	Mr. Yoshibumi Bito, Senior Representative informed that two three teams are working the status of implementation and JICA's services with remind the project period is very close to end. So, to ensure the smooth takeover and sustainability of the project activities he request immediate fill up the vacancies and set the implementation plan.	


 N M Zeaul Alam
 Secretary, ICT Division

স্মারক নম্বর: ৫৬.০০.০০০০.০২২.২২.০০৭.১৭.৩৩০ / ৭১২

তারিখ: ২৪ শ্রাবণ ১৪২৬

০৮ আগস্ট ২০১৯

Copy (not in order to seniority) :

- ১) Secretary, Economic Relations Division, Shere-e-Bangla Nagore, Dhaka
- ২) Secretary, Finance Division, Bangladesh Secretariat
- ৩) Executive Director, BCC, ICT Tower, Agargaon, Dhaka
- ৪) Additional Secretary (Planning & Development), ICT Division, ICT Tower, Agargaon, Dhaka
- ৫) Director General, Monitoring & Evaluation Sector-7, IMED, Sher-e-Bangla Nagore, Dhaka
- ৬) Joint Chief (PAMSTEC Wing), SEI Division, Planning Commission, Sher-e-Bangla Nagore, Dhaka
- ৭) Joint Chief (SEI Wing), Programming Division, Sher-e-Bangla Nagore, Dhaka
- ৮) Joint Chief, NEC-ECNEC Wing, Planning Division, Sher-e-Bangla Nagore, Dhaka
- ৯) Joint Secretary (Development), ICT Division, ICT Tower, Agargaon, Dhaka
- ১০) Deputy Chief, ICT Division, ICT Tower, Agargaon, Dhaka
- ১১) Director (Training), BCC, ICT Tower, Agargaon, Dhaka
- ১২) Project Director, Japanese IT Sector Development Utilizing IT Engineer of Bangladesh, BCC, ICT Tower, Agargaon, Dhaka


 Md. Zillur Rahman
 Assistant Secretary
 Information & Communication Technology Division

Attachment 8-1

TOT Selection Criteria

Selection criteria for Training in Japan

■ Background

- The objective of TOT is to increase the number of Master Trainers of ITEE in Bangladesh in order to lead ITEE training and teach applicants to pass the examination, and contribute to ICT human resource development and enhancement of ICT industry in Bangladesh through ITEE.
- TOT is conducted in Bangladesh in February and in Japan in July-August.
- Universities are expected to conduct ITEE training by themselves with the Master Trainers and preferably to incorporate ITEE into their syllabus.
- ICT companies are expected to conduct in-company ITEE training by themselves with the Master Trainers.
- BCC is expected to guide and coordinate such trainings of universities and companies. The Master Trainers are expected to extend ITEE knowledge at their own workplace coordinated by BCC.

■ Steps

- The basic steps of TOT are scheduled as follows:
 - 1) One-day orientation is conducted in December 2017.
 - 2) Participants are expected to facilitate studying of examinees for ITEE in March 2018.
 - 3) Five-day TOT is conducted in February 2018 in Bangladesh.
- Further steps of TOT are planned as follows:
 - 4) Selected participants are expected to assist an intensive training course for examinees for ITEE in March 2018.
 - 5) 6 participants are selected for an advanced TOT in Japan.

■ Participants

- Candidates are nominated for TOT in Bangladesh as capable ICT resource persons from Government, Universities, and Industries. Candidate should be invited from government institutes, universities and ICT companies.
- Participants are expected to actively interact with ITEE examinees through FB group for them and assist Intensive Course for ITEE examinees.
- The selection criteria are as follows:
 - ✓ Government officers, University faculties, and ICT engineers in ICT companies with good knowledge of ICT
 - ✓ Those who have enough experience of teaching or management
 - ✓ Those who can participate in 5 days TOT course in February in Bangladesh
 - ✓ Those who have commitment to lead ITEE training in their workplace
 - ✓ Those who have willingness to participate in training in Japan if selected

■ Selection for TOT in Japan

- The selection criteria are as follows:
 - ✓ Active interaction with ITEE examinees through FB group
 - ✓ Good attendance to TOT in February 2018 in Bangladesh
 - ✓ Good performance at TOT evaluated by the head trainer who conducts TOT
 - ✓ Effective assistance to intensive course for ITEE examinees in March 2018 in Bangladesh
 - ✓ Commitment to lead ITEE training in their workplace
 - ✓ Willingness to participate in training in Japan if selected
- Selection process is as follows:
 - ✓ Observation of interaction on FB group
 - ✓ Attendance record
 - ✓ Evaluation through TOT in February 2018
 - ✓ Observation of capacity through intensive course for ITEE examinees in March 2018
 - ✓ ITEE training plan / idea after TOT in Japan
 - ✓ Confirmation of willingness to participate in training in Japan
- Decision
 - ✓ Prof. Miyamoto will make the first assessment.
 - ✓ JICA Expert Team will endorse the assessment.
 - ✓ BCC will agree to the selection.

Attachment 8-2

TOT Structure

Framework for Developing ITEE Learning Environment

Issue : ITEE learning environment has not established

Solution : Develop ITEE learning environment (lectures, textbooks, e-learning) by coaching ITEE trainers from government, industry, and university

Point to consider : In phase 1, there were more trainers from government. It might be better to increase TOT participants from industry and university to promote practical ITEE training within companies and university

Lesson learned: 20 TOT trainers are not fully utilized in phase 1

Number and utilization of ITEE

Organization	Phase 1	Phase 2	Utilization
Government(BCC)	10	5	Total coordination of developing ITEE learning environment
Industry (BASIS)	5	20	In-house training, assisting to set up cram school and publishing ITEE textbooks
University	5	20	Holding ITEE classes (lectures) at university

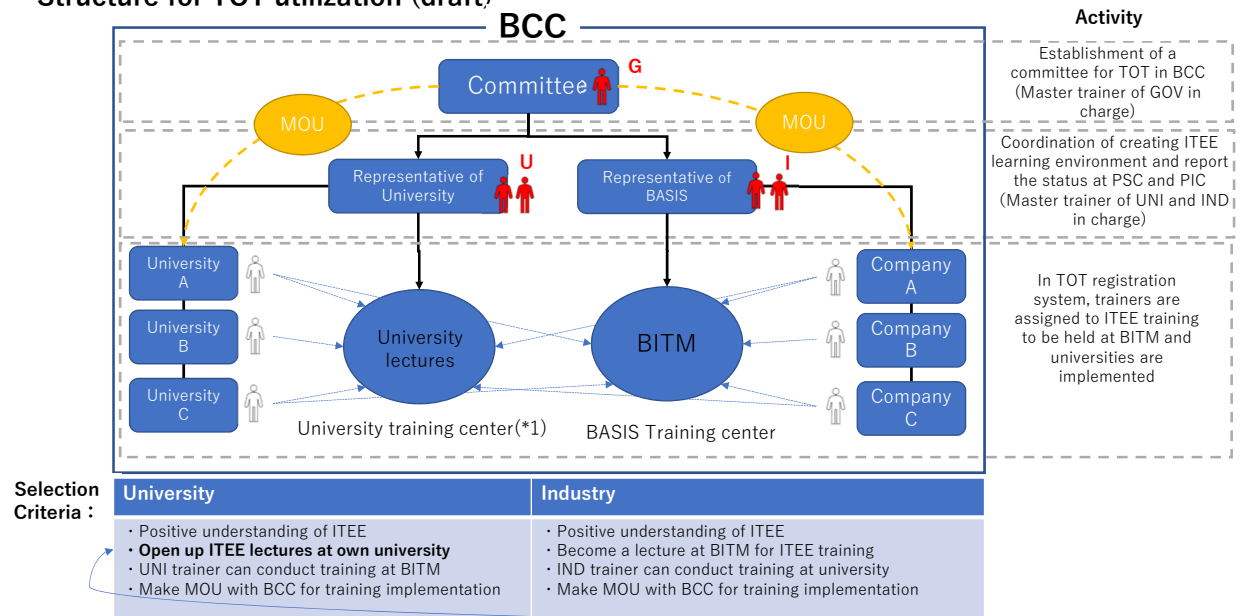
Future activity

	Up to March 2018	Short term (during TA project)	Mid term (1 -3 years)	Long term (3-5 years)
Activity	Dec 2017: TOT orientation Feb 2018: TOT March 2018: Intensive Course	• Train 50 TOT in total • Train master trainers by sending Japan for more training → Generating more trainers in-house, in university	G : Managing and maintaining ITEE learning environment I : Strengthen in-house training, setting up cram school U : ITEE class to incorporate in university credit	• Sustainable and well maintained ITEE learning environment is managed by government, industry and university

1

Framework for Developing ITEE Learning Environment

• Structure for TOT utilization (draft)



2

Framework for Developing ITEE Learning Environment

• Activity, work allocation, and numbers of TOT(draft)

#	Item	Content	PIC	number	Frequency	Note
1	General Management	Steering committee	G · I · A	5	1/year	Annual plan, budget, management of TOT list
2		Question analysis	G · I · A	5	2/year	Study the latest exam and analyze the trend
3	Question making committee (Separated from ITPEC)	Question making	G · I · A	5	1/ month	Pooling the questions for training, mock exam
4		Question evaluation	G · I · A	3		highly evaluated questions are applied
5	Training for ITEE	Plan and management	G	1	1/week	80 hours to cover AM questions
6	(BCC or BASIS training)	Conduct training	I · A	20	half year	Friday morning for 3 hours *24 weeks
7	Training of Trainer (TOT) (Run by BCC training)	Plan and management	G · I · A	5	1/year	10 trainer /year
8		Conduct training	G · I · A	5		use TOT manual to conduct TOT
9		Evaluation	G · I · A	5		Based on the record, divide them into group
10	Mock exam	Plan and management	G · I · A	5	2/year	Date, Venue, estimation of participants
11		Question making	I · A	10		management of info leakage,
12		Conduct mock exam	G · I · A	5		Supervision, time management
13		Scoring	G	1		use free apps for scoring
14	Intensive course	Plan and management	G · I · A	1	4/year	Date, Venue, estimation of participants
15		Explanatory preparation	I · A	10		Preparation of explanatory
16		Explanatory guidance	I · A	10		Lecture for expletory
17	Facebook	Promotion, notice	G	1	constant	Announcement for mock exam, intensive
18		Q&A	G · I · A	10		Q&A session

3

Framework for Developing ITEE Learning Environment

• Forecasting required numbers of TOT monthly by activity (draft)

		Month	1	2	3	4	5	6	7	8	9	10	11	12
		ITEE exam month				○						○		
1	General Management	Steering committee	10											
2		Question analysis					5						5	
3	Question making committee	Question making	5	5	5	5	5	5	5	5	5	5	5	5
4		Question evaluation	3	3	3	3	3	3	3	3	3	3	3	3
5	Training for ITEE	Plan and management	1											
6	(BCC or BASIS training)	Conduct training	20	20	20	20	20	20	20	20	20	20	20	20
7	Training of Trainer (TOT) (Run by BCC training)	Plan and management						5						
8		Conduct training							5					
9		Evaluation								5				
10	Mock exam	Plan and management		1						1				
11		Question making		10						10				
12		Conduct mock exam			5						5			
13		Scoring			1						1			
14	Intensive course	Plan and management			1						1			
15		Explanatory preparation			10						10			
16		Explanatory guidance				10						10		
17	Facebook	Promotion, notice	1	1	1	1	1	1	1	1	1	1	1	1
18		Q&A	10	10	10	10	10	10	10	10	10	10	10	10
Required numbers by month			50	50	56	49	44	44	44	55	56	49	44	39
Monthly average required numbers: 48														

4

Framework for Developing ITEE Learning Environment

1. TOT selection criteria

- Person who has knowledge with ICT in government, industry, and university
- Person who can attend TOT for all 5 days
- After the TOT, person who can participate intensive courses and other events

2. TOT candidates and recruitment method

Government: Announced by BCC to BCC staff and ICT division

Industry: Announced by BASIS to ICT companies through Japan focus group

University: Announced by BCC to national and private universities in Dhaka, and national universities in sub-regions.

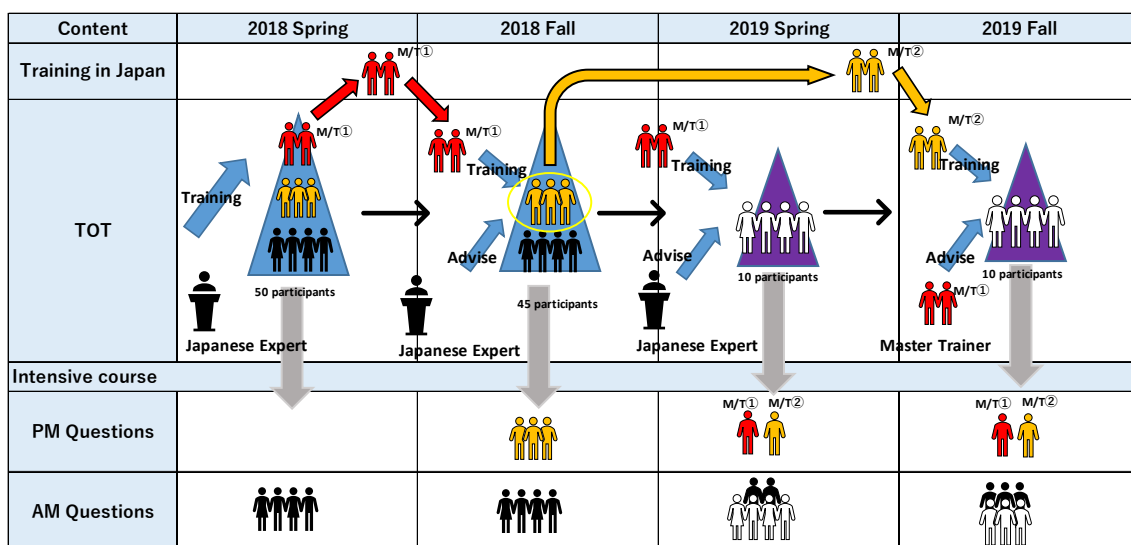
3. Result of selection and TOT

Organization	Assumption	Requstration	Awarded	Scope
Government	5	5	5	BCC HQ, BCC Chittagon, ICT Division
Industry	20	28	20	ICT company in Dhaka (Data,Lead,etc)
University	20	28	25	Universities in Dhaka area + CU,RU,KU,etc
Total	45	61	50	

5

Framework for Developing ITEE Learning Environment

- TOT activity hereafter (Technology transfer)



M/T①: Master Trainer 1

M/T②: Master Trainer 2

6

Attachment 8-3

TOT Shortlist for Training in Japan

ITEE TOT Shortlist for Training in Japan

1. Purpose of this document:

This document provides an overview and a status of TOT, and assists BCC to select 5-6 best TOT trainers to be dispatched to Japan for more comprehensive trainings in summer 2018

2. Background:

In ITEE Technical Assistance Project funded by JICA, TOT related activities are as follows:

	2018												2019											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
TOT		○												○										
Intensive course			○												○									
Training in Japan								○											○					

3. Pre-condition:

- During TOT, a possibility of training in Japan was implied, but not clearly announced
- Selected trainers will spend time for 2 weeks in Japan in August, 2018
- It may take 3-4 months for visa application process after selecting for 5-6 candidates

1

ITEE TOT Shortlist for Training in Japan

4. Evaluation Process:

- Select TOT candidate based on the selection criteria from government, university, and industry
- Evaluate TOT candidates during TOT session by JICA expert (1. work 2. contribution 3. performance)
- Conduct interviews for final selection by BCC based on the shortlist prepared by JICA expert

5. Current status:

- TOT in March 2018 was conducted
- 61 registered, 50 received certificate award at TOT
- Those trainers have given lectures at intensive courses and evaluated by JICA expert
- Shortlist for 11 candidates are prepared for BCC to conduct interview to select 5-6 candidates

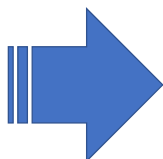
2

ITEE TOT Shortlist for Training in Japan

6. Shortlist:

Based on the evaluation, 11 trainers are shortlisted out of 49 as follows:

Sl. No.	Name	Organization	Age	Gender	Education	Experience	Skills	Remarks
1	Dr. Md. Hanif Seddiqui	Chittagong U.	45	M	PhD	10	ICT	
2	Mr. Annajiat Alim Rasel	BRAC U.	35	M	BSc	5	ICT	
3	Mr. Sujan Sarker	Ahsanullah U.	30	M	BSc	3	ICT	
4	Mr. Md. Rokanujjaman	Rajshahi U.	35	M	BSc	5	ICT	
5	Dr. Md. Nawab Yousuf Ali	East West U.	40	M	PhD	8	ICT	
6	Mr. Md. Zahidul Islam	Dept. of ICT	35	M	BSc	5	ICT	
7	Mr. Mir Fayzul Huque	LeadSoft	30	M	BSc	3	ICT	
8	Mr. Mozammel Bin Motalab	LeadSoft	30	M	BSc	3	ICT	
9	Mr. Md. Rokibul Hasan	Datasoft	30	M	BSc	3	ICT	
10	Mr. Md. Shafiqul Islam Rana	iXora	30	M	BSc	3	ICT	
11	Mr. Fattahul Alam	Nascenia	30	M	BSc	3	ICT	



#	Name	Organization
1	Dr. Md. Hanif Seddiqui	Chittagong U.
2	Mr. Annajiat Alim Rasel	BRAC U.
3	Mr. Sujan Sarker	Ahsanullah U.
4	Mr. Md. Rokanujjaman	Rajshahi U.
5	Dr. Md. Nawab Yousuf Ali	East West U.
6	Mr. Md. Zahidul Islam	Dept. of ICT
7	Mr. Mir Fayzul Huque	LeadSoft
8	Mr. Mozammel Bin Motalab	LeadSoft
9	Mr. Md. Rokibul Hasan	Datasoft
10	Mr. Md. Shafiqul Islam Rana	iXora
11	Mr. Fattahul Alam	Nascenia

7. Next step:

BCC will conduct interviews with 11 shortlisted candidates and select 5-6 trainers for training in Japan

Attachment 9

PR Manual

Information Technology
Engineers Examination (ITEE)

○ ——— PR Manual ——— ○

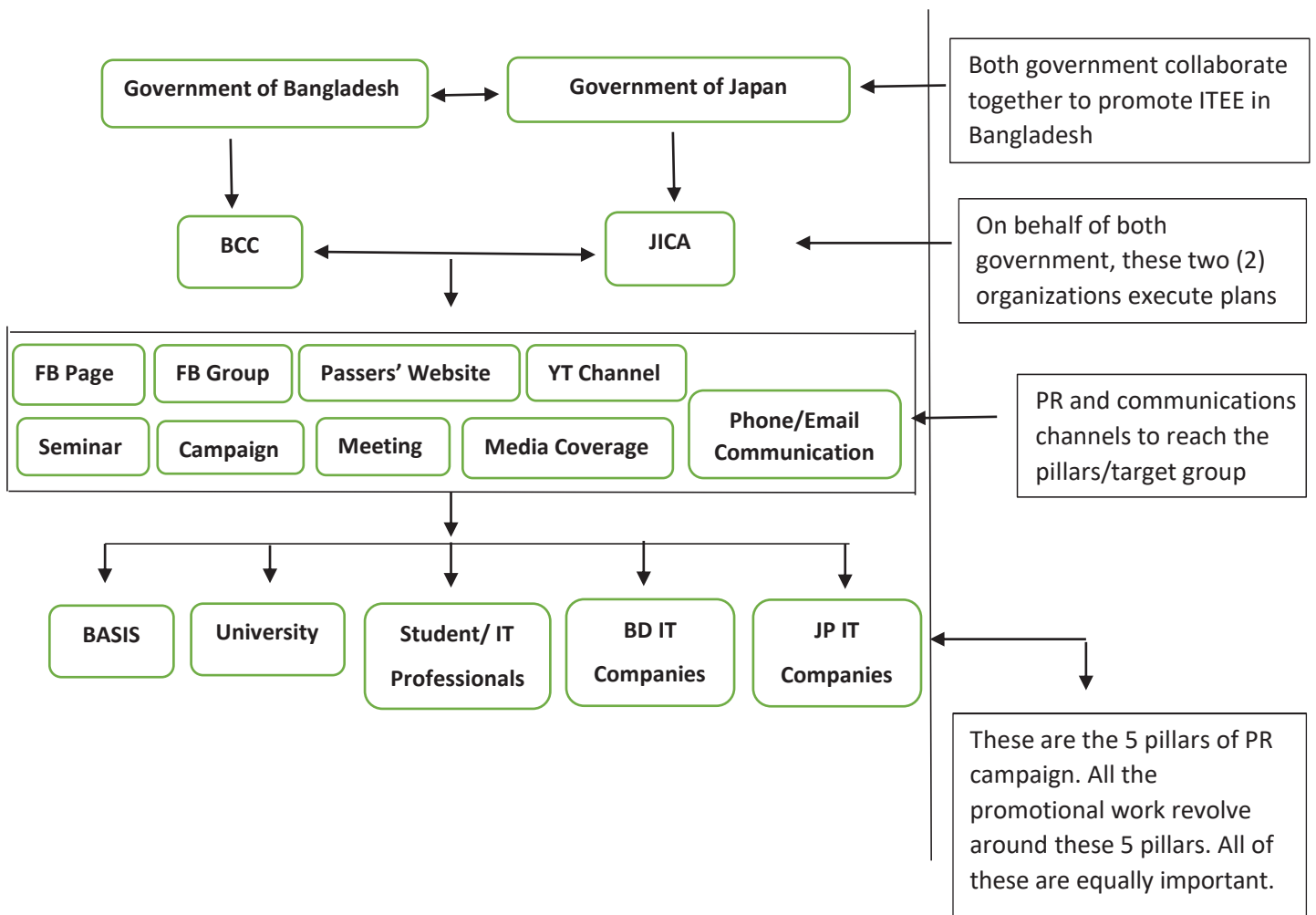
————— Project name —————

Project for Skills Development of
IT Engineers Targeting Japan Market

.....

PR Strategy

Information Technology Engineers' Examination is the only IT Skill Proficiency Test operated by the Bangladesh Computer Council (BCC) under the umbrella of ICT division of People's Republic of Bangladesh. As this is a newly introduced examination in Bangladesh, promotion of ITEE is a significant part of this project. To understand the PR strategy, please refer to the chart below:



Target: 1. To educate all the 5 pillars about ITEE

2. To increase the number of ITEE candidates

3. Help with registration and preparation

In Short: Bangladesh has a very competitive job market. On the other hand, Japan has scarcity of engineers. To open a window for Bangladesh engineers to Japanese market, a quality testing standard like ITEE is important. University students, faculties, IT companies, and IT professionals should realize the importance and take it as a **compulsory part** of their professional life.

Promotion Type for ITEE:

ITEE promotion does not follow traditional method. Therefore, no traditional media advertisement. Rather, ITEE PR focuses on social media, email, and on-campus promotion. The strategy is simple: **to promote ITEE directly to the target group, rather promoting it to all types of audience.**

Key Message:

The key message that should reach the target group is simple. ITEE is the only choice for the IT students and professionals when it comes to test IT proficiency at a fundamental level. Surely there are other IT certifications like CISCO, however, considering the cost, availability, and acceptability, ITEE has no comparison in Bangladesh. Students must realize through this PR campaign that ITEE certification not only boosts the standard of the CV, but also at the same time, increases the confidence of an individual planning for a sustainable career growth in IT industry.

PR Never Ends

It's not over for a student or professional if he or she fails in one attempt. The PR responsibility does not end here. The PR people must realize that the job is to bring as much candidates possible in every session. Priority should be given equally to new candidates and past candidates who failed in the examination. A gentle email followed by a call to previous candidates is essential to motivate and increase the number of students.

Information Technology Engineers Examination (ITEE)

PR Manual

This handbook contains general information and guidelines for ITEE online and offline campaign in Bangladeshi context. The book briefs on the step by step process of public relation, campaign, and seminars. At the same time, the book provides idea on how to communicate with the ITEE partners and potential candidates.

Table of Contents

1. Introduction	1
2. ITEE Partners	2
3. Nature of PR Material	3
4. Social Media PR	6
5. Campaign	10
6. Seminar	12
7. The Method of Follow-up	16
8. Email and Phone Calls	17
9. Frequently Asked Questions (FAQ)	18

1. Introduction

Information Technology Engineers Examination (ITEE), as of 2019, is still not widely known examination in Bangladesh. Although it has been declared as the only National IT Proficiency Certificate by the People's Republic of Bangladesh, most of the IT students and professionals have very little or no knowledge about this certification examination. Even many of the faculty members of Bangladeshi universities have unclear knowledge about this examination.

Therefore, the objective of the ITEE PR team is to educate this vast population related to IT industry in Bangladesh, so that they understand the importance and necessity of this certification for their career development and personal skill enhancement. In brief, the Key Performance Indicator or KPI of the ITEE PR team depends on the successful execution of the following objectives:

1. Educate maximum number of IT students and Professionals regarding ITEE
2. Ensure a large number of candidates to sit for ITEE examination
3. Motivate students to take ITEE examination seriously and prepare accordingly
4. Ensure maximum number of passers' rate by motivating students to prepare for ITEE besides their regular study and/or official work
5. Follow-up the ITEE passers to help them in job placement
6. Involving the company owners, managers and university faculty members to appreciate ITEE candidates and passers. In short, using IT company owners and university members as the key influencer of ITEE project.
7. Ensure recruiters prefer ITEE passers over other candidates in job selection and placement.

2. ITEE Partners

ITEE partners are the bodies that are helping the Government of Bangladesh (GoB) with the project to move forward and create more passers every year. ITEE partners can be categorized into three (3) major groups. These are:

- 1. Educational Institutions:** Educational Institutions are one of the main partners of this project. It is an important duty of the PR team to involve every single educational institution in Bangladesh in the ITEE project.
There are **five (5) categories** of educational institutions: **Public Universities, Private Universities, Degree Colleges, Diploma Colleges, and IT Training Centers.**
- 2. IT Companies:** Both Japanese and Bangladeshi IT companies are the ultimate destination for ITEE FE passers. It is one of the key objectives of the ITEE PR team to promote ITEE among the IT companies. At the same time, it is also very important to motivate employees of the IT companies to sit for the ITEE examination. The PR team shall make the employers realize the prospects of having ITEE certified employees in their companies.
- 3. BASIS:** Bangladesh Association of Software and Information Services (BASIS), being the largest association of IT companies, plays a very crucial role in ITEE promotion. BASIS has more than 1000 Bangladeshi IT companies as its members. Since ITEE offers both international and national recognition, in addition with an offshore business opportunity with Japan market, it is expected to maintain a strong relation between ITEE and BASIS. So far, ITEE PR team has maintained a satisfactory relation with BASIS to promote ITEE among BASIS member companies. This process should be carried on in the future.

3. Nature of PR Material

The nature of every PR material should sync with each other. The basic color of ITEE is blue. Therefore, all the materials must include a portion of blue and a fair portion of white. For the purpose of ITEE promotion and campaign, there are five (5) main types of materials. These are:

1. **Brochures:** Brochures/Leaflet/Flyer is one of the key PR materials for ITEE promotion and campaign. Brochure should be designed in such a way so that it can be used in several examination session. Therefore, the brochure should not mention the examination year. Rather, it should say that ITEE examination is usually held in April and October of every year. The purpose of distributing the brochure is to provide the key information to the people who have no or very little knowledge about ITEE examination. The brochure content should cover the four main points
 - **Brief on ITEE**
 - **Benefits of ITEE**
 - **Preparation of ITEE**
 - **How to register for ITEE with necessary links and contact details.**

The photos used in the brochure should reflect Japanese/Bangladeshi IT industry, and the theme of the images/illustrations should be of technology. These brochures are usually distributed during **seminars, on-location campaign and soft campaign.**

Specification of Brochure:

Four color printing.

80-100 GSM Glossy paper with laminating.

Size: Around 6 inches long and 4 inches wide, bi-fold. The AI file of the brochure is provided in the attachments.

Quantity: 3,000-4,000 pcs before every examination.

Please note that brochures do not mention any date. As brochures are provided with poster and banner, the dates are provided in those materials along with Facebook link.

2. **Posters:** Poster is another important PR material in ITEE promotional campaign. From the very first day of registration, the posters should be displayed in the notice board of CSE departments of all universities and IT companies. Soft copies of these posters should also be distributed to the respective universities so that those posters can be posted in the CSE Facebook groups by their faculty members and students representatives. The posters must have information in the posters are- date when registration portal opens, last date of registration, registration link, mock examination date, career benefits in bullet points, recognition as a national and international certification, and types of preparation module available.

Specification of Poster:

Should be of Four Color Print

100-120 GSM glossy paper

Size depends on the campaign strategy. The AI file of the poster is provided in the attachments.

Quantity: 500 pcs for every examination session.

3. **X-Banner:** Apart from posters, X-banners also shall mention necessary information like **examination date, registration deadline, important links, social media group links, career benefits etc.** It should be kept in mind that design of X-banners should be very eye-catching so that it can grab attention from far away and makes the passerby stand and read the X-banners for a while. An eye-catching short copy/phrase should be used in the X-banner that meaningfully communicates with the target group.

Specification of Poster:

Should be of Four Color Print

Thick PVC Paper

Ideal size should be around 5 feet long and 2.5 feet wide. The AI file of the X-Banner is provided in the attachments.

Quantity: 2-4 X-banners should be provided to every university/office. So the number should be multiplied by the number of university/offices the PR team is sending the X-banners to.

4. **Backdrop Banner:** For every seminar, a backdrop banner is a necessary PR material to visit with. Some universities require printed backdrop banner to arrange seminar, some universities are fine with softcopy of backdrop banner which is displayed through the projector, and some universities print the backdrop banner by their own if the AI file is provided. The PR team should usually prepare for the seminar with the softcopy of the banner to display on projector unless the respective universities requests any.

Important information should be mentioned in the backdrop banner:

1. Title of the seminar; 2. Venue; 3. Date & Time; 4. Chief Guest; 5. Logo of the seminar venue; 6. Logo of all ITEE stakeholders like BCC, ICT Division, JICA, Digital Bangladesh etc; 7. Name of the host of the seminar. A sample backdrop of previous seminar is provided.

5. **Promotional Video:** Promotional video is another important PR materials that has already been made. It is usually shown at the beginning of the seminar. This is a 4-5 minute long video that quickly describes the key points of ITEE with visual content. This visual communication is one of the quickest and most effective tool of ITEE PR team to make a large group of people understand within the shortest period of time.

Please note that, in every seminar, the promotional video is shown after the introductory/welcoming speech. The purpose is to make the audience familiarize with the concept of ITEE as much as possible so that the keynote speaker followed by other speakers make sense to the audience.

4. Social Media PR

Purpose of PR through Social Media

In this era, social media is one of the most easily accessible medium of communication. Apart from its sole purpose of communication, people now use it for business, entertainment, and education. Therefore, it is considered the main platform of ITEE project promotion and effective communication. The purposes of having social media platform are-

- to promote ITEE examination among maximum number of potential candidates through online campaign
- make a community of ITEE candidates
- build a connection between ITEE trainers and candidates
- help candidates prepare for ITEE examination
- post updates and answer queries regarding ITEE examination.

Types of Social Media Platform

There are **three (3) types** of social media platform available at this moment:

1. Facebook FE Candidates Group
2. Facebook Page
3. YouTube Channel

All of these platforms have individual purpose.

Facebook FE candidate group is a community of CSE students, IT professionals, candidates, and trainers. The name of the group is **ITEE FE (Level 2) Candidates Only**. Although the name says Candidates only, students/professionals of IT/CSE background are also welcome in the group. This is a learning and knowledge sharing group. Candidates can expect any kind of help and support from other candidates and the trainers. While taking preparation, **candidates can take photos/screenshots of their problems and post it on FE group seeking help or solution.**

The PR official and other officials should play the role of Admin and Moderator of the group. Their role should be:

1. Keeping the group active and participatory
2. Motivating potential candidates to register for the examination
3. Looking after the registered candidates regarding their preparation and help
4. Post important updates and notices
5. Answer to the questions and queries posted by prospective and registered candidates

The **ITEE Facebook page**, on the other hand is mostly used to deliver updates of news, events, and notices. At the same time, creative posts are published in regular intervals to motivate students for registration and inspire them to prepare hard for the main examination.

YouTube channel name is **ITEE Bangladesh**. This is one of the main important mediums of preparing for ITEE. The channel has all the lectures of intensive course stored, which help hundreds and thousands of ITEE candidates every year.

Role of the Admin

The admin of the ITEE Facebook Page and FE candidates groups has a major role to play in ITEE promotional activity.

- **Firstly**, the admin has to reply all the queries posted in candidate group, ITEE Facebook page inbox, and comment section of a particular post. The reply of those queries should be given on the same day at the earliest convenience.
- **At the same time** the PR officer/admin has to play the role of a visualizer and copywriter to generate idea and creative social media post in collaboration with the graphic designer. The baseline of all the creative post should be to motivate as many candidates possible to take part in the exam, and most importantly take this examination seriously.
- **Finally**, it is the admin of the group who needs to play the role of group coordinator, so that the group discussion takes place regularly.

Creative Post Guideline

The ITEE Public Relation team works in a style where creative and unconventional materials are chosen as working tool to motivate candidates. Contents of ITEE Facebook page and post shall

not be blunt and only textual. It should be more pictorial so that the visuals can connect with the target group.

The text of the creative post should be minimal, but the message they carry should be strong enough. Few words shall carry the impact of thousands of words, that's what ITEE PR team believes.

Time schedule:

Timing is very crucial in ITEE PR campaign. The nature of post will change with time. There are two main type of posts:

1. Motivational post potential candidates to register:

- During the first two week of registration portal opening, at least 7-8 posts in two day interval should be posted from the ITEE Facebook Page.
- All the posts should provide registration link in the description along with the registration process.
- Registration process should be described in Bengali and English both.
- In the mid days of registration, content of the posts should focus on target marketing. For example, if any particular university has less number of registration, then a post should be published targeting those university to encourage more participation.
- In the last 7 days of registration, countdown post should be posted every day with registration link.
- Apart from registration post, important news of Japan-Bangladesh bilateral relationship, achievements of previous year passers, and IT related news and posts are encouraged to be published.

2. Follow-up post for registered candidates:

After the deadline of registration, the type of Facebook posts have to be changed. The suggestions are given below:

- YouTube Channel link for online lectures should be posted, inviting students to listen to the lectures.
- Countdown post after each day should be posted in the last 7 days of the examination date.
- If any solution seeking post by any candidate on Facebook group is unanswered then the admin should take the responsibility to inform any instructor in the group. The admin can tag any instructor in the comment section of the post and kindly request to solve the question.

Department Facebook Group and Student Representatives:

CSE/ECE students of a particular university have separate closed/private group on Facebook. Usually, non-departmental members are not allow in these groups. However, these groups can play a very important role and can be a game changer to increase the number of candidates. To execute this method, please follow the steps below:

- Take help from the faculty member of a particular university to communicate with the Coordinator/President/Secretary/Moderator of Computer Club/Coding Club/CSE club of that university.
- Select one male and one female (two) responsible member from the club. Their key responsibilities will be to play the role of spokesperson of the PR officer for that particular university. PR officer should maintain a pool/list of representatives to pass information.
- The representatives will be posting updates and links in the CSE students' group of that particular university on behalf of the PR officer.
- The student representatives will forward queries and questions of that particular university to the PR officer.
- Student representatives will help the students to take preparation, find study materials, and communicate with the instructors.

5. Campaign

There are **2 (two) types** of ITEE examination campaign. One is **on-campus/on-location** campaign. Another one is **soft-campaign/off-location** campaign. To promote ITEE, both campaigns are equally important.

On-campus/On-location campaign: On-campus location is one of the most effective PR activity proven so far. One or two volunteer should spend two consecutive days with all PR materials at every university to promote ITEE and secure maximum number of registration.

Step 1: the PR officer should **communicate** with the focal point/key person from the CSE department of a particular university regarding setting up a campaign booth at the university premises. Upon receiving the permission and confirmation of date and time, the volunteers should prepare accordingly.

Step 2: The volunteer(s) should **bring** posters, a large number of brochures, two types of X-banners (One regular X-banner of ITEE and One X-banner that says “register here for a better career/ITEE registration going on”), a laptop with mobile data connection, a bkash account with more than 10,000 BDT balance, and name registration/attendance sheet.

Step 3: The registration/campaign booth should be **set up** in a prime location where maximum visibility is ensured. Usually it is located at the **main entrance** of the university or at the faculty room area of CSE department. The X-banners should be placed on both side of the campaign booth with posters displayed behind and on the table top. Brochures should be kept on one side and provided to the students after explaining them about ITEE.

Step 4: As the response rate is very good of setting up a booth, many students will come visit the booth and ask questions about ITEE. The volunteers should be well prepared regarding ITEE exam and must be able to **answer questions** that are going to be asked by the students. The **volunteers should be trained beforehand** so that they don't face any difficulty answering questions during the campaign.

Step 5: Students will be invited to register on the spot. Among the interested students, those who have their own bkash account can directly pay the registration fee from their account and

start the registration process in volunteer's laptop. The other group of students with **no bkaash account can take help from the volunteer's bkaash account** to pay the registration fee and start the registration process.

Soft-campaign/Off-location campaign: It is difficult to cover every university in Bangladesh through on-location campaign as it is very time consuming and requires a budget. Therefore, apart from universities that have already been covered by on-campus campaign, the rest of the universities should be enlisted for soft campaign.

A small bundle of posters, one x-banner and a bundle of 50-100 brochures should be delivered via courier to the respective university faculty member or the department. A letter of reference with necessary information **on BCC letterhead** should be attached with the campaign materials for the reference of the particular university.

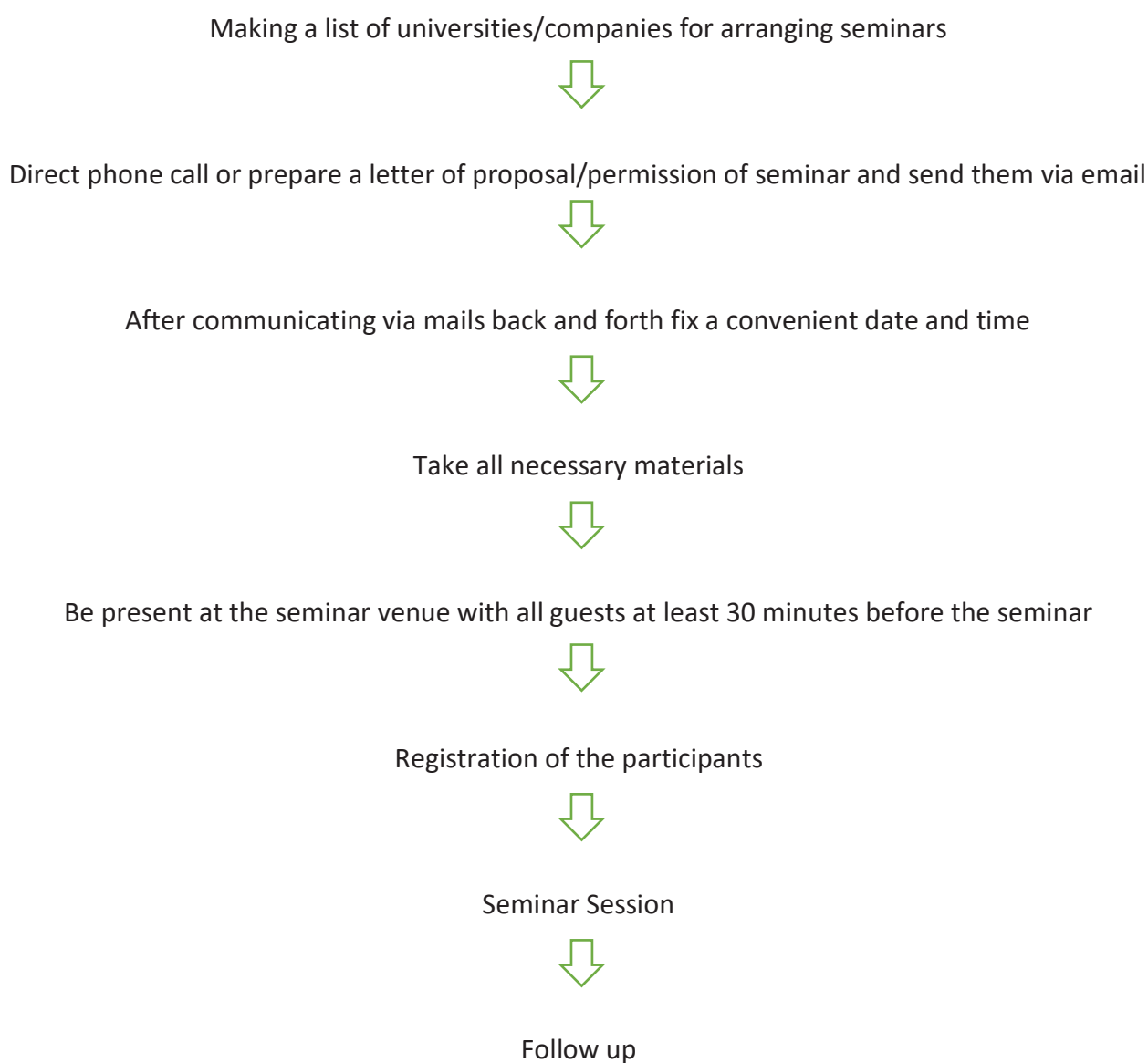
It shall be requested in the letter to send photos of the posters and X-banners after they are put on for display on various location of the university. The photos can be captured and send via ITEE Facebook Page message box or in the Whatsapp number of the responsible PR officer. It is done to ensure that the PR materials have been utilized as the way it was expected.

6. Seminar

The purpose of the ITEE seminar is to promote ITEE among prospective examination candidates. The primary objective of each seminar is to educate the audience present in the seminar about the concept of ITEE, history, question pattern, preparation of the examination, and process of registration. The second most important objective is to make as many registration possible on-spot after each seminar.

Flow Chart of a seminar:

The flowchart shows the steps that are involved to arrange a successful seminar.



Fixing a seminar

In every examination session, a list of potential of the potential universities and companies should be made where seminars would be held. An elaborate mail regarding ITEE along with a request for permission letter on **BCC letterhead** should be sent to the email address of the respective **CSE department** of the universities and **HR department of the IT companies**. Upon confirmation via email and phone calls, date and time will be fixed for the seminar.

Materials needed for a seminar

- Printed copy of seminar schedule with time slot, activities, and guest name.
- Attendance registration paper.
- PPT, Promotional Video in pen drive.
- Brochures.

Checklist before the seminar

The PR officer should check all the equipment and facilities needed to conduct the seminar. The PR officer should check if the

- multimedia is working
- sound of multimedia and microphone is audible to everyone
- the room has proper lighting and cooling arrangement.

Besides, the PR officer should check the sitting arrangement and have a brief conversation with the host/MC to cross-check the schedule and guest name.

Finally, he or she should open the PPT and play the promotional video to check if these materials run smoothly in the system/set up of that particular auditorium/seminar room.

Registration of Attendance

Before the seminar starts, the student attendance should be noted and brochures should be distributed among the students. The students should provide their

- name

- semester/year they are currently in
- phone number
- Email ID.

A formatted registration sheet should be provided so that they can easily fill up the form providing necessary information. (Sample provided)

Seminar session

The common structure of a 1/1.30 hour long seminar is:

- Students register and take seat at the seminar hall/auditorium/seminar room
- Guests enter and take their seats
- The host (usually the chairperson of the CSE department) gives the welcome speech and small brief on the purpose of the seminar
- The video presentation on projector
- Host welcomes the Keynote Speaker to present ITEE. Keynote speaker can be ITEE Trainer if the hosting university/office has one, otherwise a representative from BCC or respective official should give the keynote speech
- After the keynote speech, the host will thank the keynote speaker and invite the second speaker
- After that the PR officer will describe the necessary information as given below.
- Finally the host will conclude the seminar and invite everyone to take a group photo.

During the seminar, the PR officer shall keep his or her all eyes open regarding the **time management and smooth operation** of the event. The PR officer should allocate a moderate amount of time slot to explain key aspects of

- ITEE
- registration process
- Facebook group function
- preparation for ITEE.

The PR officer's main objective or KPI should be to ensure maximum registration after each seminar from the number of students that had attended.

Follow-up

Follow-up is one of the most important part that often tend to be ignored, but in ITEE project promotion, there is no chance to overlook the follow-up process. After every seminar, there should be two types of follow-up.

Firstly, a thank you mail with registration link and other soft-copies of promotional materials should be sent to the faculty members who had been present on the seminar day. The thank you mail shall also carry a request to share the registration link from the respective faculty members Facebook profile so students who are friends with them value the importance of the examination.

Secondly, the list of students who attended the seminar will be in hand by the end of every seminar. A common mail should be sent to the email ids they have provided during the attendance registration. In the common mail the following information should be provided:

- ITEE YouTube channel link
- ITEE registration link
- -ITEE Facebook page and group link
- other informational materials should be provided.

7. The Method of Follow-up

The PR team cannot rest once a candidate registers or at the end of the registration deadline. After every successful registration and deadline of the registration, continuous email communication should be maintained to follow-up the preparation of the candidates.

After every successful registration, a common email should be sent to the particular candidate. The email must contain ITEE Facebook page and group link, YouTube channel link, and instructions for preparation. Also, from time to time, the candidate must be notified with soft-reminder mail to continue his or her preparation for the main examination.

The candidates should also be informed and inspired to join intensive course, take the model exam, and attend the commentary session. This follow-up is mostly maintained by email communication, and in case of necessity, by phone calls.

8. Email and phone calls

Emails and phone calls are two most important and integral parts of PR communication. Promptness is the key to effective and smart PR communication. For the project of ITEE, PR department has to maintain regular email and over phone calls communication with the stakeholders, partners, and potential candidates. Here's a list of the type of emails and phone calls the PR department has to maintain throughout the campaign.

- Mail/Calls to the examination committee
- Mail/Calls to the Project Director and Projects Associates regarding seminars and campaigns
- Mail/Calls to the trainers/instructors
- Mail/Calls to JICA representatives
- Mail/Calls to university faculty members and company officials
- Mail/Calls to BASIS representatives
- Mail/Calls to students
- Mail/Calls to newspapers and other media agencies
- Mail/Calls to other PR officials/team members/agencies

The purpose of these mails and calls can be anything and everything as per the objective of the ITEE project.

9. Frequently Asked Questions (FAQ)

Questions regarding the ITEE examination mostly comes from the potential candidate's end. At the same time, faculty members of different universities, who are unaware of this programs also ask questions regarding ITEE. Here are some of the Frequently Asked Questions (FAQs) on ITEE that have been asked in the past few years:

1. Is this a course or proficiency test for ITEE engineers?

A: ITEE is not a course. This is a proficiency test for IT engineers. ITEE test score and certification will help employers to evaluate the candidate's IT expertise.

2. Is there any training center to prepare for ITEE examination?

A: No. However, there are a number of resources available online for preparation. These include: Facebook Group, Facebook Page, YouTube Channel, E-Learning, Mock Examination, Text Book and Past Exam Collections.

3. Is it necessary to be graduate to apply for ITEE examination?

A: No, there is no educational requirements. If you are confident in your IT skill, that is enough to attend ITEE examination.

4. How much does this examination cost?

A: The FE examination fee is 510 BDT. Please refer to www.bditec.gov website for full chart of examination registration fee.

5. Is it guaranteed that ITEE passers will get a job in Japan?

A: No. Certification provides you to stand out among many in the job race. You will get preference in the interview short listing. However, your job depends on your performance at the interview board and other negotiations with the interviewer.

6. What are the benefits of having an ITEE full passer certificate?

A: The international standard certificate will increase the value of your CV and help you to showcase your ability to the employer.

7. What is full and half passer?

A: If you pass half examination, you will be identified as a half passer. You will get chance to attend the remaining half examination for next two consecutive times. If you

pass the remaining half examination in next two attempts, you will become a full FE passer.

8. Can non-CSE/IT background students apply for this examination?

A: Yes. IT skill and knowledge is require to participate in ITEE examination. No need to have IT academic background.

9. How long is the validity of the ITEE certificate?

A: ITEE certificate does not expire. The validity period of this certificate is eternal.

10. Will the ITEE certificate help to get a job in Bangladesh?

A: ITEE certificate is an international standard certificate. It will definitely increase the value of your CV. However, no certificate can assure a job. It depends on the candidate and company requirements.



Attachment 10-1

Evaluating ICT Related Human Resource Development Activities Conducted by BCC

**Evaluating ICT related human resource development
activities conducted by Bangladesh Computer Council (BCC),
as well as by other organizations, in Bangladesh**

SUBMITTED TO:



Japan International Cooperation Agency

SUBMITTED BY:



Website: www.bacbone-education.com

Email: maheen@bacbone-education.com

Submission Date

27 March, 2018

Table of Contents

Executive summary	iv
Chapter 01: Introduction.....	7
Background of the study.....	7
Objectives of the study	8
Scope of the study	8
Methodology of the study	9
Outline of the report	10
Chapter 02: Business profile of the companies	11
Size of the companies surveyed (in terms of employees)	11
Number of IT Engineers employed.....	12
Business domain.....	13
Key services of the IT companies.....	14
Human Resource Development Policy and issues	15
Chapter 03: Business relations with Japanese firms	17
Business with Japanese firms	17
Types of business with Japanese firms	18
Potential business plans	19
Preferred HR policies for doing business with Japanese firms.....	19
Issues in doing business with Japanese firms.....	20
Chapter 04: Business relations with international firms (except Japan)	22
Types of HR policies preferred	23
Issues in doing business in global market.....	24
Chapter 05: ICT related trainings in Bangladesh	25
ICT related trainings offered by BCC	25
Participation in training programs in BCC	26
Types of courses attended in BCC.....	27
Degree of satisfaction regarding BCC-run training programs.....	29
Level of encouragement to attend BCC-run training programs	30
Paying for the training programs	32

Chapter 06: ICT trainings outside of BCC	34
Participation in training programs outside of BCC	34
Types of courses attended	35
Preference of the employers regarding training of employees	36
Chapter 07: ITEE and other ICT-related certification	38
Level of awareness regarding ITEE.....	38
ICT related certifications	41
Chapter 08: Demands and Expectations to BCC	43
Demand for soft skill training	43
Expectations to BCC	44
Chapter 09: Recommendations	46
Annex 01: Survey Questionnaire	48
Annex 02: Interview Checklist	62

List of Figures

Chart 01: Size of the companies surveyed (in terms of employees)	11
Table 01: Categorization of companies in the service sector	12
Chart 02: Number of IT engineers employed	13
Chart 03: Business domain of the companies	14
Chart 04: Key services of the surveyed companies	15
Chart 05: Business with Japanese firms	17
Table 02: IT business with Japan (disaggregated by size of local firms).....	18
Chart 06: Business types with Japanese firms.....	18
Chart 07: Potential business plans with Japanese companies	19
Chart 08: Preferred HR policies	20
Chart 09: Issues in doing business with Japanese firms.....	21
Chart 10: Business connections with global firms, except Japan	22
Chart 11: Types of HR policies preferred	23
Chart 12: Issues in doing business in global market.....	24
Table 03: Level of awareness regarding BCC offered courses.....	26
Table 04: Awareness regarding trainings in BCC (disaggregated by size of companies).....	26
Chart 13: Employees participated in BCC-run training programs	27
Table 05: Level of participation in training programs of BCC	27
Table 06: Types of courses attended.....	28
Chart 14: Employees attended short courses offered by BCC.....	28
Chart 15: Types of diploma programs attended	29
Table 07: Degree of satisfaction regarding BCC-run training programs	30
Chart 16: Encourage staffs to receive trainings	31
Table 08: degree of encouragement to attend BCC courses.....	31
Chart 17: Concerns behind lack of encouragement	32
Chart 18: Firms paying for trainings	33
Table 09: sharing of the training cost by the companies	33
Chart 19: Participation in training programs outside BCC.....	34
Table 10: Participating trainings arranged by organizations other than BCC	35
Chart 20: Types of courses attended	36
Chart 21: Level of awareness regarding ITEE.....	38
Table 11: ITEE awareness corresponding to company size	39
Table 12: Employees participated in ITEE (IP/FE)* (% of companies)	39
Table 13: Level of satisfaction of the ITEE-aware companies.....	40
Chart 22: Willingness to have ITEE certified employees	41
Table 14: Willingness to recruit ITEE certified engineers	41
Table 15: ICT related certification and degrees	42
Table 16: demand for soft skill trainings	43
Table 17: Types of soft skill trainings.....	44
Chart 23: Expectation to see BCC in a PPP with the ICT industry	45

Executive summary

With the attention from the top brass of the policy makers, ICT sector of Bangladesh has been growing at an unprecedented rate in recent years. The contemporary growth of the ICT sector has led to a steep rise in the demand of highly skilled engineers with globally recognized certifications. However, private IT companies in Bangladesh have identified some weaknesses regarding skill development for local IT engineers such as the low quality of ICT training and education at higher educational institutions and lack of competitive certification system to assess the abilities of IT engineers objectively.

The study has emphasized on collecting both quantitative and qualitative data through questionnaire survey and through in-depth interviews from executives and employees of 50 ICT companies in Bangladesh.

Business profile of the surveyed companies

Almost half of the companies surveyed, according to the categorization of service sector companies in the National Industrial Policy 2016 of Bangladesh, falls into the ‘small’ category whereas about 20 percent of the companies are ‘medium’ in size and the other 19 percent of companies are ‘large’ in terms of employees. IT engineers comprise about one-third of the employees in most of the IT firms. Most of the companies operate in multiple business domains like customized application development, IT enabled services (ITES), e-commerce, web services, mobile application, system integration, and so on.

Human Resource Development (HRD) policy

Long running ICT companies strictly maintain Human Resource Development (HRD) policy while the small companies remain flexible in HRD related matters. The HRD policies mostly concern the recruitment process and the post-recruitment facilities (e.g. training) as well as regulations for the employees. In terms of recruitment process, most of the Bangladeshi ICT companies maintain a competitive recruitment system whereas some new and small companies, reportedly, often resort to both formal and informal recruitment process.

Business relations with Japanese firms

Currently, about 40 percent of the companies surveyed have business connections with Japanese firms. Almost all the firms, except few, have plans to initiate or expand the business relations with Japanese firms. Currently, most popular business activities include offshore business, website development, outsourcing, agro-tech, GIS, artificial intelligence, and data analysis etc. The most common difficulties that the Bangladeshi companies face in

doing business with the Japanese IT firms are the communicational aspect in terms of language and the preference of having an office in Japan to do business with some Japanese firms.

Business relations with other foreign, except Japanese, firms

Other than Japanese firms, a whopping 85 percent of the companies surveyed have business relations with the IT firms globally. USA and UK are the two bigger markets for Bangladeshi IT companies. Apart from these two bigger markets, Canada, Denmark, Germany, India, and UAE are also among the big IT destinations for Bangladeshi companies. However, language is not a major problem to do business with English-speaking countries, rather finding the expert IT engineers and programmers becomes often difficult.

Training programs offered by Bangladesh Computer Council (BCC)

There are about 20 percent of the respondents from the top management of surveyed companies who are seemingly unaware of the training courses offered by BCC while about half of the surveyed companies are fully aware. Employees from only 37 percent of the companies have participated in training programs offered by BCC. Moreover, the level of satisfaction of the employers on a number of issues regarding BCC-run training programs has been reportedly low. Major dissatisfactions have been about the scheduling of programs as well as about the quality of the course instructors.

Participation in training programs outside of BCC

There are a number of organizations, other than BCC, which are reputed for providing IT trainings to the aspirants. BASIS, BITM, IDB-Bangladesh, Ministry of ICT of the Government of Bangladesh, and many other public and private universities fall into this category. Employees from about 75 percent of the companies have attended training programs, mostly short courses, organized outside BCC.

Preference of the employers regarding training of employees

The employers of the surveyed companies do prefer that the employees receive prior and in-job, both in-house and outside, trainings to improve their knowledge and skills. Two-third of the companies which encourage the employees for the training programs pay either fully or partially the fees for the training and degree programs. In addition, companies encourage the employees to achieve globally relevant IT certifications by providing paid leave as well as offering promotions upon the completion of certain degrees.

Level of awareness and satisfaction regarding ITEE

The survey findings reveal that around 40 percent of the surveyed companies remain completely unaware of ITEE (Information Technology Engineers Examination) certification, though introduced in 2013, and only about 16 percent of the company management seem to be completely aware of the ITEE certification process and its worth. Over the years, the number of ITEE certified employees remains low as the number of participants remains low too. However, on a positive note, the top management of the companies who are arguably aware of ITEE seem to be satisfied, to a different degree though, regarding various aspects of ITEE including the contents, venue, schedule, fee, and management etc.

ICT related certifications

About 46 percent of the surveyed companies encourage their employees to achieve relevant IT certifications, on top of their existing graduation degrees, as long as the certification is considered to be useful mostly for the business with foreign companies in the international market. For instance, certifications like SAP certification, QA certification, Zend certification for PHP programmers, AWS certification, Docker Certification, and Red Hat Certification.

Demand for soft skill training from BCC

Among the need for soft skills, the employers emphasize on the need of language skills. Around 80 percent of the employers responded in positive to a demand for skills in Japanese, English, Chinese and some other European languages to expand business in the international market. The employers also prefer trainings on market knowledge, leadership skills, project proposal writing, financial management, project management etc.

Expectations to BCC

The respondents recommended BCC to work in a collaborative approach, and to do market research and needs assessment while designing their training programs to provide timely training opportunities on latest technologies. While asked about the prospect of Public-private Partnership (PPP) between BCC and ICT industry, about 60 percent of the respondent companies expressed the prospect of a partnership with BCC in training and knowledge sharing.

Chapter 01: Introduction

Background of the study

With the attention from the top brass of the policy makers, ICT sector of Bangladesh has been growing at an unprecedented rate in recent years. The market size of Bangladesh's ICT sector has been tripled to about \$600 million in 2014 from about \$200 million in 2009. Besides the demand in the domestic market, about \$132.5 million of \$600 million was earned from the export of ICT related services. The contemporary growth of the ICT sector has led to a steep rise in the demand of highly skilled engineers with globally recognized certifications. Besides the US and European markets, Japanese IT market also attracts a significant number of Bangladeshi IT engineers. However, lack of familiarity of Bangladeshi IT professionals with the Japanese language as well as with the unique business practices of Japanese firms have made the bilateral business environment difficult. Moreover, private IT companies in Bangladesh have identified some weaknesses regarding skill development for local IT engineers such as the low quality of ICT education at higher educational institutions and lack of competitive certification system to assess the abilities of IT engineers objectively.

To improve the quality assessment and certification system for local IT engineers, JICA supported the "Capacity Building on ITEE Management Project" (2012-2015) aiming at introducing ITEE as a national examination for IT engineers. As a result, ITEE has been successfully introduced to Bangladesh, whereas it is not yet well known, and further dissemination activities are necessary to utilize ITEE. The Bangladesh Computer Council (BCC) implements several ICT training courses and manages the administration of ITEE examinations in Bangladesh, to achieve the Government's goals for economic and ICT development. However, soft skills such as communication and language skills, as well as understanding foreign companies' way of doing business and business manners are getting more importance in practice. In the absence of necessary training facilities on the soft skills, ICT companies in private sector seem to demand public support for the necessary trainings.

Objectives of the study

The main objective of the study is to determine the level of satisfaction of ICT companies and their employees towards existing human resource development activities of BCC. Moreover, the study also gathers insights regarding the ICT human resource development initiatives implemented by BCC, especially in relation to the entry into the Japanese market, in order to come up with solid recommendations for the improvement of the existing initiatives and to cater to the expectations of various stakeholders. In this regard therefore, the study has emphasized on collecting both quantitative and qualitative data from the ICT companies to determine the level of satisfaction and the room for improvements in the existing ICT human resource development activities of BCC.

Scope of the study

The scope of this study is as follows:

- A. Evaluate the level of satisfaction of managers and employees of the selected ICT companies regarding the current ICT related training programs implemented by BKIICT under BCC (e.g. month-long training programs, and 1 year-long professional and post-graduate diploma programs).
- B. Evaluate the level of satisfaction of managers and employees of the selected ICT companies regarding the existing ITEE system under BD-ITEC of BCC and the quality of ITEE certified graduates.
- C. Assess the need for soft skills like foreign language skills, communication skills, business development and management skills for the IT graduates to tap the potentials of the global IT market by working for and with the foreign IT companies.
- D. Reflect the expectations of the selected ICT companies towards ICT human resource development activities which have been implemented by BCC, especially in relation to the entry into the Japanese market, in order to develop solid recommendations for the improvement of the existing initiatives.

Methodology of the study

The study has emphasized on collecting both quantitative and qualitative data through questionnaire survey and through in-depth interviews from the ICT companies to determine the level of satisfaction and the room for improvements in the existing ICT human resource development activities of BCC. Quantitative data has been collected through a structured questionnaire from the HR Managers or equivalent officials of 50 selected ICT companies. All the 50 companies have been selected as per their connections with Japanese IT market. In the next step, 10 companies, from 5 of the following categories, were chosen for In-depth Interviews and FGDs (Focus Group Discussions) with their executives and employees:

- A. 2 (Two) Companies with highest number of employees with training from BCC
- B. 2 (Two) Companies with highest number of employees holding ITEE certifications
- C. 2 (Two) Companies with highest number of Japanese clients or prospecting the Japanese market
- D. 2 (Two) largest ICT companies in terms of employee and/or revenue
- E. 2 (Two) small and medium ICT companies in terms of employee and/or revenue

After the selection of 10 companies, the study team has collected qualitative data through in-depth interviews and FGDs with the executives and employees of selected companies. In-depth interviews of the top executives, based on the interview checklist, and FGDs of the employees, based on the FGD checklist, were conducted. The in-depth interviews with the top executives of selected ICT companies have delved on the issues of their level of satisfaction and further recommendations concerning BCC activities. On the other hand, the FGDs for the employees of selected ICT companies have explored on the issues of their level of satisfaction, the challenges they faced, and further recommendations concerning BCC training and ITEE programs.

Outline of the report

The report is divided in nine (9) chapters. The introductory chapter is followed by detailed analysis on the structure and profile of the surveyed companies with emphasis on business size and business activities offered. Third chapter delves on business relations of the Bangladeshi IT companies with the Japanese IT companies with a special focus on the opportunities as well as challenges in doing business with the Japanese IT companies. In a similar way, the fourth chapter looks on the opportunities and challenges faced by the Bangladeshi companies in tapping the dividend of the ICT boom in global market, outside Japan. Chapter five deals with the existing training programs offered by Bangladesh Computer Council (BCC) and the level of satisfaction, and concerns as well, of the industry stakeholders regarding the quality of the training and other programs offered by BCC. Likewise, the following chapter looks into the training options available outside BCC and the reaction of the industry stakeholders on the available options. Chapter seven discusses the level of awareness, as well as concerns, regarding the ITEE among the industry stakeholders in Bangladesh. Availability and needs for other ICT training and certifications have also been discussed in Chapter eight. Finally, the ninth chapter ends with summing up the important recommendations popped up from the findings of the survey and in-depth interview with the industry insiders.

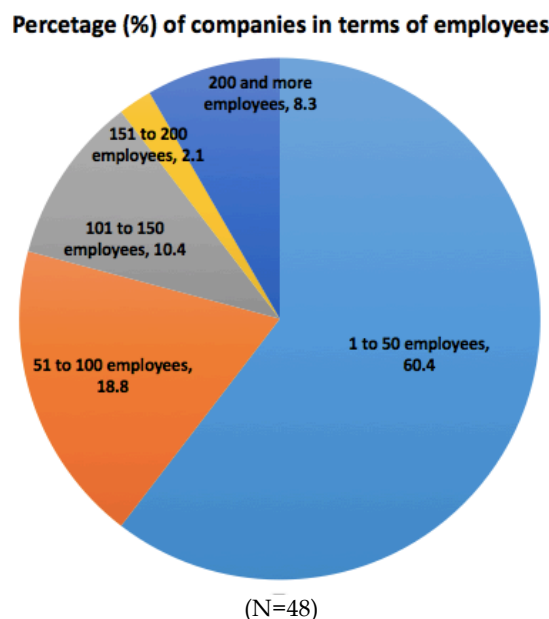
Chapter 02: Business profile of the companies

Bangladeshi IT companies are meeting local demands for ICT services and also working for global ICT market for about last three decades. A handful number of Bangladeshi IT companies have been globally acclaimed for quality of the services offered. This chapter looks into the structure and profile of the surveyed companies with emphasis on business size and business activities offered by these companies.

Size of the companies surveyed (in terms of employees)

Initially, 50 companies were selected for the study, but as there were no responses from 2 of the selected companies, the sample size finally stood at 48. Among the 48 companies surveyed, majority of the companies (i.e. about 60%) comprise of less than 50 employees (see Chart 01). Here, employees include both IT engineers and management staffs. However, there are about 21 percent of the companies which employ more than 100 employees. About 8 percent of the companies are among the biggest companies in terms of employees as they have more than 200 employees each.

Chart 01: Size of the companies surveyed (in terms of employees)



However, according to National Industrial Policy 2016¹, companies in the service sector are divided in four different categories. Companies with more than 120 employees are called ‘large’ companies, followed by the ‘medium’ companies with employees from 51 to 120 (see Table 01). Companies with 16 to 50 employees are called ‘small’ companies whereas any company with less than 15 employees are called ‘micro’ companies. Following this categorization, the surveyed companies can also be divided in four categories. Almost half of the companies surveyed falls into the ‘small’ category and about 8 percent of the companies, even, fall into the ‘micro’ category. On the other hand, about 20 percent of the companies are ‘medium’ in size and the other 19 percent of companies are ‘large’ in terms of employees.

Table 01: Categorization of companies in the service sector

<i>Categorization of companies</i>	<i>Percentage of companies</i>
Large	18.8
Medium	20.8
Small	52.1
Micro	8.3

(N=48)

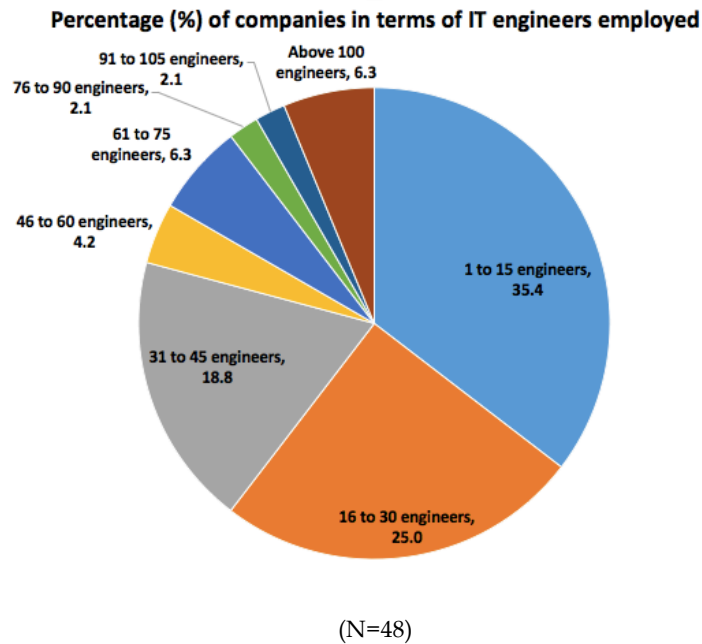
Number of IT Engineers employed

IT engineers are integral to the operation of IT companies. IT engineers comprise about one-third of the employees in most of the IT firms. About 60 percent of the companies employ less than 30 IT engineers (see Chart 02). On the contrary, only about 6 percent of the companies employ more than 100 IT engineers.

¹ Available at:

<http://www.moind.gov.bd/site/view/policies/%E0%A8%A7%80%E0%A4%A6%BF%E0%A6%AE%E0%A6%BE%E0%A6%B2%E0%A6%BE>

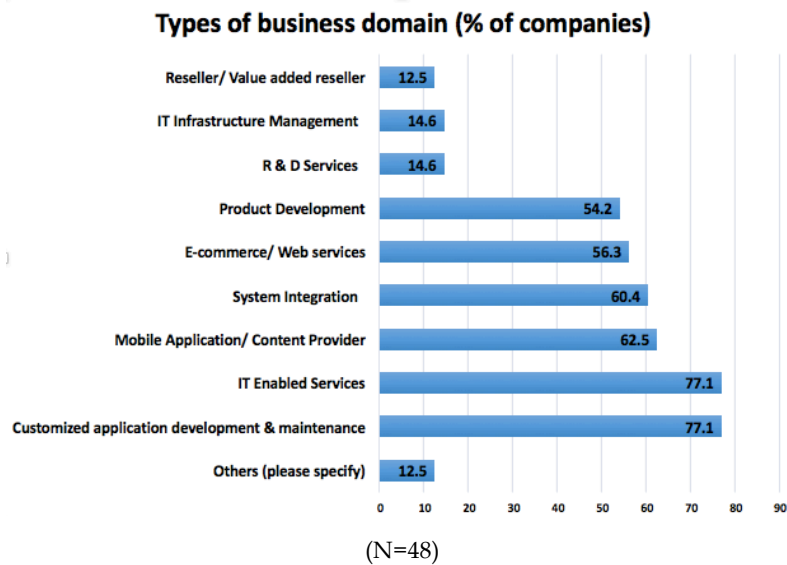
Chart 02: Number of IT engineers employed



Business domain

Bangladeshi IT companies operate in different business domains. Most of the companies are involved in multiple domains (see Chart 03). Usually, the companies are involved in business of customized application development, IT enabled services (ITES), e-commerce, web services, IT product development, mobile application, system integration, IT infrastructure management, value added reseller, R&D services, and so on. Majority of the companies (about 77 percent) are involved in customized application development & maintenance, and ITES business. Followed by these two categories, about half of the companies are involved in business activities like e-commerce, web services, IT product development, mobile application, system integration etc. There are other business domains like IT infrastructure management, value added reseller, and R&D services in which few companies are involved.

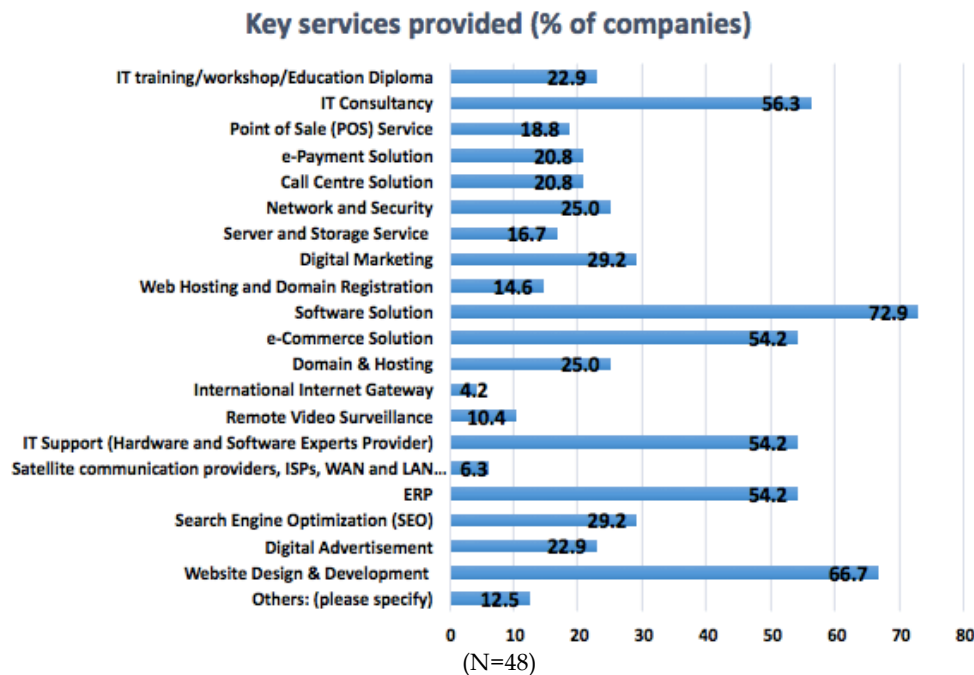
Chart 03: Business domain of the companies



Key services of the IT companies

In different business domains, the companies are engaged in providing different services (see Chart 04). The key activities and services offered by the companies include: website development, web hosting, server and storage service, digital advertisement, Search Engine Optimization (SEO), satellite communication providers, ISPs, WAN and LAN providers, ERP, IT support, remote video surveillance, international internet gateway, domain and hosting, e-commerce solution, software solution, digital marketing, network and security, call centre solution, e-payment, point of sale (POS) service, IT training and courses etc. Among all the services offered, more than half of the companies are involved in website design and development (67%), software solution (72%), IT consultancy (56%), IT hardware and software support (54%), ERP (54%), and e-commerce solution (54%).

Chart 04: Key services of the surveyed companies



Human Resource Development Policy and issues

Long running ICT companies strictly maintain Human Resource Development (HRD) policy while the small companies remain flexible in HRD related matters. The HRD policies mostly concern the recruitment process and the post-recruitment facilities as well as regulations for the employees. In terms of recruitment process, most of the Bangladeshi ICT companies maintain a competitive recruitment system for the fresh graduates and young IT professionals. Employees are recruited by formally advertising in the print and electric media. Potential candidates need to go through formal processes of written exam, practical exam, and viva voce to qualify for the jobs. There are also special recruitment of the fresh graduates and diploma degree holders through internship opportunities. Some new and small companies, reportedly, often resort to both formal and informal recruitment process. Some of the employees are informally chosen based on experiences as the new companies need experienced and skilled professionals rather than fresh graduates to move forward and to skip the training cost initially.

The fresh recruits, and even the interns, go through a series of training and skill building workshops in the first few years of involvement with the companies. Apart from in-house trainings, employees are also encouraged to attend trainings outside of the company. Medium and large companies emphasize on project-based engagement of the employees and continuous training on latest technologies to help employees remain up-to-date in the competitive.

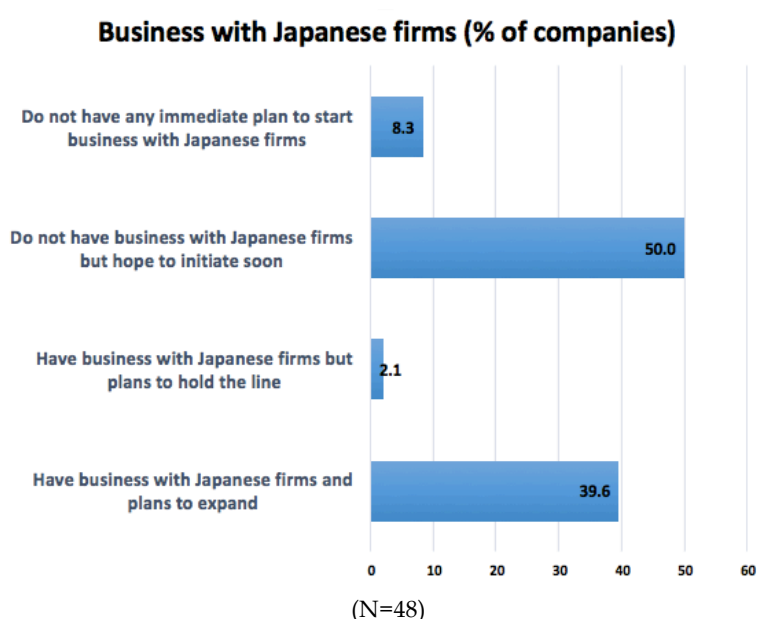
Chapter 03: Business relations with Japanese firms

A number of Bangladeshi IT companies have been working in partnership with the Japanese IT companies for a couple of decades. More and more local IT companies are getting interested to tap the opportunities to enter into Japanese IT market in recent years. The encouragement and interest of Japan government as well as the Japanese IT companies have encouraged Bangladeshi IT companies to take steps in building business relationships with Japanese IT companies.

Business with Japanese firms

Currently, about 40 percent of the companies surveyed have business connections with Japanese firms. Almost all the firms which do business with Japanese firms have plans to expand the business size with the existing Japanese firms and also to make business connections with new firms, if possible. Among the firms which do not have any business connections with Japanese firms, vast majority of the companies plan to initiate business with Japanese IT firms in near future. There are only few companies which do not have any immediate plans to do business with Japanese firms.

Chart 05: Business with Japanese firms



Further disaggregation of the business relations of Bangladeshi IT companies with Japanese IT companies reveal that, mostly the large companies are involved in doing business with Japanese firms. Arguably, the smaller companies have lower chances to get involved in business with Japanese companies due to various language and other requirements.

Table 02: IT business with Japan (disaggregated by size of local firms)

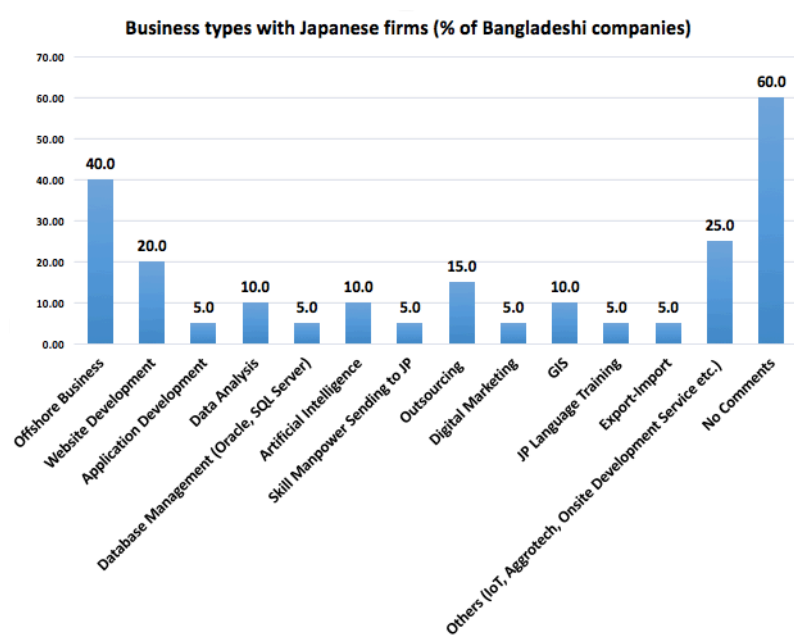
<i>Categorization of industries</i>	<i>Have business with Japan (% of companies)</i>	<i>No business with Japan (% of companies)</i>
Large	44.4	55.6
Medium	30.0	70.0
Small	36.0	64.0
Micro	25.0	75.0

(N=48)

Types of business with Japanese firms

Currently, the Bangladeshi IT companies are involved in a range of business activities with the Japanese IT firms. Most popular business activities include offshore business, website design and development, outsourcing, agro-tech, GIS, artificial intelligence, and data analysis etc.

Chart 06: Business types with Japanese firms

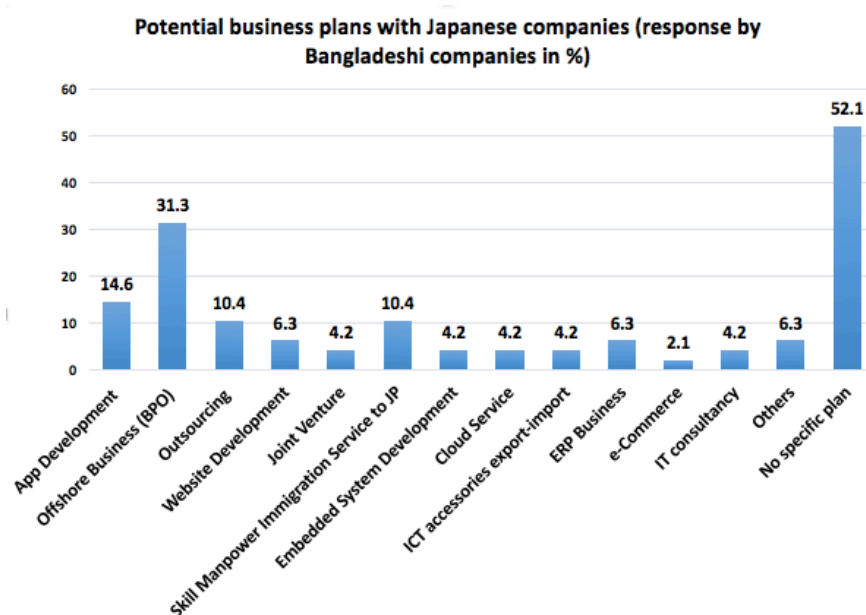


(N=20)

Potential business plans

The companies currently not in business with Japanese firms plan to collaborate on activities like offshore business (BPO), outsourcing, app development, and transfer of skilled IT engineers from Bangladesh to Japan. Some other activities like ERP business, and website development are also in consideration of the Bangladeshi companies to collaborate with the Japanese IT firms.

Chart 07: Potential business plans with Japanese companies



(N=28)

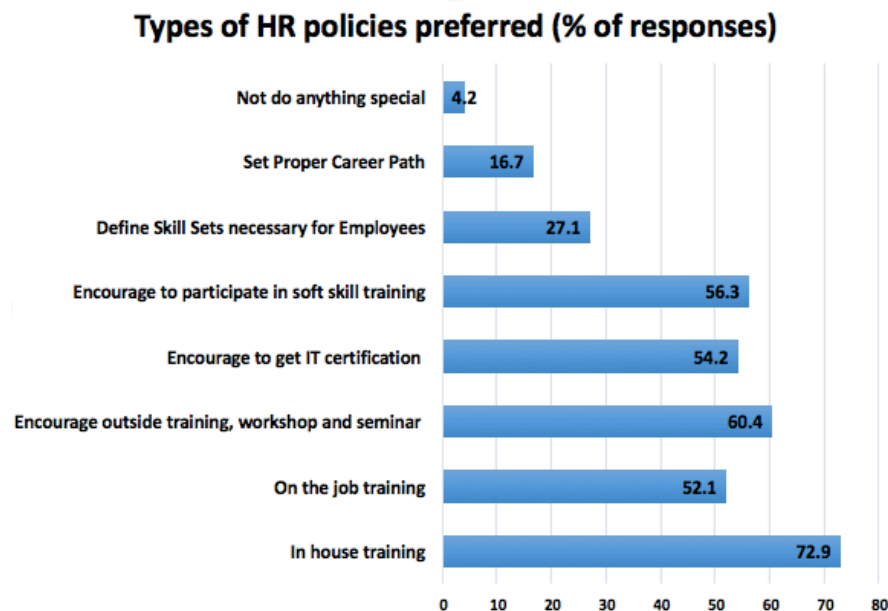
Preferred HR policies for doing business with Japanese firms

The companies which do or plan to do business with the Japanese companies prefer both in-house and outside training for the IT engineers employed in respective companies. While 70 percent of the companies resort to in-house trainings for their employees, at least 60 percent of the companies do encourage their employees to attend outside trainings and workshops on relevant field. Hence, there has been an overlap in the HR policies by companies as they, in some cases, conduct in-house training and encourages their employees to go for other recognized trainings and workshops.

About half of the companies encourages their employees to achieve IT certifications like ITEE and others. Moreover, at least one-fourth (i.e. 27 percent) of the companies

reportedly have a pre-defined skill sets necessary for the prospective applicants to gain the job whereas about half of the companies have flexibility for some on-job trainings.

Chart 08: Preferred HR policies

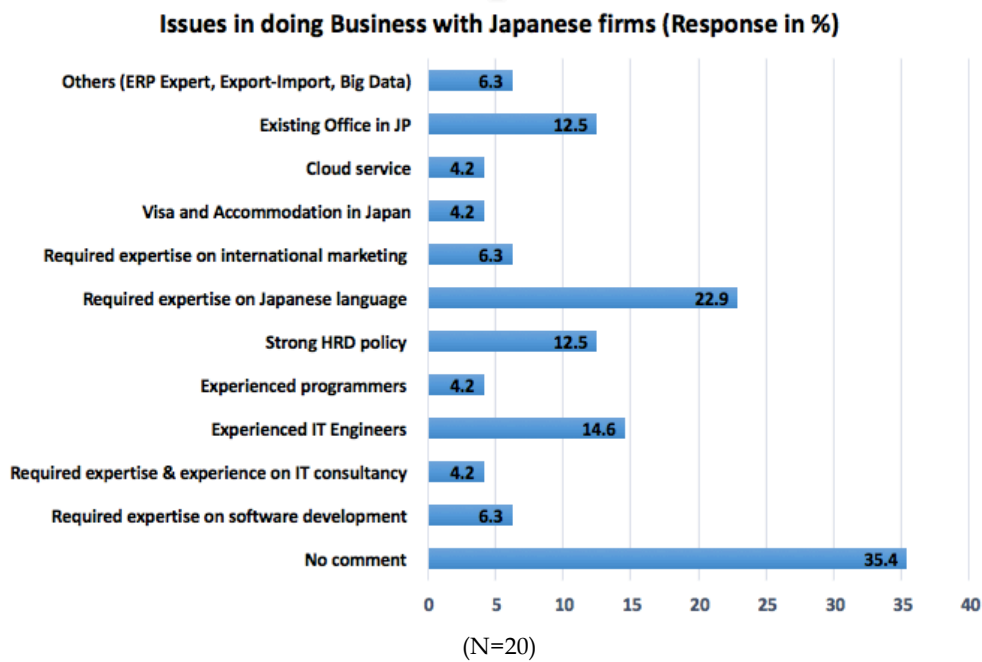


(N=44)

Issues in doing business with Japanese firms

The most common difficulty that the Bangladeshi companies face in doing business with the Japanese IT firms is the communicational aspect in terms of language (see Chart 09). Competent IT engineers with proven knowledge on Japanese language are hardly found. As a result, many Bangladeshi IT engineers lose the job competence in Japanese IT market.

Chart 09: Issues in doing business with Japanese firms

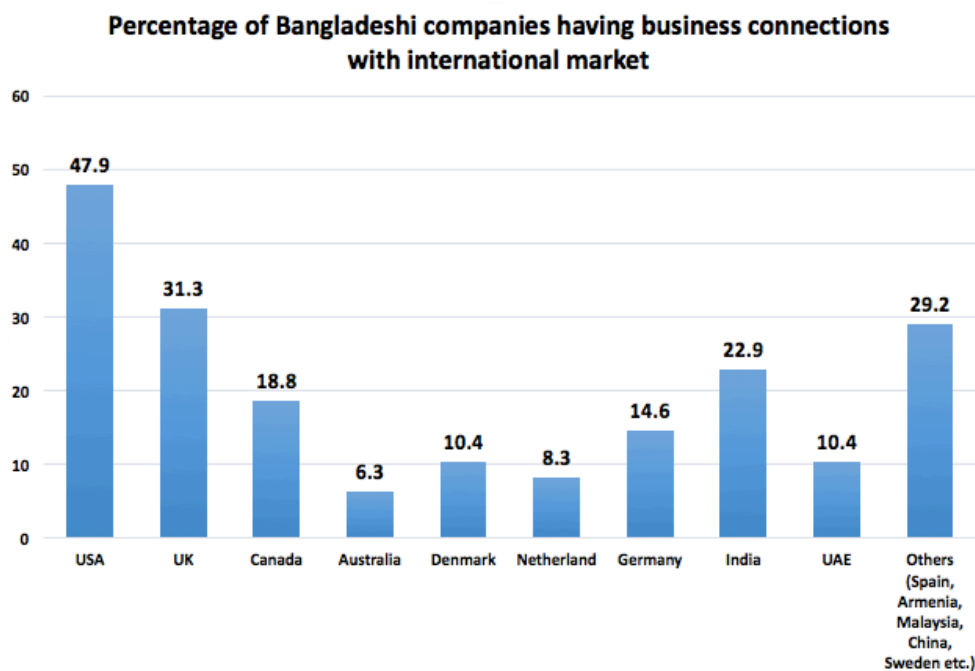


In addition, getting the required expertise in different IT fields, demanded by the Japanese IT firms, often gets challenging for the local companies. Besides, preference of having an office in Japan to do business with some Japanese firms makes it more difficult for local firms to seal intended collaborations in Japanese market.

Chapter 04: Business relations with international firms (except Japan)

Bangladeshi IT companies are reputedly doing IT business with clients from all over the world. Among the 48 companies surveyed, a whopping 85 percent of the companies have business in the IT markets outside of Bangladesh, and except Japan. USA and UK are the two bigger markets for Bangladeshi IT companies where respectively 48 and 31 percent of the companies have business connections. Apart from these two bigger markets, Canada, Denmark, Germany, India, and UAE are also among the big IT destinations for Bangladeshi companies. Among some other non-conventional markets, Bangladeshi companies also have business connections in Australia, Armenia, China, Malaysia, Spain, Sweden, and the Netherlands.

Chart 10: Business connections with global firms, except Japan

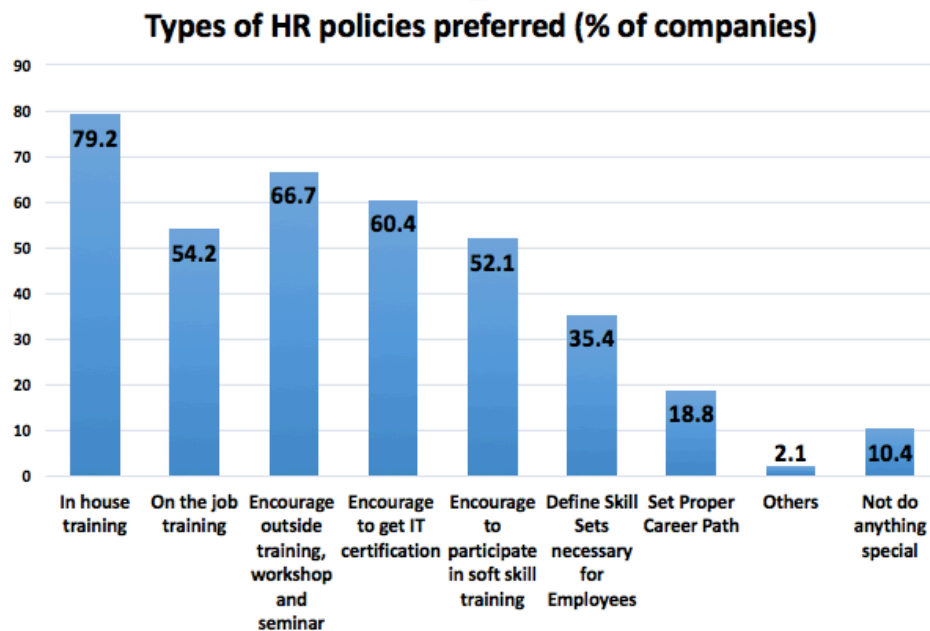


(N=41)

Types of HR policies preferred

The companies, almost 80 percent of them, maintain a priority on in-house training while also encouraging outside trainings and certifications. To remain competitive in the global market, about one-third of the companies emphasize on pre-defined skill sets while choosing employees as they deem it important for the fresh engineers and programmers to have a required level of expertise for the job. About half of the companies encourage soft skill training while about two-third of the companies also encourage their employees to attend workshops and trainings outside office.

Chart 11: Types of HR policies preferred

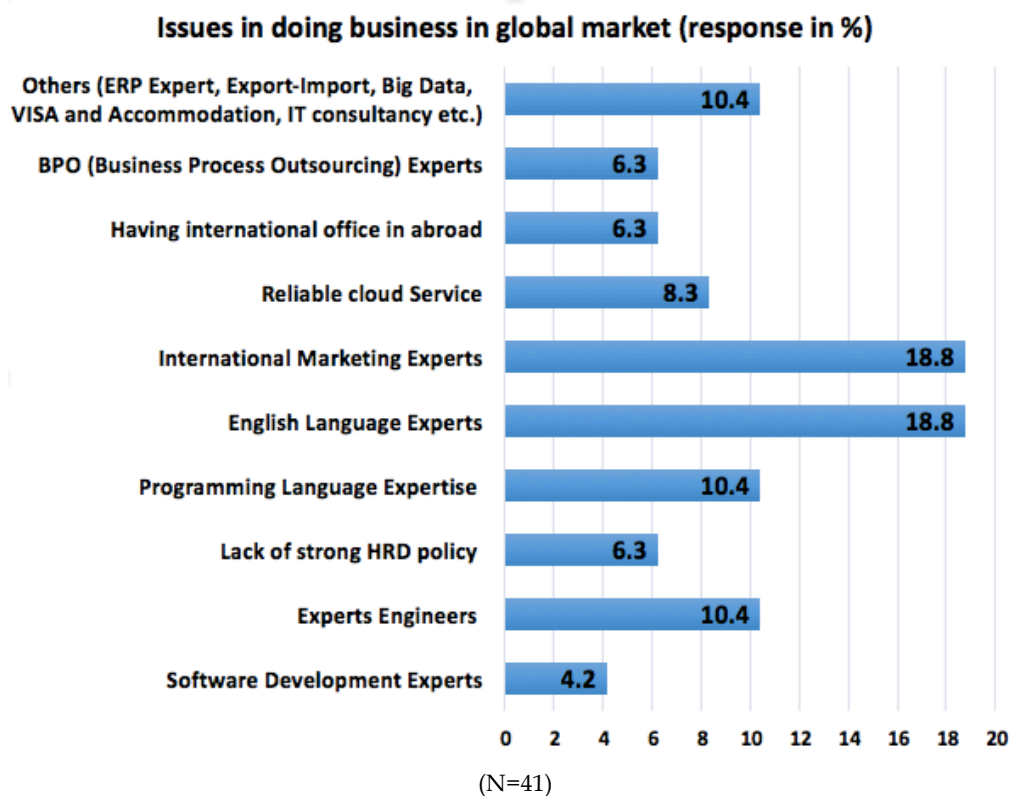


(N=41)

Issues in doing business in global market

As English is the second language in Bangladesh, IT engineers and programmers mostly can communicate in English, and, hence, language is not a major problem to do business with English-speaking countries. However, finding the expert IT engineers and programmers, demanded by the international firms, becomes often difficult.

Chart 12: Issues in doing business in global market



Chapter 05: ICT related trainings in Bangladesh

In Bangladesh, most of the IT professionals come directly to job market after graduation and post-graduation in IT or ICT related disciplines. However, the scenario has recently been changing as a number of dedicated organizations, from both public and private sector, have started offering necessary training and degrees outside the universities. This chapter, purposively and exclusively, deals with the existing training programs offered by Bangladesh Computer Council (BCC) and the level of satisfaction, and concerns as well, of the industry stakeholders regarding the quality of the training and other programs offered by BCC.

ICT related trainings offered by BCC

Bangladesh Computer Council (BCC) offers a range of ICT trainings, degrees, and certifications for the aspiring IT professionals of the country. In partnership with donor agencies like JICA, KOICA, World Bank, BCC has developed a range of training programs for the budding IT professionals of the country. With the support of KOICA, BCC has developed BKIICT, a full-fledged IT training centre, and also with support of the World Bank, BCC runs a number of IT skill building programs including LICT (Leveraging ICT for Growth, Empowerment and Governance). The training courses vary in length starting from a month-long program to a year-long one. On an average, BCC train around 830 participants annually, mostly in its Dhaka centre along with few rural setups. BCC also offers tailor-made IT training for the public sector employees.

Though BCC has been offering IT training programs and certifications for quite a number of years, there remains a lack of awareness among the top management of the IT companies regarding BCC programs. While half of the surveyed companies are fully aware of the trainings and degrees offered by BCC, there are about 20 percent of the respondents from the top management of surveyed companies who are seemingly unaware of the training courses offered by BCC (see Table 03).

Table 03: Level of awareness regarding BCC offered courses

<i>Name of Programs</i>	<i>Percentage (%) of respondents</i>			
	<i>Very much Aware</i>	<i>Moderately Aware</i>	<i>Partially Aware</i>	<i>Completely Unaware</i>
Awareness About BCC offered Courses	50.0	25.0	20.8	4.2
Awareness about Contents of the Short Courses/ Diploma in ICT and Post Diploma in ICT	31.3	25.0	25.0	18.8

(N=48)

A closer look into the data from the survey reveals that comparatively bigger companies are more aware about BCC and its training programs. Even, the degree of awareness varies with the size of the IT companies.

Table 04: Awareness regarding trainings in BCC (disaggregated by size of companies)

<i>Categorization of industries</i>	<i>Awareness regarding BCC courses and degrees</i>			
	<i>Very much aware</i>	<i>Moderately aware</i>	<i>Partially aware</i>	<i>Completely unaware</i>
Large	77.8	22.2	0.0	0.0
Medium	70.0	30.0	0.0	0.0
Small	40.0	24.0	28.0	8.0
Micro	0.0	25.0	75.0	0.0

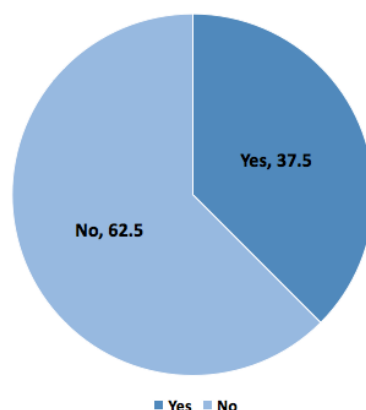
(N=48)

Participation in training programs in BCC

Employees from about 37 percent of the companies reportedly participated in different training programs offered by BCC whereas employees from the other 63 percent of the companies may not have participated in any sort of training programs offered by BCC, according to the information from the human resource personnel of respective companies (see Chart 13).

Chart 13: Employees participated in BCC-run training programs

Employees participated in the training programs offered by BCC (% of companies)



(N=48)

As the level of awareness regarding training and other programs in BCC remains low among the management of the small IT companies, the level of participation by employees of small companies in these training programs are also low as expected. Employees from the large companies, as usual, take the lead in terms of participating in trainings and other programs of BCC.

Table 05: Level of participation in training programs of BCC

<i>Categorization of industries</i>	<i>Participating in BCC courses (% of companies)</i>	<i>No Participation in BCC courses (% of companies)</i>
Large	66.7	33.3
Medium	40.0	60.0
Small	32.0	68.0
Micro	0.0	100.0

(N=48)

Types of courses attended in BCC

Employees from the surveyed companies have mostly attended short courses on ICT skills as well as in some long programs like diploma and post-graduate diploma. The number of employees attended in a range of training programs of BCC, however, is limited to a small number ranging between 1 to 10, mostly (see Table 06).

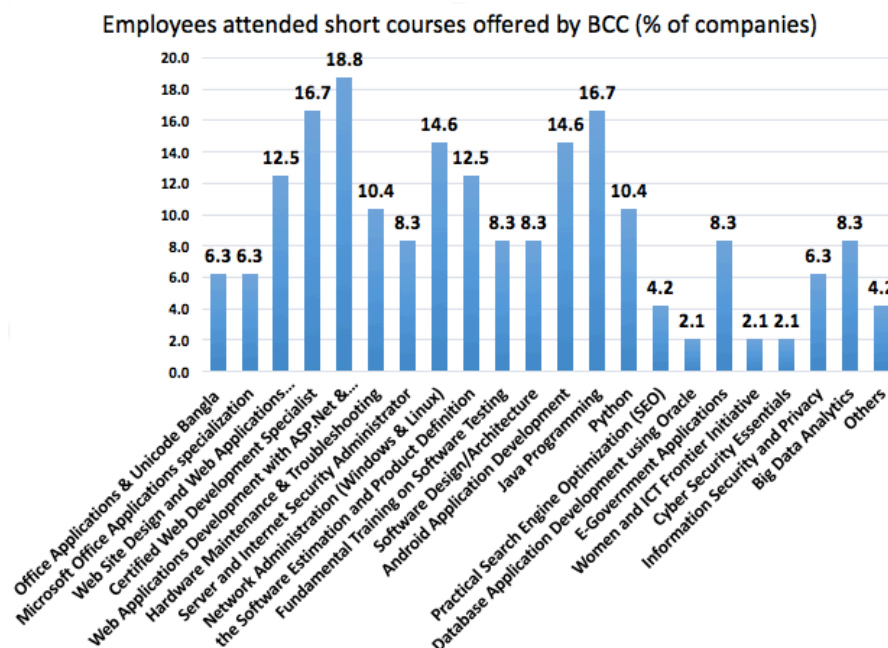
Table 06: Types of courses attended

Number of Participants	Percentage (%) of Companies		
	Short Course	Long Course/Diploma in ICT/Post Graduate Diploma in ICT	Workshop/Counselling Program
1-10	29.2	20.8	4.2
11-20	4.2	-	2.1
21 or more	4.2	6.3	-

(N=48)

Among the short courses attended by the employees of different companies, courses on website design & development, web applications development, hardware maintenance & troubleshooting, Network Administration (Windows & Linux), the software estimation & product definition, software design, android applications development, Java Programming, and Python were some of the popular choices. Besides the popular choices, employees of the surveyed companies took part in some other courses on advanced Microsoft office applications, server and internet security, software design & development, SEO (search engine optimization), e-government applications, cyber security, information security, and big data analysis.

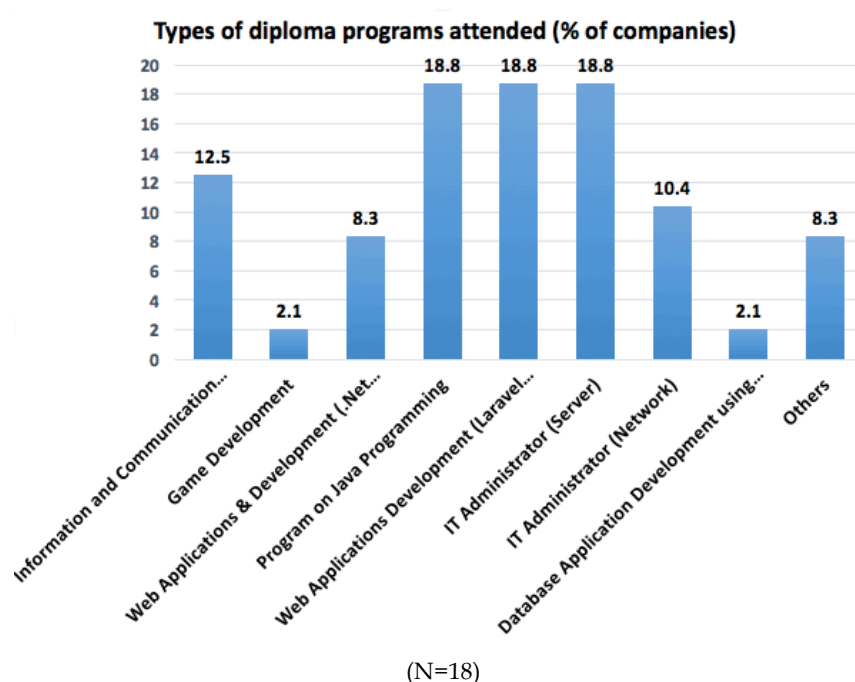
Chart 14: Employees attended short courses offered by BCC



(N=18)

Apart from short courses, the employees of the surveyed companies have also completed diploma programs on various ICT skills offered by BCC. Most popular diploma programs have been on ICT, web application development, Java programming, IT administrator for server and network etc.

Chart 15: Types of diploma programs attended



Degree of satisfaction regarding BCC-run training programs

The quality of training programs run by any organization can be evaluated by observing the satisfaction level of the employers of the professionals who were trained by that particular organization. BCC has been running a range of training programs on ICT and relevant skills development. However, the level of satisfaction of the employers on a number of issues has been reportedly low (see Table 07). A significant number of employers have reported their dissatisfaction regarding the contents of the courses, venue of the training programs, duration and schedule of the programs, quality of trainers, and fee of the programs. About two-third of the respondents have been evidently dissatisfied about all these aspects while few of them have reported their satisfaction. Major dissatisfactions have become visible about the scheduling of programs as well as about the quality of the course instructors.

Table 07: Degree of satisfaction regarding BCC-run training programs

Name of Programs	Response of company representatives (in %)				
	Very satisfied	Moderately satisfied	Partially satisfied	Completely unsatisfied	Don't know about the point
Contents of Short Courses	18.8	8.3	8.3	64.6	
Contents of Diploma/Post Diploma	12.5	8.3	12.5	66.7	2.1
Venue of the training courses	12.5	18.8	2.1	66.7	2.1
Duration/Time slots of Short Courses	8.3	16.7	10.4	64.6	
Duration/Time slots of Diploma/Post Diploma	10.4	18.8	2.1	64.6	4.2
Quality of training (lecturer, text book, teaching style, etc.) of Short Courses	4.2	20.8	10.4	64.6	
Quality of training (lecturer, text book, teaching style, etc.) of Diploma/Post Diploma	4.2	22.9	8.3	64.6	
Fee of Short Courses	14.6	6.3	8.3	66.7	4.2
Fees of Diploma/Post Diploma	10.4	8.3	8.3	66.7	6.3

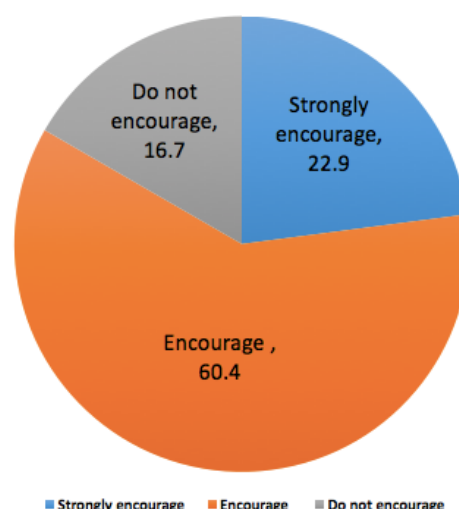
(N=48)

Level of encouragement to attend BCC-run training programs

Though the companies have stated the limitations of the BCC-run training programs, the management of the companies still mostly encourages the employees to take part in trainings and different degree programs. Little more than 80 percent of the companies reportedly encourage their employees to attend training and degree programs while only the 17 percent of the companies take a position to neither encourage nor discourage the employees on the stated training programs (see Chart 16).

Chart 16: Encourage staffs to receive trainings

Encourage staffs to receive training (% of companies)



(N=48)

As the small companies are less aware and employees from the smaller companies found to participate less in training and other programs of BCC, encouragement from the smaller companies to attend these courses are evidently low. Though the degree of encouragement varies a bit, all the large companies and vast majority of the medium size companies encourage the employees to attend training courses offered by BCC (see Table 08).

Table 08: degree of encouragement to attend BCC courses

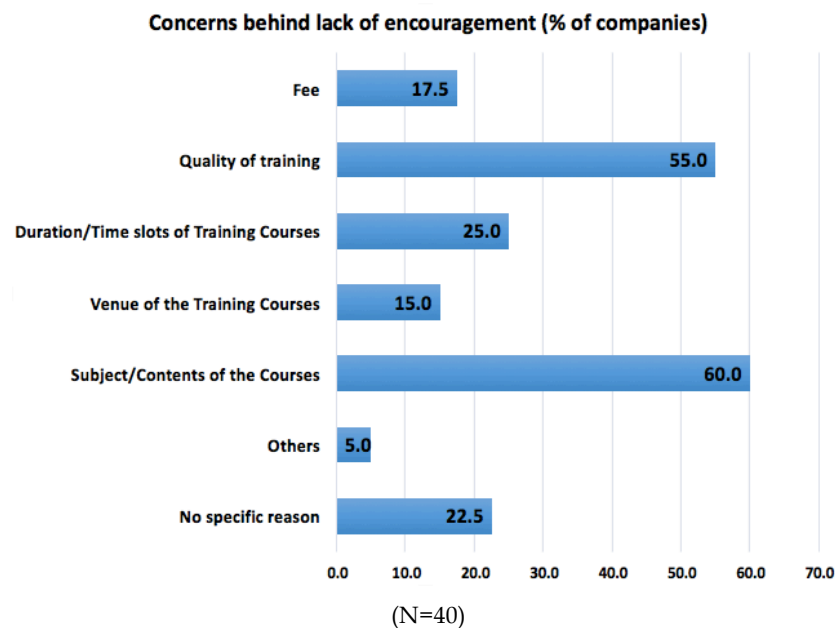
Categorization of industries	Encourage to participate in BCC courses (% of companies)		
	strongly encourage	moderately encourage	do not encourage
Large	44.4	55.6	
Medium	10.0	80.0	10.0
Small	24.0	60.0	16.0
Micro	0.0	25.0	75.0

(N=48)

The reasons behind the lack of encouragement are quality of training including the quality of course instructors and course materials, and the fees charged for the programs of that quality. More than half of the respondents are concerned with these

two aspects of the training compared to other aspects. In the interviews, many respondents expressed their dissatisfaction regarding the training fees and commented that the programs are not worth the fees charged by BCC as a public organization. However, the top executives and owners of the respondent firms recommended BCC to design training programs and program contents based on current needs of the market and to hire quality instructors to make the training programs more effective.

Chart 17: Concerns behind lack of encouragement

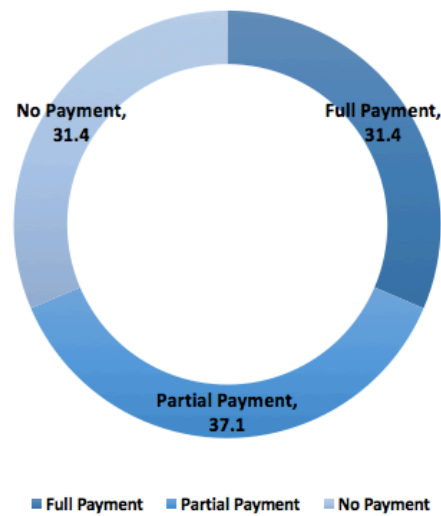


Paying for the training programs

The companies which encourage the employees for the training programs, two-third of the companies pay either fully or partially the fees for the training and degree programs. About one-third of the companies do not pay any portion of the training fees (see Chart 18). Most of the non-paying companies are reportedly the small and micro companies whereas the bigger companies tend to share bigger part of the training costs of the employees.

Chart 18: Firms paying for trainings

Firms paying for training (% of companies)



(N=40)

Further disaggregation of the data shows that, around two-third of the large companies fully share the cost of trainings for the employees. On the other hand, the small companies are mostly interested in paying half or partial payment for the external training programs of the employees. However, given the smaller business size, the micro companies are hardly interested in paying for external training costs of the employees.

Table 09: sharing of the training cost by the companies

Categorization of industries	Full payment (% of companies)	Partial payment (% of companies)	No payment (% of companies)
Large	66.7	11.1	22.2
Medium	33.3	33.3	33.3
Small	15.8	52.6	31.6
Micro	0.0	0.0	100.0

(N=35)

Chapter 06: ICT trainings outside of BCC

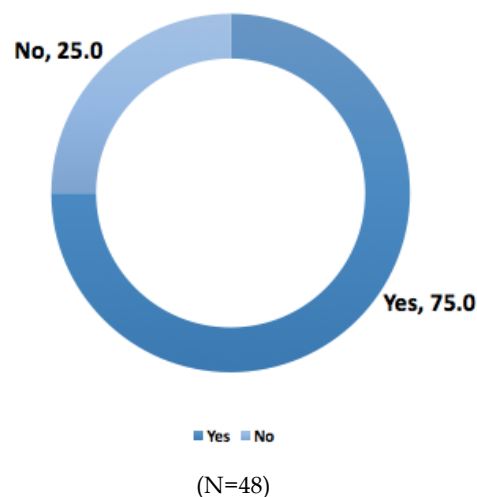
There are a number of organizations, other than BCC, which are reputed for providing IT trainings to the aspirants. BASIS, BITM, IDB-Bangladesh, Ministry of ICT of the Government of Bangladesh, and many other public and private universities fall into this category.

Participation in training programs outside of BCC

Employees of the surveyed companies participate in different sorts of training programs arranged by organizations other than BCC. Employees from about 75 percent of the companies have attended training programs organized outside BCC. However, the companies, from which employees attended trainings in organizations other than BCC, stated that a small number of employees, ranging from 1 to 10, have taken part in the training programs.

Chart 19: Participation in training programs outside BCC

Participation in training programs arranged by organizations other than BCC (% of companies)



As there are available options, and often better alternatives to BCC, employees of the IT companies have freedom to choose from a number of organizations to pursue their need for skill and capacity building through trainings and workshops. The

employees of the large companies again take the lead in participating training and other sorts of programs arranged by different organizations and higher educational institutions, other than BCC. However, employees of the small and micro companies also fairly participate in the external trainings and workshops arranged by these organizations.

Table 10: Participating trainings arranged by organizations other than BCC

<i>Categorization of industries</i>	<i>Participating in training outside BCC (% of companies)</i>	<i>Not participated in training outside BCC (% of companies)</i>
Large	88.9	11.1
Medium	80.0	20.0
Small	72.0	28.0
Micro	50.0	50.0

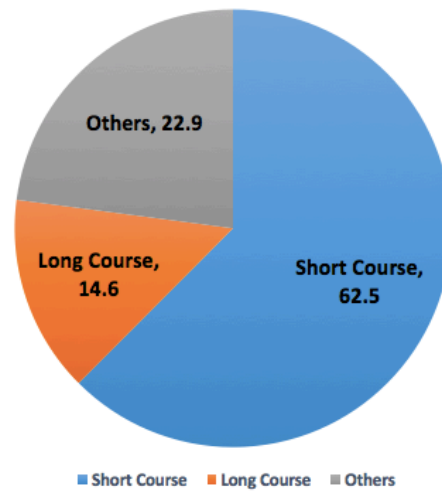
(N=48)

Types of courses attended

Employees of the surveyed companies have mostly attended short courses run by different organizations other than BCC. The length of short courses falls in between a couple of days to a month whereas the long courses fall in a range of a month to a year (see Chart 20). Other than BCC, the most popular organizations for IT trainings have been BASIS, BITM, IDB-Bangladesh, Ministry of ICT of the Government of Bangladesh, and other public and private universities. The most popular courses for short and long courses have been ESRL, IoT, cloud security, AI, big data analysis, IP, web development etc.

Chart 20: Types of courses attended

Types of courses attended (% of companies)



(N=36)

Preference of the employers regarding training of employees

The employers of the surveyed companies do prefer that the employees receive prior and in-job, both in-house and outside, trainings to improve their knowledge and skills. Many employers believe that the training programs add value to the existing knowledge of the budding IT professionals on the top of their graduation degrees. The most preferred types of training courses include: data analysis, Big Data analysis, software design & development, software testing, GIS, cyber security, cloud technology & computing, graphic design and Multimedia, animation, 3D modelling, Virtual Reality (VR), HTML, network administration, mobile app development, Adobe Creative Suit, YB, dot net, Java Programming, PHP, Oracle, LINUX, iOS, IoT, Scala, QA certification, QA basic, MCSD, database application development, hardware maintenance and troubleshooting, web applications development, AI, MSSQL, SAP mode, OCAJP/SCIA, PMI, MCDBA, Python, and Certifications like PMP, CCNA, CISSP, CISA, OCP, CCIE, CSM, ITIL, MCTS, TOGAF, SIX, and PCIDSS. Apart from the technical knowledge and expertise, the employers also prefer the employees to have some soft skill trainings like language skills, project management, software marketing, quality control, digital marketing, IT sales training, and advance leadership training etc.

The data from the survey shows that a significant number of companies encourage their employees to take part in training programs by financially contributing to a portion of, and even the full, training fees in most instances. The employees often financially contribute in two forms: firstly, by arranging in-house training programs for the employees at free of cost, and, secondly, by sponsoring the employees to attend training programs outside office. Apart from sponsoring the training programs, other common ways to encourage the employees to attend new training programs include providing paid leave during training and offering promotion after completion of relevant training programs.

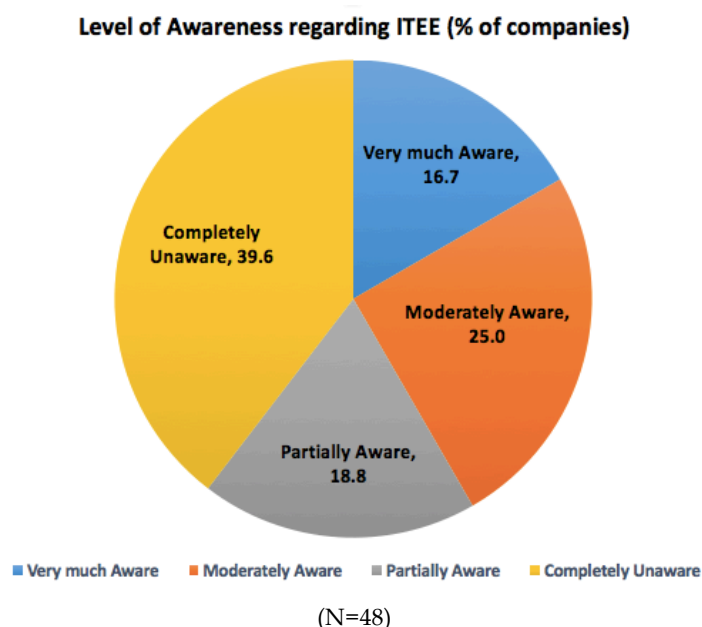
Chapter 07: ITEE and other ICT-related certification

The Government of Bangladesh introduced ITEE (Information Technology Engineers Examination), a national level IT Engineers Examination in Japan, in Bangladesh in 2013. With support from JICA, ITEE is held twice a year and is managed by BD-ITEC, a subsidiary of BCC. Since then, ITEE has been recognized as a standard examination to certify IT engineers of their abilities in Bangladesh.

Level of awareness regarding ITEE

The survey findings reveal that around 40 percent of the surveyed companies remain completely unaware of ITEE certification despite ITEE being a globally reputed exam for the IT engineers which has also been adopted by the Government of Bangladesh as a standard certification system for the IT professionals for a number of years till now. Only about 16 percent of the company management surveyed seem to be completely aware of the ITEE certification process and its worth.

Chart 21: Level of awareness regarding ITEE



A closer look into the data reveals that the large companies are fairly aware of the ITEE exam and its contents. However, as strange as it might look, the small

companies are more aware than the medium size companies in terms of ITEE. Apparently, 80 percent of the medium size company are completely unaware of ITEE.

Table 11: ITEE awareness corresponding to company size

<i>Categorization of industries</i>	<i>Awareness regarding ITEE</i>			
	<i>Very much aware</i>	<i>Moderately aware</i>	<i>Partially aware</i>	<i>Completely unaware</i>
Large	44.4	11.1	22.2	22.2
Medium	0.0	10.0	10.0	80.0
Small	16.0	36.0	24.0	24.0
Micro	0.0	25.0	0.0	75.0

(N=48)

As the awareness level in the top management of the companies regarding ITEE remains low, number of ITEE certified professionals also remain low in the surveyed companies. Over the years, only a few employees of the mainstream IT companies seem to take part in ITEE. However, the number of ITEE certified employees remains low as the number of participants remains low too.

Table 12: Employees participated in ITEE (IP/FE) (% of companies)*

	<i>Employees participated in ITEE (IP/FE)* (% of companies)</i>		
<i>Year</i>	<i>1 to 10 employees</i>	<i>11 to 20 employees</i>	<i>21 or more employees</i>
2014	4.2	0.0	0.0
2015	2.1	0.0	0.0
2016	2.1	2.1	0.0
2017 (as of August)	2.1	0.0	0.0

*We combine both the IP and FE participants in the ITEE category as the number of participants remained low and also the awareness of the top management regarding ITEE process and ITEE participants remain low too

Given the level of awareness regarding ITEE among the top management of the surveyed companies, the data received on the level of satisfaction regarding ITEE

process and the certification is bound to be insufficient. However, on a positive note, the top management of the companies who are arguably aware of ITEE seem to be satisfied, to a different degree though, regarding various aspects of ITEE including the contents, venue, schedule, fee, and management etc. Evidently, there has been no major dissatisfaction reported in any aspect of ITEE.

The ITEE-aware management have also recognized a moderate level of relevance of knowledge gained to prepare for ITEE in relation to company activities. In particular, the top management of the surveyed companies who are aware about ITEE seem to be interested in the utility of ITEE in doing business with Japanese IT firms.

Table 13: Level of satisfaction of the ITEE-aware companies

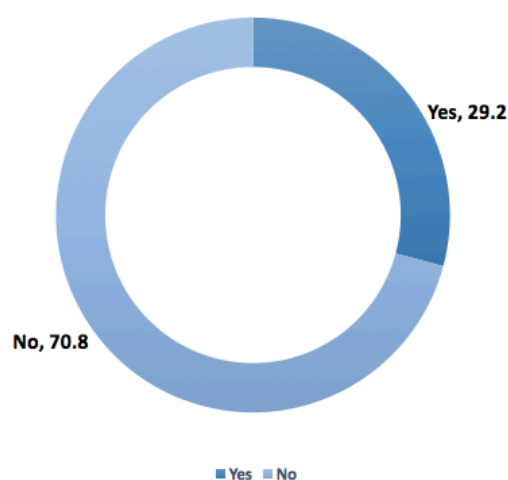
<i>Aspects of Programs</i>	<i>Percentage (%) of Companies</i>			
	<i>Very Satisfied</i>	<i>Moderately Satisfied</i>	<i>Partially Satisfied</i>	<i>Completely Unsatisfied</i>
Contents of ITEE	75.0	0.0	25.0	0.0
Venue of ITEE	25.0	75.0	0.0	0.0
Date for Exam	50.0	25.0	25.0	0.0
Exam Fee	75.0	25.0	0.0	0.0
Management of ITEE	75.0	25.0	0.0	0.0
Utilization of ITEE Certification	75.0	0.0	25.0	0.0

(N=29)

While asked about whether the companies need ITEE certified professionals as future employees, about 30 percent of the companies replied in positive whereas a majority replied in negative (see Chart 22). This is mostly due to the unawareness of the top management of the companies regarding the contents, process, and utilization of ITEE certification in the ICT sector of Bangladesh.

Chart 22: Willingness to have ITEE certified employees

Willingness to have ITEE certified employees (% of companies)



(N=48)

The large companies evidently appear to be more interested in recruiting more ITEE certified professionals in near future. In status-quo oriented medium size companies, willingness to recruit ITEE certified engineers in immediate future is very low.

Table 14: Willingness to recruit ITEE certified engineers

Categorization of industries	Willing to recruit ITEE certified engineers (% of companies)	Unwilling to recruit ITEE certified engineers (% of companies)
Large	66.7	33.3
Medium	10.0	90.0
Small	20.0	80.0
Micro	50.0	50.0

(N=48)

ICT related certifications

The ICT companies in Bangladesh prefer their employees to have any or a combination of degree(s) from a range of degrees including degrees like graduation, post-graduation, and diploma programs. Based on the relevance with company activities, a range of degrees (see Table 15) are preferred.

Table 15: ICT related certification and degrees

<i>Category</i>	<i>Name of the Certification</i>
Graduation	BSc in Computer Science, BSc in Software Engineering
Post-Graduation	Post-Graduation in Computer Science, Software Engineering, MCSO, MCSE
Diploma	Diploma in Computer Technology, Web Application Development, Zend Contest, MCSD, MCP, Amazon Web Service, SCJP, CISA, OCP, Screen Master, Certified SCRUM Master, MCTS, PRINCE2, FIFA 2, e-commerce Professional Certificate etc.

Apart from the above listed degrees and programs, the companies also encourage their employees to achieve other national and international certifications relevant to company activities. About 46 percent of the surveyed companies encourage their employees to achieve relevant IT certifications as long as the certification is considered to be useful mostly for the business with foreign companies in the international market. For instance, certifications like SAP certification, QA certification, Zend certification for PHP programmers, AWS certification, Docker Certification, and Red Hat Certification. In this case too, the companies encourage the employees to achieve globally relevant IT certifications by informing employees about the relevant certifications, paying the program or the exam fees, providing paid leave, offering promotions upon the completion of certain degrees etc.

Chapter 08: Demands and Expectations to BCC

As one of the leading government organization which work closely with the ICT industry, BCC has become a centre of attention to the industry stakeholders as well as to the young IT professionals for different ICT-related training and development projects.

Demand for soft skill training

Foreign language to communicate with the existing and potential clients from different countries is important in the IT industry. The employers also prefer that the employees have a certain level of market knowledge and communication skill. Market knowledge and marketing skills are essential in the competitive world to convince the clients and seal the business deals. Moreover, the companies also need accounting and finance professionals to maintain proper financial management for the company. Some other additional soft skills include project proposal writing, project management, and leadership skills etc.

Except the micro size companies, majority of the companies from each category share the positive attitude towards the need for soft skill trainings.

Table 16: demand for soft skill trainings

<i>Categorization of industries</i>	<i>Have demands for soft skills (% of companies)</i>	<i>No immediate demands for soft skills (% of companies)</i>
Large	77.8	22.2
Medium	80.0	20.0
small	88.0	12.0
Micro	0.0	100.0

(N=48)

There has been a rising demand for the training on soft skills for the IT professionals. Among the need for soft skills, the employers emphasize on the need of language skills. Around 80 percent of the employers responded in positive to a demand for skills in Japanese, English, Chinese and some other European languages to expand business in the international market (see Table 17). Though English is accepted

globally, other languages like Japanese, Chinese and different European languages are needed to do business with the respective countries.

Table 17: Types of soft skill trainings

<i>Types of soft skills</i>	<i>Demand of the employers (% of companies)</i>
Japanese language	77.1
English language	77.1
Other language	83.3
Business manner & communication	79.2
Business knowledge	66.7

(N=48)

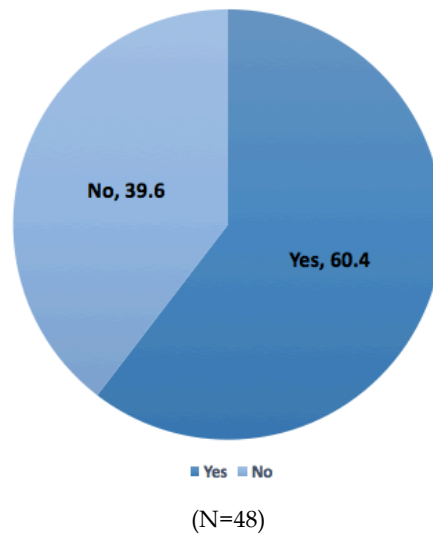
Expectations to BCC

BCC has been in the forefront of delivering ICT related training and diploma degrees for quite a few years. Apart from the higher educational institutions, BCC has gained a reputation for providing quality ICT trainings. Yet, BCC is not without its limitations. However, improvements in some aspects based on the demands of the local and global market is necessary for BCC to cope with the demand of time, as the ICT entrepreneurs believe. Top management of the IT companies recommended BCC to offer online training programs, make the course fees reasonable, bring quality instructors for trainings, organize awareness campaign on the training and certification programs it offers, and offer training on soft skills etc.

While asked about the prospect of Public-private Partnership (PPP) between BCC and ICT industry, about 60 percent of the respondent companies expressed the prospect of a partnership with BCC in training and knowledge sharing.

Chart 23: Expectation to see BCC in a PPP with the ICT industry

**Expectation to see BCC in a PPP with the ICT industry
(% of companies)**



Respondents from the surveyed companies have identified different areas for collaboration between BCC and ICT industry which include collaboration on establishing start-up finance, branding Bangladeshi ICT companies abroad, offering high quality training programs, and contributing on design and implementation of national ICT policies. To make the PPP effective, ICT entrepreneurs emphasized on the need for a framework of rules and regulations based on which the partnership will be formed. The PPP can even take institutional forms by creating new IT Training Institute, Language Institute, and Call Centre for the local IT industry.

Chapter 09: Recommendations

By gathering insights regarding the ICT human resource development initiatives implemented by BCC, especially in relation to the entry into the Japanese market, the study come up with some solid recommendations for the improvement of the existing initiatives and to cater to the expectations of various stakeholders of the IT industry in Bangladesh. Following are the major recommendations:

- BCC can do market research and needs assessment while designing their training programs to provide timely training opportunities on latest technologies
- BCC can collaborate with top experts from universities and industries in home and abroad to bring best resource persons for designing and departing trainings
- BCC can partner with the industry and the higher educational institutions to create fund for research and innovation in ICT
- BCC can offer soft skill trainings on foreign language, business culture, business management, proposal writing, project management, leadership and teamwork, presentation and negotiation skills etc.
- BCC can offer training programs on latest technologies like Internet of Things (IoT), Virtual Reality (VR), Robotics, Artificial Intelligence (AI), Block chain; big data analysis, machine leaning, cyber security etc.
- BCC can offer online training programs,
- BCC can make the course fees reasonable,
- BCC can organize awareness campaign on the training and certification programs it offers,
- BCC can contribute, by partnering with the industry and the academia, on designing and implementing national ICT policies
- BCC can partner with the industry for placement or internships of the trainees
- BCC can pursue JICA and the ITEE authority to strongly promote ITEE globally so that global ICT industry remain aware of it and the companies tend to employ ITEE certified engineers

- BCC can establish a framework of rules and regulations to form longstanding partnership with the industry
- BCC, in cooperation with the industry, can promote e-governance in both public and private sector together
- BCC can establish Public-Private Partnership (PPP) to create organizations like IT Training Institute, Language Institute, and Call Centre for the development of the local IT industry

Annex 01: Survey Questionnaire

Questionnaire

for

‘The Baseline Survey on ICT human resource development activities conducted by Bangladesh Computer Council (BCC)’

Section 01: Company Profile

- Primary Information

a. Name of Company	
b. Cell/Phone of Co.	
c. E-Mail of Co.	
d. Address of Co.	
e. Number of Employees (in total)	
f. Number of IT Engineers	

- What is the business sector (business domain) of your company?

a	Customized application development & maintenance	b	IT Enabled Services
c	E-commerce/ Web services	d	Product Development
e	Mobile Application/ Content Provider	f	System Integration
g	R & D Services	h	IT Infrastructure Management
i	Reseller/ Value added reseller	j	Others (please specify)

- What are the key activities of the Company?

a	Website Design & Development	b	Digital Advertisement
c	Search Engine Optimization (SEO)	d	ERP
e	Satellite communication providers, ISPs, WAN and LAN providers	f	IT Support (Hardware and Software Experts Provider)
g	Remote Video Surveillance	h	International Internet Gateway
i	Domain & Hosting	j	e-Commerce Solution
k	Software Solution	l	Web Hosting and Domain Registration
m	Digital Marketing	n	Server and Storage Service
o	Network and Security	p	Call Center Solution
q	e-Payment Solution	r	ATM service
s	Point of Sale (POS) Service	t	IT Consultancy
u	IT training/workshop/Education Diploma	v	Others: (please specify)

[Q4 to 10: for Japan Focus Group Members]

- Currently, does your company have any business transactions with the Japanese Market?
 - a. Yes, and we plan/hope to expand more our business with Japanese companies
 - b. Yes, and we plan to hold the line
 - c. Yes, but we plan to reduce the size of our business with Japanese companies
 - d. No, but we hope to expand our business into the Japanese market in the future
 - e. No, and we don't have any plan to expand our business into the Japanese market for the time being. (Please Skip to Question 11)

[Q5-7: For those who answered "a, b, c" in the question 4]

- In which year did your company first enter the Japanese Market?
Year_____
- If your company has any Japanese clients, please write down their names.
 - a. _____ b. _____ c. _____
 - d. _____ e. _____ f. _____

- What kinds of business does your company do with these Japanese Companies? Please explain your current business. For example, providing offshore development services (Business in Bangladesh), providing BPO services (Business in Bangladesh), doing business in Japan by sending some staff or setting up a company in Japan, etc.

--

[Q8: For those who answered “d” in the question 4]

- What kinds of business would your company like to do with these Japanese Companies in the future? Please explain your business plan. For example, providing offshore development services (Business in Bangladesh), providing BPO services (Business in Bangladesh), doing business in Japan by sending some staff or setting up a company in Japan, etc.

--

[Q9-10: For those who answered “a, b, c, d” in the question 4]

- What kind of HR policy does your company adopt to develop Competent Human Resource to do business with Japanese companies?

a	Conduct in-house Skill Development Training	b	Conduct On-the-Job Training
c	Encourage employees to participate in outside training, Workshop & Seminars	d	Encourage employees to get IT certification/qualification
e	Encourage employees to participate in soft skill training such as Japanese language, business manners, accounting	f	Define skill sets necessary for employees
g	Set proper career path	h	Others: (please specify)
i	Not do anything special		

- What types of issues does your company have in doing business with Japanese companies?

--

[Questions regarding international business except for Japan]

- Does your company have business links with other international market except Japan?
 - a. Yes
 - b. No (Please Skip to Section 2)
- If yes, please mark the countries you have business links with
 - a. USA
 - b. UK
 - c. Canada
 - d. Australia
 - e. Denmark
 - f. Netherlands
 - g. Germany
 - h. India
 - i. United Arab Emirates
 - j. Others ()

- What kind of HR policy does your company adopt to develop Competent Human Resource to do business with the international community except Japan?

a	Conduct in-house Skill Development Training	b	Conduct On-the-Job Training
c	Encourage employees to participate in outside training, Workshop & Seminars	d	Encourage employees to get IT certification/qualification
e	Encourage employees to participate in soft skill training such as language, business manners, accounting	f	Define skill sets necessary for employees
g	Set proper career path	h	Others: (please specify)
i	Not do anything special		

- What types of issues does your company have in doing business with international market except Japan?

--

Section 02: ICT Training

▪ Regarding training courses provided by BCC

- How much is your company aware about the various training programs provided by Bangladesh Computer Council?

Name of Programs	Degree of Sufficiency			
	Very much Aware	Moderately Aware	Partially Aware	Completely Unaware
	1	2	3	4
Awareness About BCC offered Courses				
Awareness about Contents of the Short Courses/ Diploma in ICT and Post Diploma In ICT				
Others:				

- Have any employees of your company participated in the Training or Diploma Courses/programs organized by BCC?
 - a. Yes
 - b. No (Please Skip to Question 21)
- How many employees of your company participated in the Training/Diploma program organized by BCC?

Name of Program	Number of Participant
Short Course	
Long Course/Diploma in ICT/Post Graduate Diploma in ICT	
Workshop/Counselling Program	

- What types of short courses have your employees participated?

a	Office Applications & Unicode Bangla under WID	b	Advanced Office Applications specialize on Excel and Access
c	Introduction to Web Site Design and Web Applications Development & Outsourcing Technique	d	Certified Web Development Specialist
e	Web Applications Development with ASP.Net & MS SQL	f	PHP with Code Igniter/Laravel Framework
g	Hardware Maintenance & Troubleshooting	h	Server and Internet Security Administrator
i	Network Administration (Windows & Linux)	j	the Software Estimation and Product Definition
k	Fundamental Training on Software Testing	l	Software Design/ Architecture
m	Android Application Development	n	Java Programming
o	Python	p	Practical Search Engine Optimization (SEO)
q	Digital Marketing	r	Graphics Design & Multimedia (Animation, Audio & Video Editing, Photo Editing)
s	Database Application Development using Oracle	t	E-Government Applications
u	Women and ICT Frontier Initiative	v	Cyber Security Essentials
w	Information Security and Privacy	x	Big Data Analytics
y	Others (please specify)		

- What were the major course contents of the Diploma/Post Graduate in ICT?

a	Information and Communication Technology	b	Game Development
c	Web Applications & Development (.Net Framework)	d	Program on Java Programming
e	Web Applications Development (Laravel Framework)	f	IT Administrator (Server)
g	IT Administrator (Network)	h	Database Application Development using Oracle
i	Others:		

- Regarding the degree of your satisfaction on BCC's courses, please rate the following points on a scale of 1 to 5, with 1 being "very satisfied" and 4 being "completely unsatisfied".

	1 very satisfied	2 Moderately satisfied	3 Partially satisfied	4 Completely Unsatisfied	We don't know about this point
Subject/contents of Short Courses					
Subject/contents of Diploma/Post Diploma					
Venue of the training courses					
Duration/Time slots of Short Courses					
Duration/Time slots of Diploma/Post Diploma					
Quality of training (lecturer, text book, teaching style, etc.) of Short Courses					
Quality of training (lecturer, text book, teaching style, etc.) of Diploma/Post Diploma					
Fee of Short Courses					
Fees of Diploma/Post Diploma					

- Does your company encourage your staff to take training courses of BCC?
(a) Strongly encourage (b) encourage (c) Not encourage
- What are the reasons for your answer? Please choose the most relevant answer (up to 2)
(a) Subject/contents of the courses (b) Venue of the training courses
(c) Duration/Time slots of training courses
(d) Quality of training (lecturer, text book, teaching style, etc.) (e) Fee
(f) No specific reason (h) Others: (Please Specify)

- Please give us any suggestions regarding the points you chose, if any.

[Q24: For those who chose (a) or (b) in the question 21]

- Does your company pay for the fee of training?
(a) Yes, full payment, (b) Yes, Partial Payment, (c) No

▪ Regarding training courses provided by other organizations

- Has any employee of your company participated in Training or Diploma Courses organized by other organization rather than BCC?
a. Yes b. No
- How many employees of your company received training from other organization rather than BCC?

Name of Program	Number of Participant	Name of course	Name of Organization
Short Course			
Long Course/Diploma In ICT/Post Graduate Diploma in ICT			
Workshop/Counselling Program			

- What kind of training have your employees received from the program organized by institutions other than BCC?
a. Short Course b. Long Courses d. Others (please specify)

- What kinds of training does your company would like employees to take? And what are the reasons?

Type of training Or Specific course your companies would like staff to take	The reason

- What sorts of measures have your company undertaken to encourage employees to take training courses you mentioned above?

--

Section 03: ITEE Certification

▪ Regarding ITEE

ITEE stands for Information Technology Engineers Examination. ITEE is the national level IT Engineers Examination in Japan. Bangladesh government is conducting and implementing ITEE in Bangladesh by Bangladesh IT-engineers Examination Center (BD-ITEC) of BCC. It is the national level examination for IT professionals/graduates in Bangladesh.

- How much is your company aware about Information Technology Engineers Examination (ITEE)?

Very much aware
1

Moderately Aware
2

Partially Aware
3

Completely Unware
4

- Has any employee of your company participated in ITEE? (If not, Please Skip to Question 36)

			IP		FE	
Year	Participation		Number of Participants	Number of Passers	Number of Participants	Number of Passers
	Yes =1	No =2				
2014						
2015						
2016						
2017						

If you do not know the details please just let us know the number of employees who passed ITEE (IP, FE).

..... Person(s)

- What is your level of satisfaction regarding various points of ITEE?

Name of Issues	Degree of Satisfaction				Recommendation
	Very Satisfied	Moderately Satisfied	Partially Satisfied	Completely Unsatisfied	
	1	2	3	4	
Content of ITEE					
Venue of ITEE					
Date for Exam					
Exam Fee					
Contents of Exam Preparation					
Management of ITEE					
Utilization of ITEE Certificate/Passers					
Others: (please specify)					

- Is there any linkage of ITEE certification with the activities of your company?
 - a. Yes
 - b. No (Please Skip to Question 35)
- What sort of linkage does ITEE have with the activities of your company?
 - a. Help to do business with Japanese Companies
 - b. Help to Expand Business in Japanese Market
 - c. Improve quality of our products/services
 - d. Assess the skills of employees
 - e. As one of ways of skill development
 - f. Others: (please specify)
- Does your company would like employees to get ITEE? And why does your company think so?
 - a. Yes
 - b. No (if no skip to Question 36)

35 (a) If, Yes, the reasons for this answer. What does your company expect from ITEE?

--

35 (b) What sorts of measures have your company undertaken to encourage employees to get ITEE certificate?

--

35 (c) If No, The reasons for this answer:

--

▪ **Regarding other ICT certifications**

- What certifications do your employees have?

The name of certification	The number of employees who have the certification

- Is there any linkage of other ICT certification exams with the activities of your company?
 - a. Yes
 - b. No

- If yes, what sort of linkage do these exams have with the activities of your company?
 - (a) Help to do business with foreign Companies
 - (b) Help to Expand Business in foreign Market
 - (c) Improve quality of our products/services
 - (d) Assess the skills of employees
 - (e) As one of ways of skill development
 - (f) Others: (please specify)
- What sorts of measures have your company undertaken to encourage employees to have ICT certificate?

--

- What ICT certifications does your company would like employees to get? And why does your company think so?

The name of certification	The reasons

Section 04: Soft Skill Training

- Does your company see the need of soft skill training for employees, e.g. Japanese Language, other language, business manner, business knowledge such as accounting, finance?

41 (a) Japanese Language

a. Yes

b. No

41 (b) If yes, please explain the need briefly.

--

41 (c) Other Language

a. Yes

b. No

41 (d) If yes, select relevant ones-

a. English

b. Spanish

c. French

d. German

e. Arabic

f. Chinese

g. Hindi

h. Others:

41 (e) If yes, please explain the need briefly.

--

41 (f) business manner

a. Yes

b. No

41 (g) If yes, please explain the need briefly.

41 (h) business knowledge such as accounting, finance

a. Yes

b. No

41 (i) If yes, please explain the need briefly.

--

41 (j) If there is any other need of soft skill training for employees, please explain it

Section 05: Others

- What expectation do you have towards BCC's ICT human resource development activities?

--

- Do you expect any framework for public-private partnership in ICT sector?

a. Yes

b. No

- If yes, please elaborate your thoughts on the framework, including the idea of what kind of role BCC is expected to play in the framework?

fff

Annex 02: Interview Checklist

Section 01: Profile of the Company

- What is the core business focus (business domain) of your company and why have you chosen said domain for doing business?
- What do you think about having a specific HRD policy for a company?
- How does a HRD policy can play important role for the better performance of an IT company?
- What are the key issues and practices of your company's HRD policy?
- Currently, what types of business does your company do with Japanese IT companies?
- Please share your experience of business transaction/deals with Japanese Market.
- Do you think Japanese IT companies can play an important role for the boost of the IT industries of Bangladesh? How?
- In future, what types of business your company want to do with Japanese IT companies and what will be your suggested business model?
- Why does your company focus more on the international market and activities rather than Bangladeshi market?
- What are key hindrances/limitations of your company to expand business in international market?
- What are the main international IT markets for Bangladeshi IT industry currently?
- What sort of HRD measure should be taken in Bangladesh for the expansion of IT business with other major IT markets of the world?

Section 02: ICT Training

- As a government regulatory body, what should be the role of the Bangladesh Computer Council (BCC) for the supply of skilled IT engineers for IT companies?
- What is your opinion regarding various training courses contents (subjects)/duration/fees and so on offered by the BCC?
- What types of training/Human Resource Development (HRD) initiative you want from BCC for the development of IT industry in Bangladesh?
- What is your opinion regarding quality of the training courses offered by the BCC?
- Are the offered training courses applicable in the official work and helpful to the growth of the company?
- Please give us any suggestions regarding various courses of BCC.
- What sort of training are available from the private organization of Bangladesh like BASIS, BCS, or other organizations?

- What kinds of training does your company would like employees to take? And what are the reasons?

Section 03: ITEE Certification

- How much do you know about Information Technology Engineers Examination (ITEE), held under BCC, supported by Japan?
- Does your company like employees to get ITEE? And why does your company think so?
- How your company utilize the ITEE certified graduates? Does ITEE certified employees make a difference?
- What does your company expect from ITEE?
- Do you think, having internationally recognized IT certificates holding employees can play a vital role to gain confidence of foreign partners for doing business and boost up the business growth?
- Currently, what kinds of certifications do your employees have?
- What sort of linkage do these certificates have with the activities of your company?
- What ICT certifications does your company would like employees to get? And why does your company think so?

Section 04: Soft Skill Training

- Does your company see the need of soft skill training for employees, e.g. Japanese Language, other language, business manner, business knowledge such as accounting, finance?
- Currently, what kinds of soft skill trainings do your employees have?
- Why such kinds of soft skill Training is Important for a company?

Section 05: Others

- What expectation do you have towards BCC's ICT human resource development activities?
- What kinds of Public-Private Partnership Framework with BCC you suggest for the development IT industry of Bangladesh. Please Elaborate?

Attachment 10-2

ITEE Case Study

Case studies of ITEE implementation in other countries

Purpose of the Session

- To know how ITEE is implemented in other countries
- To learn factors what might contribute to a better ITEE implementation
- To discuss how ITEE can be implemented in a better way in Bangladesh using the findings above

content		duration	
Opening Remarks	<p>The survey results of ITEE implementation in three countries</p> <ul style="list-style-type: none">• Background information of the country• IT related policy of the country• ITEE implementation body• Other key players for ITEE promotion, etc.	Presentation on the Survey Results	
		Discussion	
5 Minutes		<ul style="list-style-type: none">• Q & A on the presentation• Discussion on factors that might affect the success of ITEE• Discussion on possible measures that can be taken in Bangladesh for better implementation and promotion of ITEE	25 Minutes

Case 1: The Philippines



Overview of the Philippines

The population is increasing and expected to increase over a long period

About



profile

- Capital City: Manila
- Government type: Republic
- Population: 100.9 million (in 2015)
- Ethnic Groups: Malay, Chinese.
- Religions: Catholic 80%, Islam 15%
- Languages: Filipino (English is also widely used and is the medium of instruction in higher education.)
- Literacy: 92%

Population and GDP growth

Population

- high growth rate among the region
- expected to grow continuously until 2095
- a potential to contribute to the labor shortage of developed countries over a long period

GDP & growth rate

- The third largest country in GDP in ASEAN after Indonesia and Thailand in 2017
- Has grown steadily at a rate of 4 – 7%



Source : World Bank Data Bank 2018, IMF 2018



IT industry and its development policy of the Philippines

BPO for countries including Japan is leading the development of IT industry

IT industry

- IT industry of the country is an export-oriented industry
- Around 1,800 million USD in the scale of industry: export 6,265 million USD in 2016
- Especially, financial system, communication, IT-BPO sector is growing rapidly
- The sales from IT-BPO reached 18.1 million USD and is increasing at a rate of around 10% annually.
- IT-BPO and software industry of the Philippines is drawing worldwide attention as a new frontier after India and has become the important field of IT industry for the country

IT industry development policy

Development Plan

- Philippine Development Plan: BPO contributes to stabilize employment and is recognized as an important sector in national development plan.
- Main customers of the BPO of the Philippines are USA, China and Japan.

IT industry development strategy







Philippine Digital Strategy 2011-2016 sets three objectives;

- 10% increase of the number of IT graduates
- IT skill standards setting
- Enhancement of individual's IT skill through IT certification



Implementation Body of the Philippines

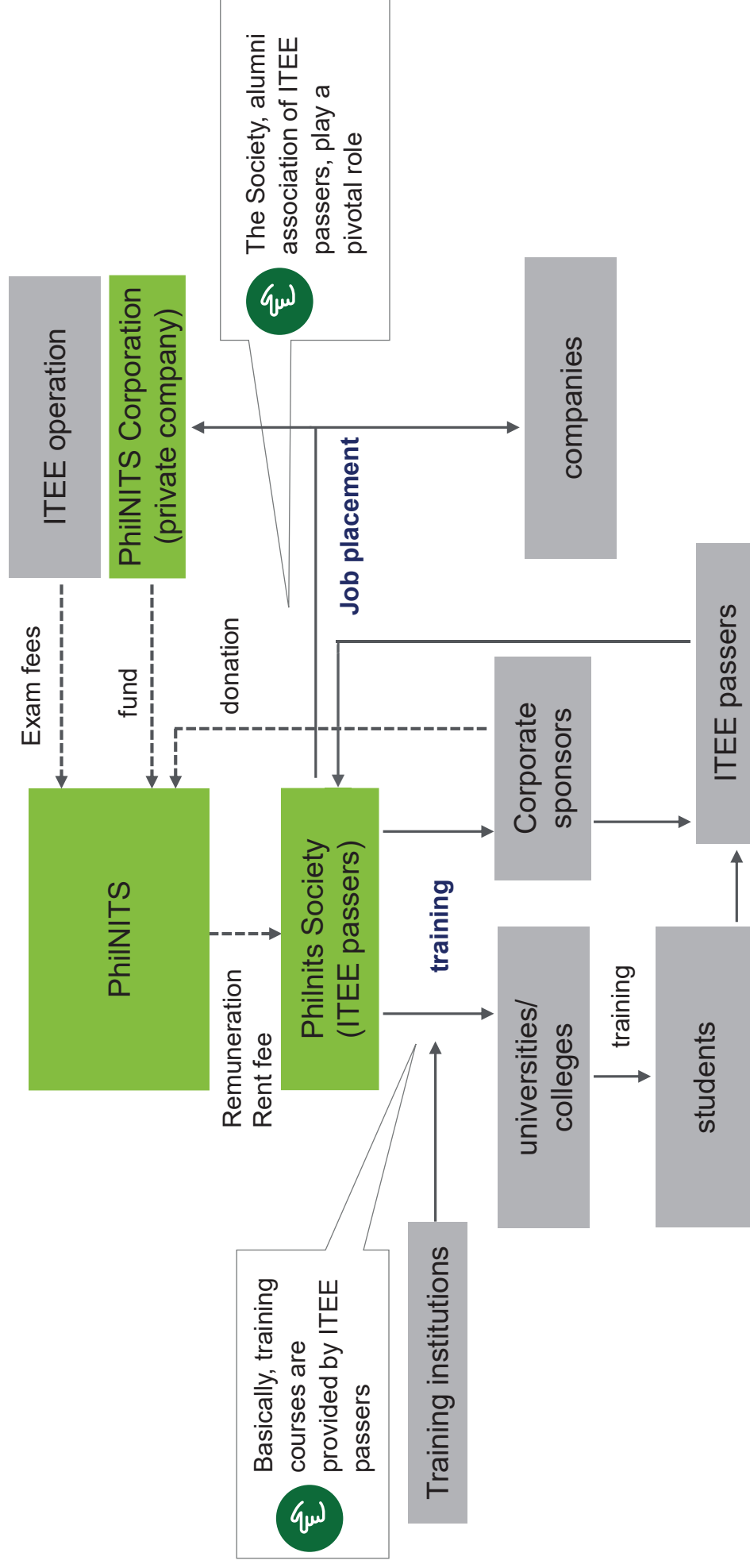
In the Philippines, the implementation body set up an alumni and it plays an important role

Implementation body		Other important body	
 about	<p>The Philippine National I.T. Standards (PhilNITS) Foundation, Inc., is an NGO that is implementing ITEE, with the support of the Department of Trade & industry of the Philippines.</p>	 about	<p>The Philnits Society is an NGP with membership limited to IT Professionals who have successfully passed the exams.</p>
	<ul style="list-style-type: none"> • Implementation of ITEE (IP/FE/SW) • Training on teaching methods for instructors • Support for operation of IT related bodies • Implementation of related examinations and Japanese training, ITSS, etc. 		<ul style="list-style-type: none"> • the instructors for the ITEE prep-courses as well as the teachers teaching the related prep-courses at universities and colleges • Society members refer jobs among its members
	<ul style="list-style-type: none"> • Sponsorship fees from IT companies (domestic/foreign) • Exam fees • (in case of lack of funding) fund out of revenue of PhilNITS Corporation 		<ul style="list-style-type: none"> • remuneration for the instructors from PhilNITS • Rent from the PhilNITS
 tasks		 tasks	
 budget		 budget	



ITEE implementation and promotion

ITEE passers contributing to producing new passers and raising fund for the activities



■ Philnits group ■ Activities by the Society ←----- Flow of money



Case study : Japanese companies

Japanese companies below prefer IT engineers with ITEE certificate and Japanese skills

NEC Telecom Software Philippines Inc

about

- Started operations in 2000 with less than a hundred software engineers.
- Currently, management : Japanese
Staff: local

recruiting

- Mid-career recruiting (120 IT engineers)
Among them,
 - Japanese language certification (N5 : 27%, N4 : 15%, N3 : 10%)
 - ITEE: FE : 32%, AP : 5%

HRD

- ITEE passers serve as mentor and support other staff to take ITEE.
- ITEE passers have certification allowance.
- In-house Japanese course
- IT engineers with the ability of Japanese works for the projects of Japanese client.

AWS (Advanced World Systems, Inc)

about

- Has over 800 staff around the world,
- Among them, around 600 staff work in the Philippines
- 99% of the staff are Filipinos.
Japanese are only top management

recruiting

Normally hire new graduates
For example, in 2017 hired 60 from 2,000 applicants
Plan to increase the number of staff up to 1,000 by the year 2020.

HRD

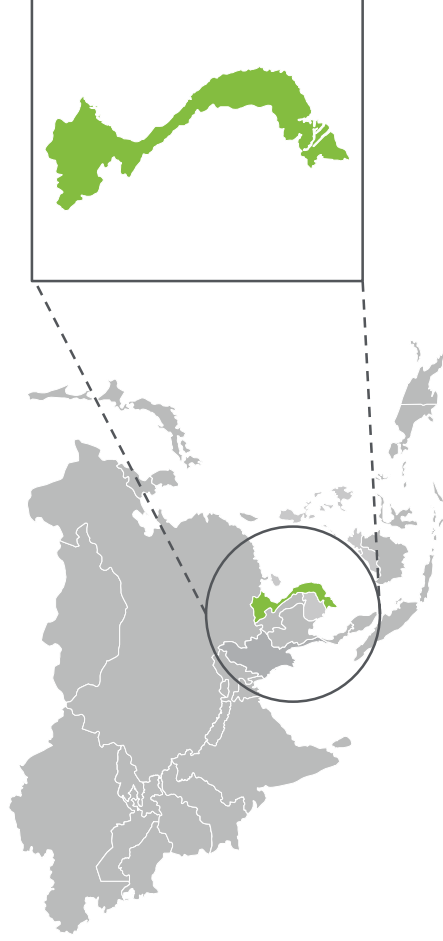
- Must: N4 and FE as the company has many Japanese clients
- 5-month training (ITEE, Japanese, business manner) for new staff
- Staff with N2 get additional payment

Case 2: Vietnam

Overview of Vietnam

A number of foreign companies came in and GDP was growing steadily

About



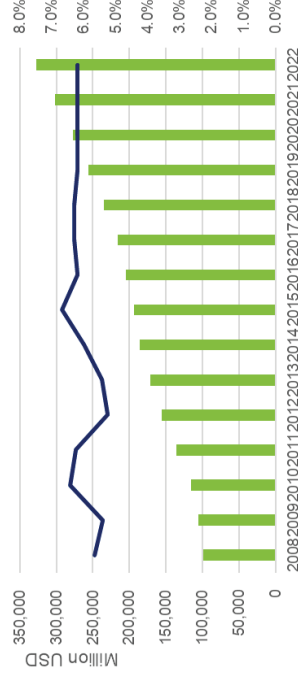
Population and GDP growth

Population

- More than 60 % of the population are the working population and 1 to 1.5 million people are joining the work force every year.

GDP & growth rate

- The economic growth of Vietnam has been supported by the entry of foreign enterprises
- The GDP growth rate was 6% in 2016 and is expected to be at a similar level in coming years as well.



Source : World Bank Data Bank 2018, IMF 2018

 GDP  GDP growth rate

profile

- Capital City: Hanoi
- Government type: Communist Party-dominated constitutional republic
- Population: 100.9 million (in 2015)
- Ethnic Groups: Viet (Kinh) (87%), Chinese (3%), etc.
- Religions: Catholic 80%, Muslim 15%, etc.
- Languages: Vietnamese
- Literacy: 92%

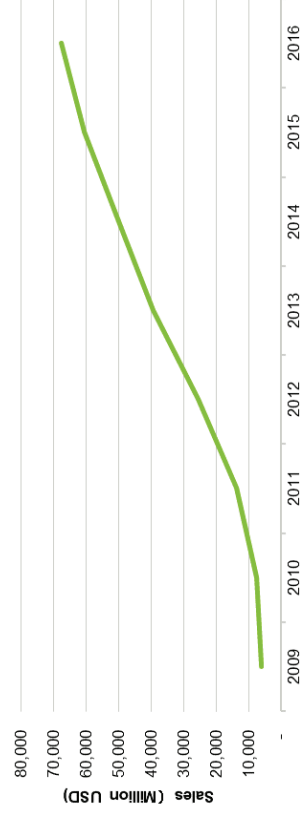


IT industry and its development policy of the Philippines

IT industry of VN has grown rapidly, partly due to the measures for promoting FDI

IT industry

- IT industry was not developed until around 2010.
- Entry of Foreign IT companies into the market developed the IT industry in the country rapidly.
- Especially, software and BPO industries have been developed.
- # of IT companies is increasing rapidly: 24,500 in 2016, 13 % increase from 2015.
- The industry scale is also increasing: 67,700 million USD in 2016, 11.5% increase from 2015
(Software 3,000 million USD, digital contents 740 million USD, IT service 5,100 million)



IT industry development policy

Development Plan

- Vietnam's Socio-Economic Development Strategy for the period of 2011-2020): aims at becoming a modern industrial country and regards IT industry as one of the important industries in the development plan of the country.
- Ex. By 2020, 200 thousands IT students, 100 thousands of which are software development engineers.




FDI

- The government sets up many policies and measures for the attraction of foreign enterprises.
- Ex. tax exemption for the first four years and tax reduction for nine years after the four years. Also, more supports such as housing supports are provided for projects in special economic zones.



Implementation Body of Vietnam

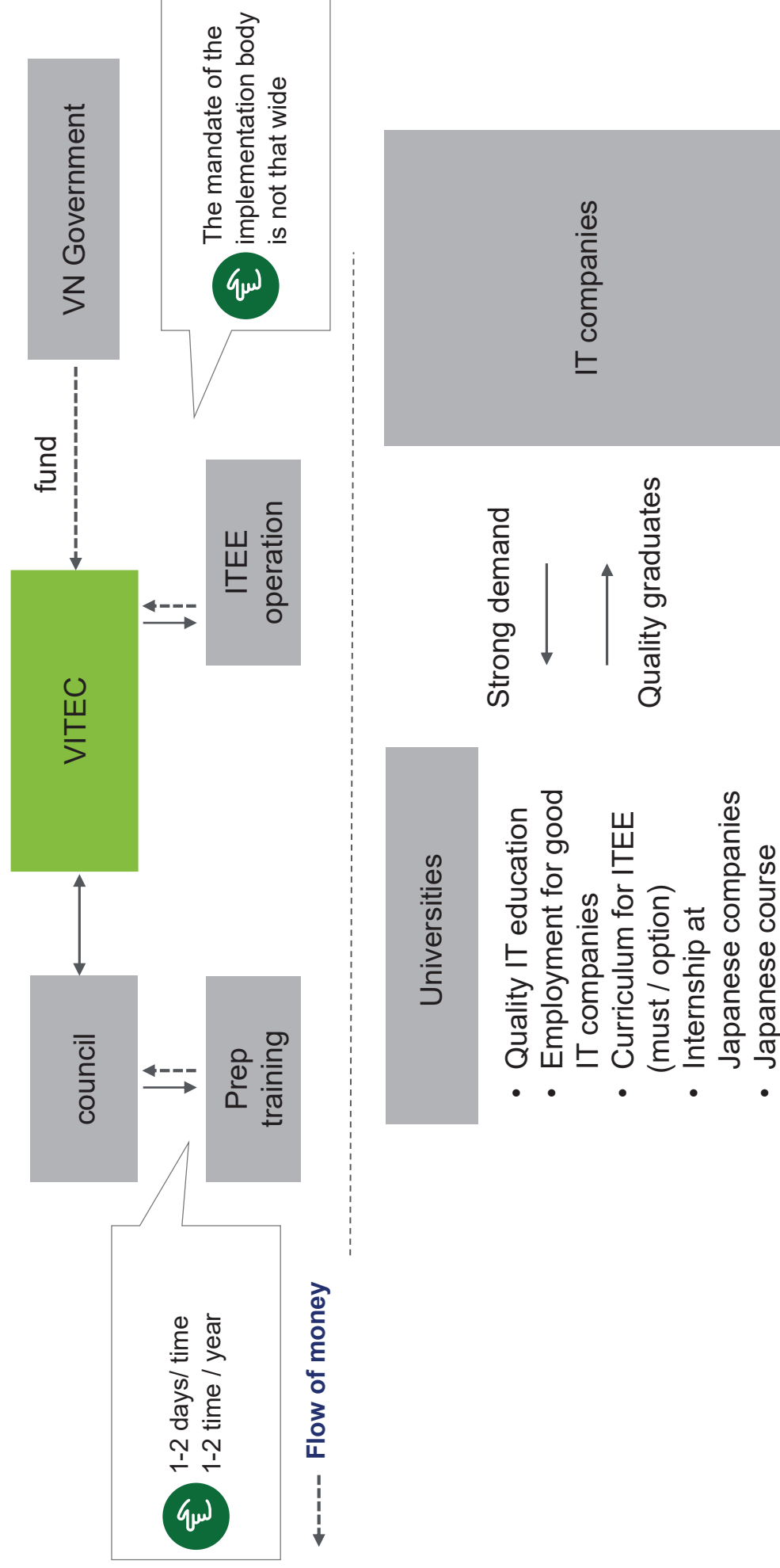
Compared to the other countries, majority part of the budget comes from the government

Implementation body	
 about	<p>VITEC is an independent legal scientific career unit operating under the Charter approved by the Hoa Lac High-Tech Park Management Board - Ministry of Science & Technology</p>
 tasks	<ul style="list-style-type: none"> • IT training (through a council) • ITEE operation • IT engineer' skill evaluation for companies
 budget	<ul style="list-style-type: none"> • Budget from the government • Exam fees (around one sixth of the budget from the government)



ITEE implementation and promotion

Although VITEC's role is small, universities make efforts to produce quality graduates according to the needs of the industry





Universities

The universities offer attractive programs for students who want to work at Japanese company

FPT university

- The first university in Vietnam established by an enterprise
- FPT cooperation established the university with the aim of producing quality IT engineers
- Has campuses in Hanoi, Ho Chi Minh, Danang

about

- Most students take Japanese
- IT program includes IT standards of Japan
- Short-term study in Japan
- Internship in Japan

For Japan

FPT corporation

- Has IT course named Bachelor of Software Engineering (BSE) and account for 40% in the number of students
- Guarantee 100% employment rate
- School fee exemption for 100+
- Scholarship and fee reduction
- Must study a language other than English
- IT program is done in English

HRD

- One of the largest IT companies in Vietnam
- Established in 1988, with IT and Telecommunications as its core business sectors

about

- Sales from Japanese companies account for 50%
- Train 10,000 bridge engineers for Japan by 2020

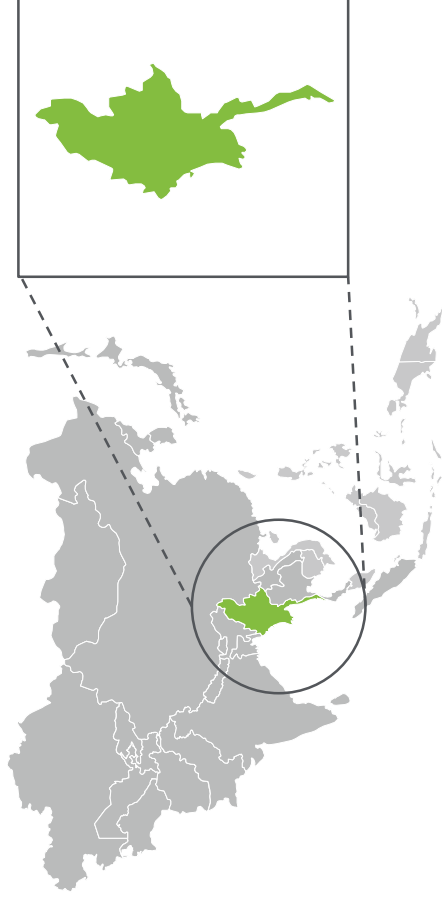
others

Case 3 : Myanmar

Overview of Myanmar

Most industries are still under developed and GDP is still small

About



profile

- Capital City: Naypyidaw
- Government : Unitary parliamentary constitutional republic
- Population: 51.4 million (in 2015)
- Ethnic Groups: Bamar 68%, Shan 9%, etc.
- Religions: Buddhism 88%, Christianity 6%, Islam 4%.
- Languages: Burmese
- Literacy: 90%

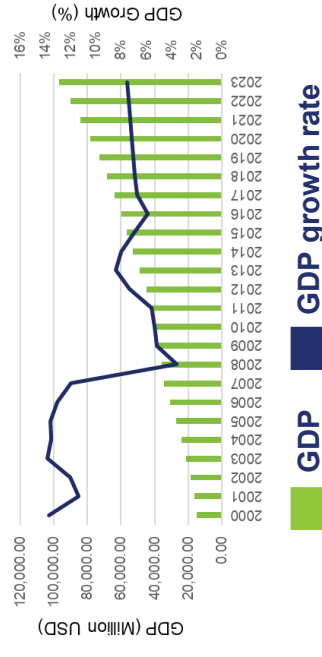
Population and GDP growth

Population

- Relatively large country in SEA but different from others in that Myanmar has a possibility of entering to an aging society
- May difficult for the country to supply labor force for a long period.

GDP & growth rate

- Most industries were underdeveloped due to the economic sanction of USA.
- The GDP growth rate keeps 7–8 %, expected to grow continuously
- GDP is 6.8 billion USD in 2018, still one of the poorest countries in SEA



IT industry and its development policy of Myanmar

IT industry, especially software and IT service, is still small.

IT industry

Like other industries, IT industry is also still small but a growth industry.

Looking at the industry by areas;

- hardware : 166 million USD in 2015, expected to reach 256 million USD, 80% for personal phones and PCs
- software: 20 million USD in 2015 and expected to reach 30 million USD in 2019, majority is for anti-virus software
- IT service: 10 million USD in 2015 and expected to reach 15 million USD in 2019

IT industry development policy

ICT master plan

- The ICT master plan 2011-2-015 was developed by MCF and MOTC (Ministry of Transport and Communications) .
- Four important areas;
- ICT infrastructure
 - ICT industry
 - ICT human resource development
 - E-Education

Action items

- Examples of action items are;
- Establish ICT research center
 - Develop promotion policies for ICT SMEs and venture businesses
 - Develop the ICT network of University
 - Industry-university cooperation program for training R&D collaborations

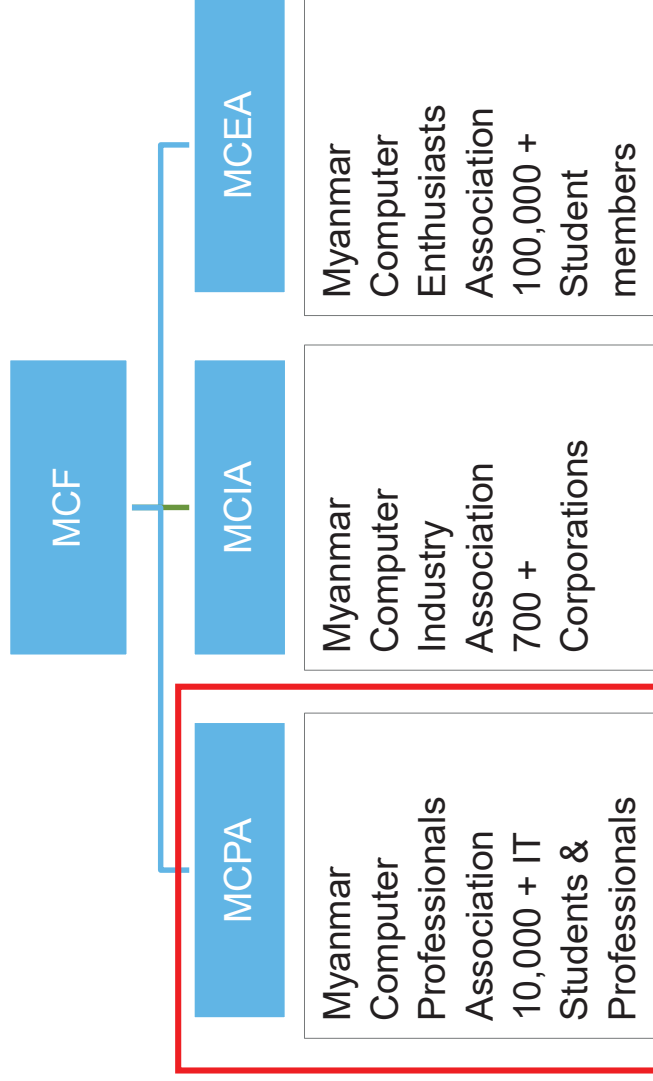


Implementation Body of Myanmar

MCPA implements ITEE and promotes actively with a limited budget

Implementation body

Myanmar Computer Federation (MCF) is an official federation – umbrella organization of all official computer-related associations, working groups, technical committees in Myanmar. MCF is comprised of IT student & professional members, corporate members and student members.



MCPA



about

MCPA is comprised of its members and seven committees, one of which is a committee called exam committee in charge of ITEE.



tasks

- ITEE implementation with other committees and its members.
- Promotion activities
- ITEE prep training

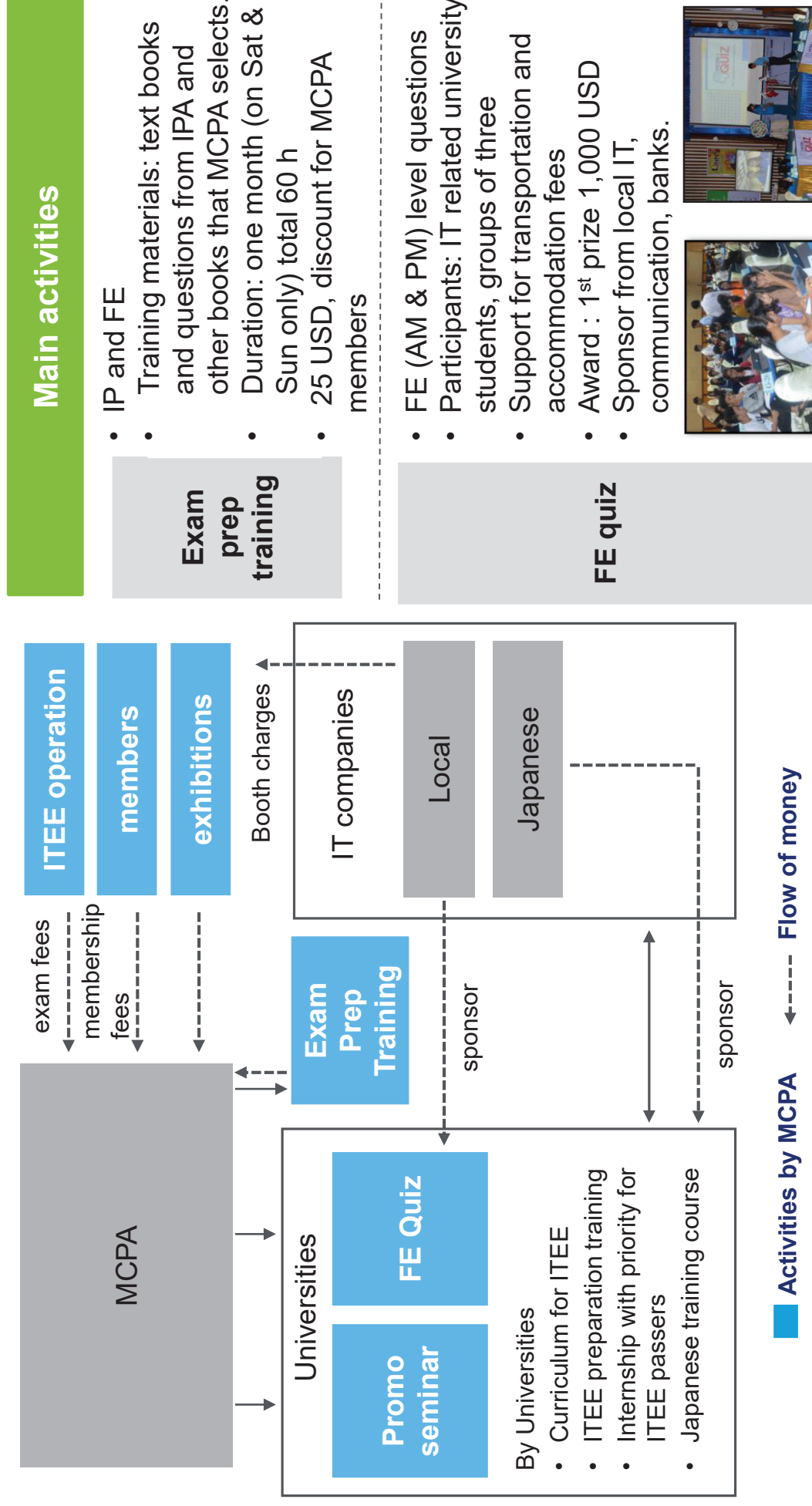


budget

- Membership fees
- Booth charges from exhibitors
- Training fees (No budget from government)

ITEE implementation and promotion

MCPA promotes ITEE at universities and universities encourage their students to take ITEE





Case study : University

Top IT university in Myanmar use ITEE for job placement, understanding IT level and branding

University of Information Technology (UIT)

about	<ul style="list-style-type: none"> • One of the best IT universities in Myanmar • PCs and internet connections, etc. for studying IT, rare in Myanmar
Purpose of promoting ITEE	<ul style="list-style-type: none"> • To promote job placement of the student for Japanese IT companies • To understand the level of understanding of the students on IT • To say that the university produces quality students by showing a number of ITEE passers from the university <ul style="list-style-type: none"> • for both industry and high school students
Activities For ITEE	<p><u>Curriculum</u></p> <ul style="list-style-type: none"> • FE elements with support of CIESF • the needs of IT industry <p><u>Encouragement of taking ITEE</u></p> <ul style="list-style-type: none"> • 3rd year students must take IP • Encourage 4th year students to take FE, with financial assistant for IP passers • Three weeks exam prep training
Others	<p><u>Internship</u></p> <ul style="list-style-type: none"> • Work hard for looking for IT companies for internship • Only FE passers can apply for internship program in Japan <ul style="list-style-type: none"> • Supply quality students for industry • Give incentive for students <p><u>Japanese language course</u></p> <ul style="list-style-type: none"> • Support from Japanese IT company



Case study : Japanese company

A leading IT company in Myanmar values ITEE certification and gives incentives for the staff in many ways

DIR-ACE Technology Ltd.

about

established in 2013 by collaboration between Japan's leading think tanks and a major Myanmar IT company

area

- IT support for stock exchange and securities company systems
- IT support for ordinary businesses
- Offshore Development

recruiting

- ITEE certification is not must
- But encourage ITEE passers to apply for the company as ITEE passers have a certain level of ability. Every time when ITEE results come out, they contact MCF to get the list of passers
- Use internship as an important recruiting tool

HRD

- Conduct in-house ITEE training (At the early stage of the company, MCPA did training)
- Upload the Q & A of the past ITEEs on the intranet
- ITEE certification is not must to get promoted. But the company gives the staff incentives by giving one-off payment and qualification allowance
- Only staff who have FE can go to Japan for training
- Japanese training is conducted
- The reason of promotion of ITEE
 - Understand the level of staff
 - Branding of the company

Attachment 11

ITEE Event List

ITEE Events in Brief

Sl. #	Event Category	No. of Events	Total No. of Participants	Remarks
1	Intensive Courses			
1.1	2-Days Intensive Course	2	284	1 for Students, 1 for Professionals
1.2	5-Weeks Intensive Course	1	207	
1.3	8-Weeks Intensive Course	1	331	
2	Celebrating Full and Half Passers	1	70	
3	Model Examinations	7	1084	
4	Commentary Session	3	248	
5	Motivational Seminar/Lecture			
5.1	Lecture at Companies	7	369 +	Datasoft, Leadsoft, Nascenia & B-JET etc.
5.2	Seminar at Universities	33	2890 +	
5.3	Seminar at BASIS	1	23	
5.4	Seminar/Lecture for Candidates	6	518	
6	University On-Campus Campaign	7	1424 +	Approximate
7	Training of Trainers (ToT)			
7.1	ToT in Bangladesh	2	78	
7.2	ToT in Japan	1	6	

ITEE Events in Details

Sl. #	Date & Time	Duration	Name of Event	Participants category	Venue	No. of Participants	No. of BD Lecturers	Status	Category
107	2019-09-08-11 10:00-13:00	3 Days (9 Hours)	ITEE Handover Orientation	BCC Personnel, JICA Expert Team, Ekmattara	Lab-6, BCC (Ground Floor)	17		Done	Handover Orientation
106	2019-09-07 11:30-13:00	1 Day (1.5 Hour)	Seminar at Dhaka International University (DIU)	University Students	CSE Dept, DIU, Green Road Campus	170		Done	Seminar at Universities
105	2019-08-30 10:00-17:00	1 Day (5 Hours)	ITEE Model Examination (7th)	Registered FE Candidates	BUET IPE Dept. Class Rooms	89		Done	Model Exam
104	2019-08-28 17:00-18:30	1 Day (1.5 Hour)	Seminar at BJET	Interested candidates of BJET who were not qualified in the CV Screening for BJET 7th Batch	BJIT HQ Auditorium	75		Done	Seminar/Lecture for Candidates
103	2019-08-22 17:00-18:30	1 Day (1.5 Hour)	Seminar at BJET	Interested candidates of BJET who were not qualified in the CV Screening for BJET 7th Batch	BJIT HQ Auditorium	100		Done	Seminar/Lecture for Candidates
102	2019-08-04 11:00-12:00	1 Day (1 Hour)	Seminar at Jahangirnagar University	University Students	CSE Dept., Jahangirnagar University	75		Done	Seminar at Universities
101	2019-07-30 13:00-14:00	1 Day (1 Hour)	Seminar at University of Information Technology and Sciences (UITS)	University Students	CSE Dept., UITS	130		Done	Seminar at Universities
100	2019-07-29-30 10:00-05:00	2 Days (16 Hours)	Campus Campaign Booth at BRAC International University	University Students	CSE Dept., BRACU	100		Done	On-Campus Campaign
99	2019-07-29 16:00-17:00	1 Day (1 Hour)	Seminar at East West University (EWU)	University Students	CSE Dept., EWU	30		Done	Seminar at Universities
98	2019-07-29 15:00-16:30	1 Day (1.5 Hour)	Meeting with BASIS Secretary	BASIS Management & JICA Expert Team	BASIS Boardroom	6		Done	Meeting with BASIS
97	2019-07-29 11:00-12:30	1 Day (1.5 Hour)	Meeting with Leadsoft Management	Company management & JICA Expert Team	Leadsoft Office, Banglamotor	6		Done	Meeting with Companies
96	2019-07-28 16:00-18:00	1 Day (1 Hour)	Seminar at Daffodil International University	University Students	CSE Dept., Daffodil	65		Done	Seminar at Universities
95	2019-07-26 10:00-17:00	1 Day (6 Hours)	Orientation on ITEE	ITEE Candidates	BCC Auditorium	84		Done	Orientation
94	2019-07-24 11:00-12:00	1 Day (1 Hour)	Project Steering Committee Meeting (PSC)	PSC Members mentioned in TPP (Page-60)	ICTD Conference Room, ICT Tower (level-5)	24		Done	PSC
93	2019-07-23 11:00-12:00	1 Day (1 Hour)	Seminar at North South University (NSU)	University Students	CSE Dept., NSU	28		Done	Seminar at Universities
92	2019-07-23-25 09:30-16:30	3 Days (18 Hours)	Training of Trainers (ToT)	University Faculties	BCC Auditorium	28		Done	ToT in Bangladesh
91	2019-07-22 15:00-16:00	1 Day (1 Hour)	Seminar at American International University-Bangladesh (AIUB)	University Students	CSE Dept, AIUB	75		Done	Seminar at Universities
90	2019-07-22 13:00-14:00	1 Day (1 Hour)	Seminar at Independent University of Bangladesh (IUB)	University Students	CSE Dept, IUB	70		Done	Seminar at Universities
89	2019-07-21 17:00-18:30	1 Day (1.5 Hour)	Seminar at University of Asia Pacific (UAP)	University Students	CSE Dept. UAP	70		Done	Seminar at Universities
88	2019-07-21 14:00-15:00	1 Day (1 Hour)	Seminar at BRAC University	University Students	CSE Dept. BRAC University	80		Done	Seminar at Universities
87	2019-07-17 12:30-13:30	1 Day (1 Hour)	Seminar at Dhaka University	University Students	CSE Dept, Dhaka University	41		Done	Seminar at Universities
86	2019-07-10 10:30-12:30	1 Day (2 Hour)	Seminar at City University	University Students	Auditorium, City University Campus, Birulia	100		Done	Seminar at Universities
85	2019-06-25 11:00-12:30	1 Day (1.5 Hour)	Seminar at Rajshahi University	University Students	CSE Dept., Rajshahi University	73		Done	Seminar at Universities
84	2019-04-12 09:30-12:30	1 Day (3 Hours)	Commentary Session on Model Exam	Attendees of Model Exam on 05 Apr 2019	BCC Auditorium	66		Done	Commentary Session
83	2019-04-05 10:00-17:00	1 Day (5 Hours)	ITEE Model Exam (6 th)	Candidates of ITEE Final Exam on 28 Apr 2019	BUET CSE Dept. Exam Hall	195		Done	Model Exam
82	2019-03-29 09:30-17:00	1 Day (6 Hours)	5-Weeks Intensive Course on ITEE (Day-5: Last Day)	Candidates of ITEE Final Exam on 28 Apr 2019	BCC Auditorium	112	4	Done	Intensive Course
81	2019-03-26 - 04-28	1 Month (12 Hours)	Mentorship Program (Intensive Care) for AM Half Passers	Interested AM Half Passers of March & October 2018	Mentors' Campuses	40		Done	Intensive Course
80	2019-03-22 09:00-17:00	1 Day (6 Hours)	5-Weeks Intensive Course on ITEE (Day-4)	Candidates of ITEE Final Exam on 28 Apr 2019	BCC Auditorium	128	3	Done	Intensive Course
79	2019-03-20 17:00-19:00	1 Day (2 Hours)	ITEE Passers' Celebration	ITEE Full and half passers, Universities, Companies, ITEE Trainers, ITEE Candidates	International Convention Center, Basundhara (ICCB) in BASIS SoftExpo (2nd Day)	200		Done	ITEE Passers' Celebration
78	2019-03-18 11:00-12:00	1 Day (1 Hour)	Seminar at City University	University Students	City University	70		Done	Seminar at Universities
77	2019-03-16 15:00-17:00	1 Day (2 Hours)	Meeting on Strategy for IT Week 2019 to find Company's Strength	Companies who are going to attend Japan IT Week 2019	BCC Conference Room	17		Done	Meeting with Companies
76	2019-03-15 09:30-17:00	1 Day (6 Hours)	5-Weeks Intensive Course on ITEE (Day-3)	Candidates of ITEE Final Exam on 28 Apr 2019	BCC Auditorium	134	5	Done	Intensive Course
75	2019-03-14 11:00-12:30	1 Day (1.5 Hour)	Seminar at North South University (NSU)	University Students	Conference Room, NSU	25		Done	Seminar at Universities
74	2019-03-13 11:00-12:30	1 Day (1.5 Hour)	Seminar at United International University (UIU)	University Students	Conference Room, UIU	150		Done	Seminar at Universities
73	2019-03-12 15:30-17:00	1 Day (1.5 Hour)	Seminar at Ahsanullah University of Science & Technology (AUST)	University Students	Conference Room, AUST	70		Done	Seminar at Universities
72	2019-03-11 15:30-16:30	1 Day (1 Hour)	Seminar at American International University-Bangladesh (AIUB)	University Students	Multipurpose Seminar Hall, AIUB	65		Done	Seminar at Universities
71	2019-03-11 13:00-14:00	1 Day (1 Hour)	Seminar at Independent University of Bangladesh (IUB)	University Students	IUB CSE Seminar Hall	85		Done	Seminar at Universities
70	2019-03-08 09:30-17:00	1 Day (6 Hours)	5-Weeks Intensive Course on ITEE (Day-2)	Candidates of ITEE Final Exam on 28 Apr 2019	BCC Auditorium	136	5	Done	Intensive Course
69	2019-03-05 11:00-12:00	1 Day (1 Hour)	Seminar at BUBT	University Students	BUBT Auditorium	140		Done	Seminar at Universities
68	2019-03-05 15:00-16:00	1 Day (1 Hour)	Project Steering Committee Meeting	PSC Members mentioned in TPP (Page-60)	BCC Meeting Room (Floor-1)	22		Done	PSC
67	2019-03-03 12:00-13:30	1 Day (1.5 Hours)	Seminar at CUET	University Students	CSE Dept., CUET	133		Done	Seminar at Universities
66	2019-03-02 15:00-16:30	1 Day (1.5 Hours)	Seminar at Daffodil International University	University Students	DIU Auditorium	50		Done	Seminar at Universities
65	2019-03-01 09:30-15:00	1 Day (4 Hours)	5-Weeks Intensive Course on ITEE (Day-1)	Candidates of ITEE Final Exam on 28 Apr 2019	BCC Auditorium	119	3	Done	Intensive Course

Sl. #	Date & Time	Duration	Name of Event	Participants category	Venue	No. of Participants	No. of BD Lecturers	Status	Category
64	2019-02-22 09:30-12:00	1 Day (2.5 Hours)	Commentary Session on Model Exam	Attendees of Model Exam on 15 Feb 2019	BCC Auditorium	77		Done	Commentary Session
63	2019-02-20 14:00-15:30	1 Day (1.5 Hours)	Seminar at South East University	University Students	CSE Dept. SEU	134		Done	Seminar at Universities
62	2019-02-20 10:00-11:30	1 Day (1.5 Hours)	Seminar at BRAC University	University Students	CSE Dept. BRAC University	93		Done	Seminar at Universities
61	2019-02-18 11:00-14:00	1 Day (3 Hours)	Meeting with mgt. and Lecture at Leadsoft	Leadsoft Management & Engineers	Leadsoft Conference Room	67		Done	Lecture at Companies
60	2019-02-15 10:00-17:00	1 Day (5 Hours)	ITEE Model Exam (5 th)	Candidates of ITEE Final Exam on 28 Apr 2019	BUET CSE Dept. Exam Hall	136		Done	Model Exam
59	2019-02-13 17:00-18:00	1 Day (1 Hour)	Seminar at East West University	University Students	Auditorium, East West University	47		Done	Seminar at Universities
58	2019-02-12 11:00-12:00	1 Day (1 Hour)	Sharing of ITEE Case Study on Overseas Good Practices	Executive director, Member, Directors	Executive Director's Office Room	16		Done	Case Study and presented by Mr. Akira Takagi
57	2019-02-03 15:00-17:00	1 Day (2 Hours)	Seminar at RUET	Students of Dept. of CSE of RUET, RU, Barendra University	Conference Room, Dept. of CSE, RUET	59		Done	Seminar at Universities
56	2019-01-30 12:00-14:00	1 Day (2 Hours)	Seminar at Chittagong University	Students of Dept. of CSE, University of Chittagong	ICT Cell, Dept. of CSE, CU	71		Done	Seminar at Universities
55	2019-01-24 15:00-17:00	1 Day (2 Hours)	Meeting with BASIS	BASIS Management & JICA Expert Team	BASIS Meeting Room	7		Done	Meeting
54	2018-12-27 11:00-12:00	1 Day (1 Hour)	Motivational Lecture at Leadsoft	ITEE Candidates in Leadsoft	Leadsoft Conference Room	60		Done	Lecture at Companies
53	2018-11-27 15:30-17:30	1 Day (2 Hours)	Seminar at BUET	Students of Dept. of CSE, BUET	IAC Seminar Room, Dept. of CSE, BUET	90		Done	Seminar at Universities
52	2018-11-26 16:15-17:00	1 Day (1 Hour)	Project Steering Committee Meeting	PSC Members mentioned in TPP (Page-60)	BCC Conference Room	30		Done	PSC
51	2018-11-26 10:00-11:00	1 Day (1 Hour)	Meeting with Datasoft	Management of Datasoft	Datasoft Meeting Room	8		Done	Meeting
50	2018-11-20 18:00-19:00	1 Day (1 Hour)	Meeting with Company (Kaicom) Mr. Anjan	Mr. Anjan & Representative of Kaicom	Hotel Ascott	5		Done	Meeting
49	2018-11-05 15:00-16:00	1 Day (1 Hour)	Meeting with BASIS	BASIS Management & JICA Expert Team	BASIS Meeting Room	7		Done	Meeting
48	2018-10-12 09:30-17:00	1 Day (6 Hours)	8-Weeks Long Intensive Course (Day-8, Last Day)	FE Candidates of ITEE Exam on 28 October 2018	BCC Auditorium	81	5	Done	Intensive Course
47	2018-10-05 09:30-17:00	1 Day (6 Hours)	8-Weeks Long Intensive Course (Day-7)	FE Candidates of ITEE Exam on 28 October 2018	BCC Auditorium	96	4	Done	Intensive Course
46	2018-09-28 10:00-17:00	1 Day (5 Hours)	ITEE Model Examination (3rd)	FE Candidates of ITEE Exam on 28 October 2018	BUET & Chittagong University	192		Done	Model Exam
45	2018-09-25 15:00-17:00	1 Day (2 Hours)	Motivational Session at B-JET	40 B-JET Trainees	B-JET Office, Baridhata	40		Done	Lecture at Companies
44	2018-09-21 09:30-17:00	1 Day (6 Hours)	8-Weeks Long Intensive Course (Day-6)	FE Candidates of ITEE Exam on 28 October 2018	BCC Auditorium	121	4	Done	Intensive Course
43	2018-09-17 09:00-17:00	1 Day (8 Hours)	Motivational Campaign at Ahsanullah University of Science & Tech.	University Students	CSE Dept., AUST	100		Done	On-Campus Campaign
42	2018-09-17 10:00-13:00	1 Day (3 Hours)	1 st Project Review Meeting	BCC Personnel related to ITEE, JICA Expert Team	BCC Conference Room	10		Done	Meeting
41	2018-09-16 14:15-15:30	1 Day (1.25 Hours)	Lecture of Dr. Miyamoto at BRAC University	Students of BRAC University	Lab, Dept. of CSE, BRAC University, Mohakhali	60		Done	Seminar at Universities
40	2018-09-16 10:00-12:30	1 Day (2.5 Hours)	Reporting Session of the Training in Japan	ToT Participants (Master Trainers) in Japan 29 July to 11 August 2016	BCC Conference Room	23		Done	Training in Japan (reporting)
39	2018-09-14 10:00-12:45	1 Day (2.75 Hours)	Commentary Session & Celebrating Highest Scorers in Asia	Participants of Model Exam on 09 Sep 2018 & 3 highest scorers in Asia	BCC Auditorium	105		Done	Commentary Session
38	2018-09-13 16:30-18:00	1 Day (1.5 Hours)	Lecture of Dr. Miyamoto at Leadsoft	ITEE FE Candidates of Leadsoft	Leadsoft Office, Banglamotor	62		Done	Lecture at Companies
37	2018-09-13 12:00-15:30	1 Day (3.5 Hours)	Lecture of Dr. Miyamoto at Nascenia Ltd.	ITEE FE Candidates of Nascenia Ltd.	Nascenia Office, Lalmatia	20		Done	Lecture at Companies
36	2018-09-07 10:00-17:00	1 Day (5 Hours)	ITEE Model Examination (3rd)	FE Candidates of ITEE Exam on 28 October 2018	BUET	124		Done	Model Exam
35	2018-07-29 ~ 08-11	14 Days	ToT on ITEE in Japan	Master Trainers on ITEE in Bangladesh	Japan	6		Done	ToT in Japan
34	2018-08-10 09:30-17:00	1 Day (6 Hours)	8-Weeks Long Intensive Course (Day-5)	FE Candidates of ITEE Exam on 28 October 2018	BCC Auditorium	91	4	Done	Intensive Course
33	2018-08-03 09:30-17:00	1 Day (6 Hours)	8-Weeks Long Intensive Course (Day-4)	FE Candidates of ITEE Exam on 28 October 2018	BCC Auditorium	61	3	Done	Intensive Course
32	2018-07-27 09:30-17:00	1 Day (6 Hours)	8-Weeks Long Intensive Course (Day-3)	FE Candidates of ITEE Exam on 28 October 2018	BCC Auditorium	134	4	Done	Intensive Course
31	2018-07-20 09:30-17:00	1 Day (6 Hours)	8-Weeks Long Intensive Course (Day-2)	FE Candidates of ITEE Exam on 28 October 2018	BCC Auditorium	163	2	Done	Intensive Course
30	2018-07-13 09:30-17:00	1 Day (6 Hours)	8-Weeks Long Intensive Course (Day-1)	FE Candidates of ITEE Exam on 28 October 2018	BCC Auditorium	148	4	Done	Intensive Course
29	2018-07-01 10:00-12:30	1 Day (2.5 Hours)	Seminar at BUBT	Students of Dept. of CSE, BUBT	Dept. of CSE, BUBT	100		Done	Seminar at Universities
28	2018-06-26 15:00-19:00	4 hours	Knowledge Sharing Seminar on Japan Market	Members of Japan Focus Group	BASIS Auditorium	23		Done	Seminar at BASIS
27	2018-06-24 15:00-17:00	2 Hours	Discussion Session at Daffodil International University	Students of Dept. of CSE, Daffodil Int. University	Dept. of CSE, Daffodil Int. University	100		Done	On-Campus Campaign
26	2018-06-01 14:00-17:00	3 hours	Kick Off Event with ITEE FE Candidates	ITEE full and half passers	BCC Auditorium	70		Done	Celebrating Full and Half Pass
25	2018-06-20 14:00-16:00	2 hours	Interview for Japan Training	Selected ToT candidates	Member's office, Bangladesh Computer Council.	15		Done	Selection for ToT in Japan
24	2018-05-09 ~ 11	3 Days	Japan IT Week	Visitors of Japan IT Week	Japan			Done	Japan IT Week
23	2018-04-24 16:00-17:00	01 Day (1 hour)	Meeting with BASIS	BASIS Management	BASIS Auditorium	4		Done	Meeting with BASIS
22	2018-04-19 16:00-17:00	01 Day (1 hour)	Meeting with BASIS	BASIS Management	BASIS Auditorium	4		Done	Meeting with BASIS
21	2018-03-09 ~ 10	02 days (14 hours)	Intensive Course for Students	ITEE FE Candidates (Students and Professionals)	BCC Auditorium	160		Done	Intensive Course
20	2018-03-07 15:00-17:00	01 Day (02 hours)	Special Lecture for Datasoft Limited	Engineers of Datasoft	Datasoft Office, Shyamoli	80		Done	Lecture at Companies
19	2018-03-06 16:00-17:00	01 Day (02 hours)	Special Lecture for East West University	Students of East West University	Dept. of CSE, East West University	58		Done	Seminar at Universities
18	2018-03-06 10:00-12:00	01 Day (02 hours)	Special Lecture for BRAC University	Students of BRAC University	Dept. of CSE, BRAC University	33		Done	Seminar at Universities
17	2018-03-05 15:00-17:00	01 Day (02 hours)	Special Lecture for Leadsoft Limited	Employees of Leadsoft	Leadsoft Office, Banglamotors	40		Done	Lecture at Companies
16	2018-03-02 ~ 03	02 days (14 hours)	Intensive Course for Professionals	ITEE FE Candidates (Professionals)	BCC Auditorium	124		Done	Intensive Course
15	2018-02-25 ~ 03-01	5 days (33 hours)	Training of Trainers (ToT)	Govt. Officers, University Faculties & IT Industry Executives	IAC Seminar Room, BUET	50		Done	ToT in Bangladesh
14	2018-02-23 10:00-17:00	01 Day (05 hours)	ITEE 2nd Model Exam	Registered ITEE FE Candidates	Dept. of CSE, BUET	195		Done	Model Exam

Sl. #	Date & Time	Duration	Name of Event	Participants category	Venue	No. of Participants	No. of BD Lecturers	Status	Category
13	2018-01-25 13:00-16:00	01 Day (04 hours)	Special Lecture at B-JET	Participants of B-JET	B-JET office, Baridhara	26		Done	Seminar/Lecture for Candidates
12	2018-01-24 14:00-17:00	01 Day (03 hours)	Special Lecture on ITEE for Professionals	ITEE FE Candidates from (Professionals)	BCC Auditorium	134		Done	Seminar/Lecture for Candidates
11	2018-01-23 14:00-17:00	01 Day (03 hours)	Special Lecture on ITEE Lecture for Students	ITEE FE Candidates (Students)	BCC Auditorium	35		Done	Seminar/Lecture for Candidates
10	2018-01-19 10:00-17:00	01 Day (05 hours)	ITEE 1st Model Exam	Registered ITEE FE Candidates	Dept. of CSE, BUET	153		Done	Model Exam
9	2018-01-14 09:00-17:00	01 Day (08 Hours)	On Campus Campaign at BRAC University	Students of Dept. of CSE	Dept. of CSE, BRAC University	250		Done	On-Campus Campaign
8	2017-12-26 ~ 28 09:00-17:00	03 Days (24 Hours)	On Campus Campaign at Daffodil Int. University	Students of Dept. of CSE	Dept. of CSE, Daffodil Int. University	300		Done	On-Campus Campaign
7	2017-12-20 14:00-17:00	01 Day (03 hours)	Special Seminar on ITEE for FE Candidates	Registered ITEE FE Candidates	BCC Auditorium	148		Done	Seminar/Lecture for Candidates
6	2017-12-19 14:30 - 17:30	01 Day (03 Hours)	Orientation for ToT	IT Industry Executives	BASIS Auditorium	33		Done	ToT Orientation
5	2017-12-19 09:30 - 13:30	01 Day (04 hours)	Orientation for ToT	Govt. Officers, University Faculties	Janata Tower, Kawran Bazar	30		Done	ToT Orientation
4	2017-12-14 14:00 - 17:00	01 Day (03 Hours)	Special Seminar in Daffodil International University (DIU)	Students of Dept. of CSE	Conference Hall, DIU, Dhanmondi, Dhaka	350		Done	Seminar at Universities
3	2017-12-06 ~ 09 10:00-20:00	04 Days (40 Hours)	Campaign at Digital World 2017 on ITEE	Visitors of Digital World 2017	BICC, Dhaka			Done	Digital World
2	2017-12-03 ~ 04 09:00-17:00	02 Days (16 Hours)	On Campus Campaign at East West University	Students of Dept. of CSE	Dept. of CSE, East West University	320		Done	On-Campus Campaign
1	2017-11-26 ~ 30 09:00-17:00	05 Days (40 Hours)	On Campus Campaign at BRAC University	Students of Dept. of CSE	Dept. of CSE, BRAC University	254		Done	On-Campus Campaign

Attachment 12

ITEE Implementation Plan (Draft)



ITEE IMPLEMENTAION PLAN(DRAFT)

Final Version

Submission Date : July 2019



Table of Content

1. Background	1
1.1. Purpose of Document	1
1.2. Merit of ITEE and Statistical Data Comparison	1
1.2.1. Benefits of ITEE	1
1.2.2. Statistical Data of ITEE in Bangladesh	2
2. Issues and Solutions	3
2.1. Concept	3
2.2. Strategy	3
2.3. Roles and Public, Private, and Academia	4
3. Situation Analysis	5
3.1. Lesson Learned from Phase 1	5
3.2. Finding from Phase 2	7
4. ITEE Implementation Plan	9
4.1. Vision	9
4.2. Strategy	9
4.3. ITEE Implementation Plan	11
4.3.1. Framework	11
4.3.2. Promotion Plan	11
4.3.3. Learning Environment	12
4.3.4. Capacity Building Plan for BD-ITEC	13
4.4. Action Plan	13
5. Revision of ITEE Implementation Plan	15

1. Background

Bangladesh's ICT sector market size has grown \$600 million, tripled over the decade, compared to about \$200 million in 2009. Such growth of ICT market warrants the need for highly skilled engineers with globally acceptable qualities. Demand for IT engineers who can work for Japanese market has increasing because Japan is positioned as an important market after the US and the European market. However, the Bangladeshi companies have faced difficulties to overcome the barrier of Japanese language and its unique business practices. Bangladesh ICT companies also aware issues related to IT engineers' development such as low quality of ICT education at the higher educational institutions and shortage of the qualification system for evaluating the abilities of IT engineers objectively. Against the issue for qualification system, JICA supported to introducing IT Engineers Examinations (ITEE) as national examination for IT engineers as the measure for evaluating ICT abilities. As a result, ITEE has been successfully introduced to Bangladesh and maintains its status, but sustainability remains as an issue. To address this issue, ITEE Implementation plan is drafted through the assets of project activities and series of discussions with relevant stakeholders in Bangladesh.

1.1. Purpose of Document

Purpose of the document is to describe a basic design of ITEE Implementation Plan by setting a vision of how to utilize ITEE for human resource development in Bangladesh. Based on the vision, action plans to achieve goals are introduced in the document the activities are sustainably continued after the technical assistance is completed. In Chapter 1, it gives background of ITEE and how Bangladesh adopted ITEE with mission and goal by giving some statistical data. Chapter 2 provides how the JICA consultant team for Phase 2 identified issues, how the issues were addressed, and how the solutions can be applied to ITEE Implementation Plan for the sustainable operation of ITEE. Chapter 3 describes lessons learned from both Phase 1 and Phase 2 to analyze more details for how to apply those lessons into ITEE Implementation Plan. Chapter 4 focuses on vision of ITEE and contents of recommended ITEE implementations plan with action plan. Finally, Chapter 5 deals with how to update the ITEE Implementation Plan to make an adjustment to maintain sustainability of the ITEE management and operation.

1.2. Merit of ITEE and Statistical Data Comparison

1.2.1. Benefits of ITEE

ITEE is the national level IT Engineers Examinations adopted by the Government of Bangladesh (GoB) in 2013. Unlike the vendor qualification which specialized in a specific technology, ITEE can be objectively measured whether a person has broad IT skill and knowledge. It is expected that unified standards will be able to cross-reference IT skills standards of Japan and standards of other eight Asian countries. ITEE certified professional get recognized by Japanese IT companies and they get

preferential immigration treatment by the government of Japan. A summary of ITEE benefits is described in the following.

Advantage for Passers

■ Strong Proof of Qualified IT Professional

■ Competitive Advantage in Job Market

■ Government Certified IT Skills and Knowledge

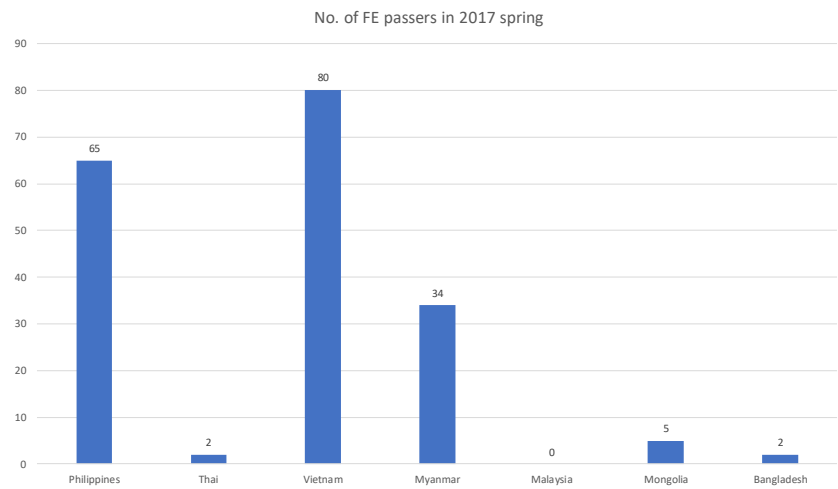
■ Common IT Certification in 8 Countries

■ Big Appeal to Japanese IT Companies

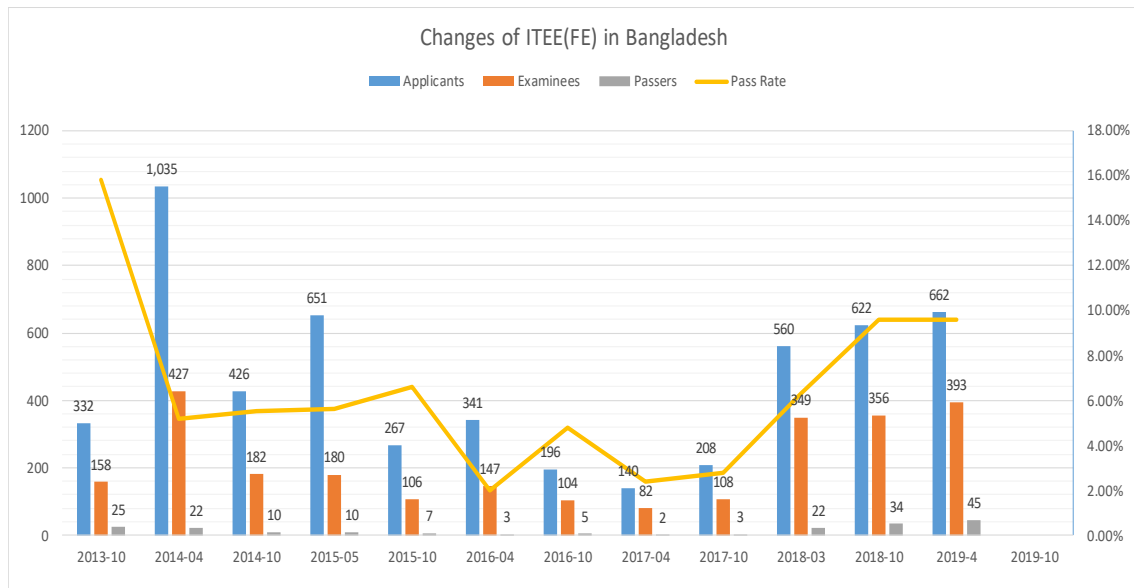
■ Preferential Immigration Treatment of Japan

1.2.2. Statistical Data of ITEE in Bangladesh

Following graph is an example of number of passers in Spring 2017 Examination in Asian countries. The JICA project Phase 2 started in August 2017, so this can be a pre-intervention data. In Bangladesh, before the Project Phase 2 begins it only produced 2 passers. On the other hand, Philippines and Vietnam produces passers of 65 and 80 respectively. The Project team for Phase 2 identified to set the target number and competitors.



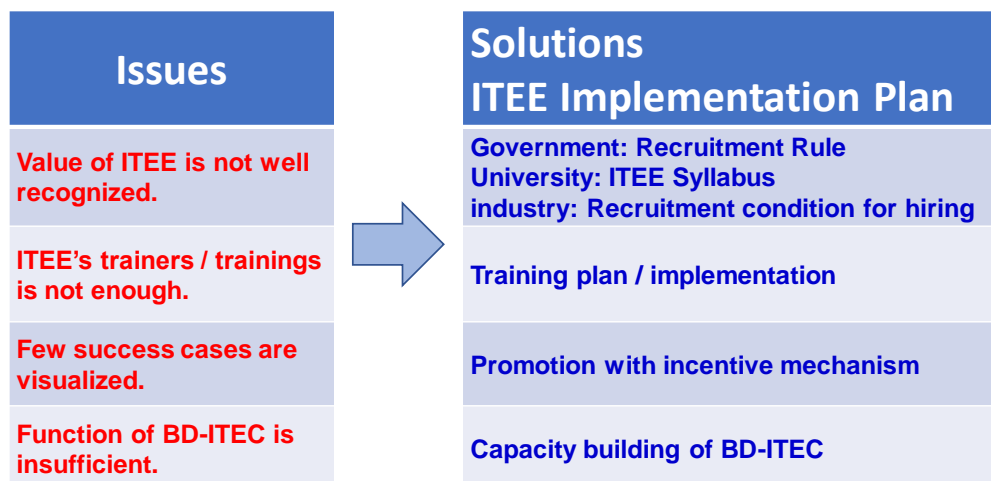
Based on the merits of ITEE, the number of applicants has been increased over the past few years. The following graph describes that the member of applicants is upward trend so as pass rate and examination rate.



2. Issues and Solutions

2.1. Concept

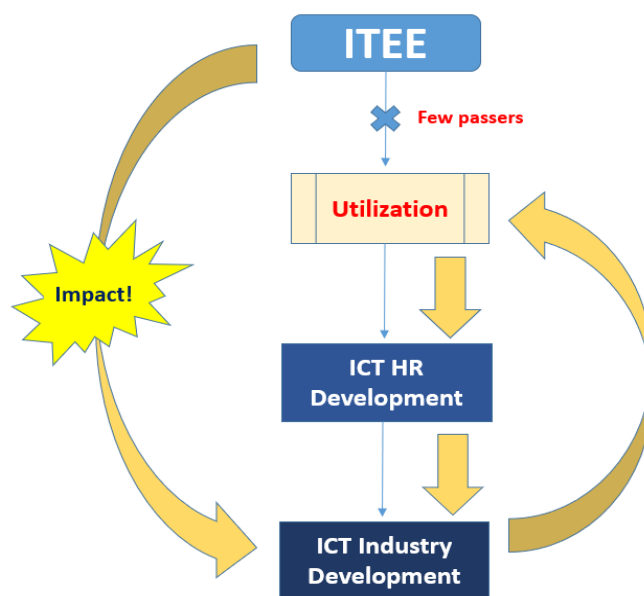
At the beginning of the project Phase 2, the team reviewed the lessons learned from the Phase 1 and grasped issues of ICT human resource development and positioning of ITEE in Bangladesh. It was apparent that the value and merit of ITEE was not well recognized. The team also identified the ITEE trainers were actively participating especially after Phase 1. Although ITEE was introduced as a national qualification, the government role was not functioning properly such as shortage of manpower. Following is a figure which the team described at the beginning of the Phase 2.



2.2. Strategy

ITEE is to enhance IT skills of ICT human resource of Bangladesh, especially to adapt ever-changing business environment. Furthermore, it functions as common index for ICT human resource

development indicators. However, to discuss the utilization of ITEE, it would be needed to increase the number of passers so that the discussion should be in more concrete and detail. If ICT industry is enhanced with the ITEE passers even though it is a few success examples, it could trigger an active utilization of ITEE as shown in the diagram.



2.3. Roles and Public, Private, and Academia

The process of activating utilization of ITEE involving key stakeholders would be a basis of public-private collaborative framework and meaningful ITEE Implementation Plan. Motivation of examinees and appropriate study for the examination is the key to this end. Not only university students but also ICT engineers in ICT companies should be encouraged to take the examination since the ideal situation is to utilize ITEE for all the ICT professionals so that ITEE provide a broad basis of ICT human resource development which can be also utilized to increase business transaction with Japanese companies. The role of Government, University, and Industry should be discussed among them for ICT human resource development utilizing ITEE. Discussion points are shown in the table below:

	Utilization	Learning Environment	Promotion
Government	Recruitment	TOT Certification ITEE Training	Japan Desk (Networking with JP)
University	ITEE in syllabus	In-campus Training	Linkage with Japanese University
Industry	Recruitment	Contribution as ITEE trainers	Japan Desk (Matching)

3. Situation Analysis

3.1. Lesson Learned from Phase 1

Capacity building on ITEE Management Project (Phase1), Technical assistance project funded by JICA and Government of Bangladesh (GoB), was implemented during December 2012 to June 2016.

The objective of the project was:

1. To build institutional capacity to conduct Information Technology Engineers Examination (ITEE) regularly in Bangladesh
2. To develop management capacity to run the ITEE exam with the international standards of IPA, Japan and Information Technology Professionals Examination Council (ITPEC)
3. To create number of quality questions maker with the standards of IPA, Japan and ITPEC.
4. To scale up an international brand image of ICT industry in Bangladesh.

The project was successful with the help and guidance of Japanese Experts to achieve the project objectives. However, branding of ITEE was not properly managed to make ITEE sustainable due to lack of sufficient manpower in GoB part and scarcity of fund in in advertizing, seminar, workshop and publicity code. The following table highlights some issues after phase 1 activities.

Lesson Learned from Phase1			
	Activities in Phase1	Status	Issues
	ITPEC accession. Establishment of Exam Question Creation Committee (conducted 4 trials to create exam questions).	The level of the test question creation committee is high. The examination adoption rate of the country is No. 1 in ITPEC member countries.	Maintain the current status
1			
Exam implementation structure	ITTEE is positioned and operated as a national qualification	There is no law or system regulating ITEE as national qualification. However, since it is implemented by government agencies and the certificate is issued by the Secretary of ICT Division and Executive Director of BCC. Joining in ITPEC which is conditional on the condition that it is to be a national examination has been achieved, in fact it is positioned as a national examination.	Aiming at realization of ITEE as national qualification
	Preparation of the test manual (ITEE implementation manual, test supervisor's manual, successful applicant IT management contract, ITES 7 manual) (ITEE operation management training / ITES 7 operation guidance training 1 time each)	The test is being held at 4 venues twice a year. It is acquired necessary knowledge and skills related to ITEE administration. For further utilization of ITEE, it is necessary to prepare an ITEE Implementation plan.	Due to lack of staff, knowledge and skills remain at the individual level, not penetrating the organization level.
	Draft budget. Budget for examination implementation is secured.	Budget for examination implementation is secured. Budget for ITEE dissemination is on the process	
	A joint workshop with UGC (after inviting 104 universities, 70 universities participated, and attendance from university were mainly deputy general, CSE dean, professors)	All 70 universities answered that they want students to take ITEE and 68 schools want to receive detailed explanation.	
6	Recognition	21 times in 2014 (Digital World 2014, Successful Recognition Awards, JISA, etc.), Three Fiscal Years 2015 (Digital World 2015, Book Fair, ICT Expo).	Recognition in industry is weak.
7		We confirmed the increase in awareness of students.	However, after the end of Phase 1, no seminar has been held and the awareness may be low.
8		BCC establishes the ITEE website. ITEE online application, announcement of successful applicants, provision of related information, etc. We provide relevant information even at FB. Although it was scheduled to be carried out twice a year, it is once a year because of political unrest.	There is room for improvement, such as providing more detailed and useful information such as ITEE examples.
9		TOT (1 in each of 2013, 14, and 15. A total of 61 people.)	TOT students are not effectively utilized.
Test taker and passer rate	Candidate exam preparation training (totaling 21 people in 5 places, about 2000 people attending)	Passing rate is low.	Exam training is not enough
	Distribution of teaching materials	Japanese IPA educational materials translated into English (Level 1: 300 Taka, Level 2: (2 volumes set) 500 taka).	The teaching material is not enough.
		passing rate is low	Candidates have not found clear value for ITEE, and there is no motivation to take seriously.
12		In ICT Ministry, BCC adoption priority is given to FE successful applicants. 1985 Recruitment rules are being revised and it is under consideration to assign priorities by adopting all ICT professionals.	Secure priority assignment in the 1985 rule. Proposal to MOPA of prioritization related to recruitment of other administrative officials. Encourage acquisition by the current government.
ITEE utilization		Daffodil University is considering changing to a syllabus for FE. 4 pilot examination course lecture for 4 universities subject to examination.	Realization of model case of FE compatible syllabus and spread to other universities. Passing on exam preparation course
		It is not a real topic because there are few FE candidates.	

3.2. Finding from Phase 2

During the time between Phase 1 and phase 2, there was no technical assistance provided by Japanese government. In other words, ITEE was implemented solely by Bangladesh Computer Council (BCC). By reflecting some of the issues identified in phase 1, the phase 2 project has been started to produce skilled IT engineers capable to work in Japanese market with following purpose and outputs.

Project Purpose:

The model for IT Engineers development targeting Japanese market in private companies is formulated and the capacity of BCC to implement IT engineers' development support projects including ITEE is enhanced.

Output:

- (1) Public-private collaborating mechanism on skilled IT engineers' development targeting the Japanese market is improved.
- (2) Model(s) for skilled IT engineers' development targeting Japan market in private companies and BCC's support program(s) are developed
- (3) ITEE implementation plan with improved managing structure is formulated

After initiating the phase 2, the JICA experts evaluated current situation of ITEE and ICT related indicators, and some of the findings are described as follow:

Findings in Phase2			
#	Items for situation analysis	Observations and findings	Contents to be applied in ITEE Implementation plan (IP)
1	ITEE operational structure at BCC	①there is no strategy nor plan	①Draft a mid- and long-term plan that will become the framework of ITEE implementation plan
		②passer rate is low	②Plan for PR activities to find the value of ITEE
		③TOT in phase 1 has not utilized, and there is no plan.	③formulate the TOT plan, implement seminars, exam preparation, explanation of answers etc.
		④There is no IT courses offered by any institutions	④Formulate and implement exam measures including the intensive course in the TOT plan
		⑤ Personnel's at BD-ITEC has not been increased	⑤ Increase the staff as soon as the TPP is approved
2	Human resource development activities conducted by BCC	①Low awareness of training conducted by BCC	①Collaborate with industry, government, academia and conduct activities to raise awareness through ITEE training
		②The reputation is not good overall . including the contents of the training, place, time	② Upgrade training arrangement based on students' needs
		③Request for soft skill training other than IT	③Consider incorporating soft skill training such as foreign language into training conducted by BCC
3	Public and Private partnership structure	①there is no such activity at present	①Human resource development in BCC, Bangladesh ICT company needs, Public-private partnership (industry, government and academia) activities to respond to the issues raised in the needs of foreign ICT companies in Japan
4	Needs from Bangladeshi ICT companies	①Demand for participating in the Japanese market is high, but transaction performance is low	①Government take initiative to marketing Bangladeshi IT industry to Japan
		②A criterion that can objectively judge knowledge of IT when developing human resources in the company	②ITEE will acquire the standard knowledge of IT, so advise that enterprise has the merit of ITEE
		③The balance of industry structure is needed to be improved (majority of small and medium enterprises)	③In order to change the structure of the industry in cooperation between the public and the private sector, first of all let's make a plan aiming for the bottom-up of the industry as a result of dissemination of ITEE qualifications
5	Requirement for foreign ICT engineers at Japanese ICT companies	①Soft skills such as team work are required other than Japanese for skills required of foreign engineers.	①Consider incorporating training of soft skills besides Japanese language education
		②Offshore development tends to withdraw due to many problems	② Attract as a base for offshore development and develop a strategy to send Bangla ICT engineers to Japan
		③There is no recognition of ITEE (point system for visa acquisition)	
6	Case analysis of ITEE operation (Philippines)	ITEE dissemination through activities of PHINITTS Society (NPO) ・ The community of the successful applicant is striving for PR activities and lecturers for taking the examination "	Bangladesh to consider establishing alumni association with ITEE Pasar (government)
	Case analysis of ITEE operation (Vietnam)	Strengthening expansion of business for Japan by FPT software of major IT company in Vietnam ・ Establishment of PFT University, expansion of transactions with Japanese companies in the curriculum, implementation of ITEE preparatory courses which will be advantageous for employment in Japanese companies "	Bangladesh to consider whether domestic major companies can flag banner to Japan market (industry)
	Case analysis of ITEE operation (Myanmar)	Universities take initiative to encourage students to take ITEE ・Introducing ITEE elements into curriculum ・Promotion of studying ITEE (IT Passport for 3rd year, FE for 4th year students)	Bangladesh to consider adopting ITEE element into curriculum in University education

4. ITEE Implementation Plan

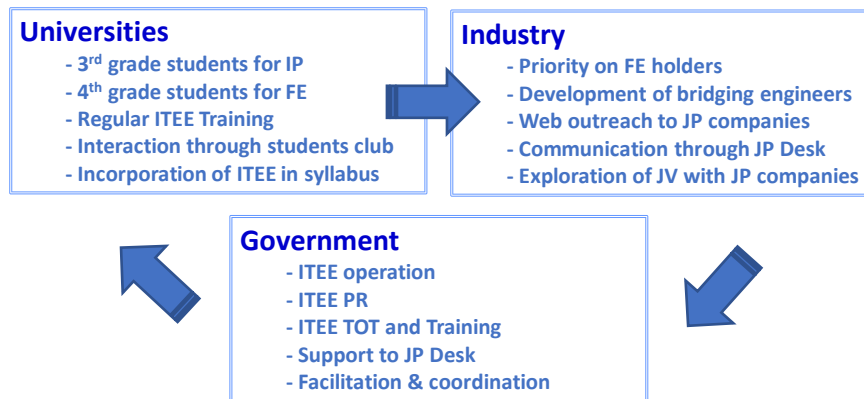
4.1. Vision

In order to maintain sustainability of ITEE management, it needs a clear vision and plan. As already mentioned, there are no strategies and plans to operate ITEE continuously. To tackle this issue, a framework of the ITEE Implementation Plan is required and it will be drawn by reflecting each survey analysis result as item 1). Other issues that are already clarified such as 2) utilization of ITEE are not well recognized, 3) ITEE's trainers are insufficient, 4) the functionality of BD-ITEC is insufficient. These are organized in the separate item. The following table illustrate how items are classified in the categories of the ITEE Implementation Plan and matched with pilot program in activities in Phase 2.

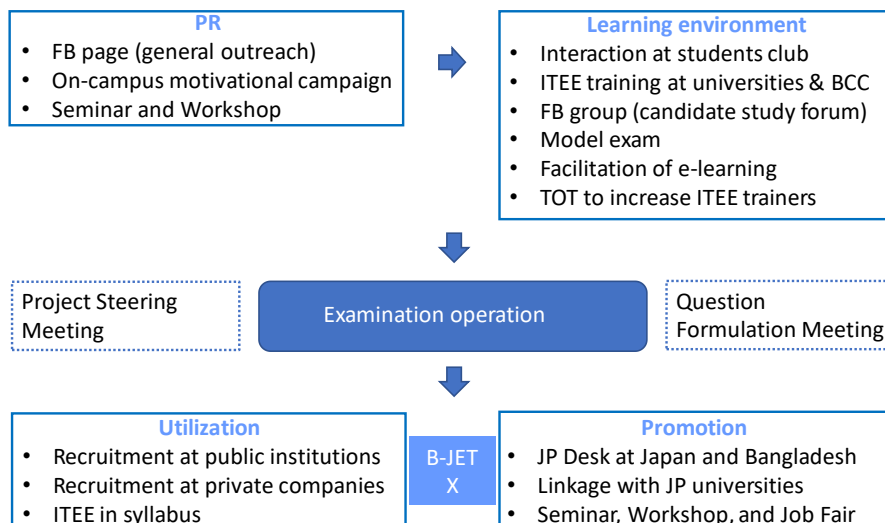
	Issues	Solutions	Items for ITEE Implementation Plan
1	There is no strategy nor plan for ITEE implementation.	Compilation of analyzed data from Activity 1(series of survey)	1. Framework (See Section 4.3.1)
2	Utilization of ITEE is not well recognized.	Government: Recruitment Rule University: ITEE Syllabus industry: Recruitment condition for hiring	2. Promotion Plan (See Section 4.3.2)
3	ITEE's trainers are insufficient.	Training plan and implementation of TOT	3. Learning Environment (See Section 4.3.3)
4	Functionality of BD-ITEC is insufficient.	Capacity building of BD-ITEC (Increase # of staff, training, exam management, budgeting)	4.Capacity building Plan for BD-ITEC (See Section 4.3.4)

4.2. Strategy

Strategy for the effective ITEE implementation is developing collaborative mechanism among universities, industry, and government. Universities which will be supplier of ITEE holders interact with Industry which will be demand side of ITEE holders, and this demand and supply relations of ITEE should be supported by government with the proper management of ITEE including PR, ToT, and examination operations. The following is a diagram which describes the roles of each stakeholders and relationship.



To actualize the vision to maintain sustainability of ITEE management, it requires effective implementation of strategy which is based on the assets of the project activities through Phase 2. Phase 2 focused on increasing the number of passers, so the team conducted proactive PR such as establishing Facebook site to approach mass outreach and on-site campaigns to universities and industries. Next, setting up learning environment is another key factor to increase the number of passers and maintain ITEE status. For the capacity building purpose, the team provided Training of Trainers (ToT) to develop ITEE trainers in universities, industry, and government. Before the exam, the team conducted series of model exams and lectures for the applicants. Through the Facebook site, the team organized Q&A site so that applicants can easily access to the proactive learning environment. Examination operation was already conducted by BCC, so the team did not provide any assistance, but team assisted how to utilize the ITEE, for example ITEE holders should be evaluated for recruiting criteria and applying concept of ITEE into syllabus for computer science in University. The team generated above mentioned activities as strategy flow as below.



4.3. ITEE Implementation Plan

4.3.1. Framework

Through the activity 1 in the Project Phase2, the team identified some of the issues that could be a framework that Bangladesh side consider including in the main policy of ITEE Implementation Plan.

- (1) **Medium- & Long-term plan:** Draft a plan until 2021 as a medium-term goal to assign activities while the government budget is allocated. Once the medium-term goal is set, it is ideal to draft a long-term goal after 2021 by Bangladesh side.
- (2) **Strengthen Linkage between Public, University and Industry:** ITEE development mechanism is needed to form based on the responsibility in each institution such as government as ITEE management, Industry to demand ITEE passers for requirement, and Educational institution to produce ITEE passers.
- (3) **Increasing business with Japan:** It is recommended to collaborate with Industry side such as BASIS to increase business transactions with Japanese companies by establishing Japan Desk. Passer rate of ITEE is one of the tools to appeal Japanese industries.
- (4) **Introducing soft skills:** Other than ITEE, many Japanese companies highly evaluate a foreign engineer with soft skills such as language, business manner, etc.
- (5) **Case study of other countries:** Based on the case study in other countries, it is recommended to include good practices in each country that study was conducted, Philippines, Vietnam, and Myanmar. Highlights of each good practices is describe in below.

	Philippines	Vietnam	Myanmar
Implementing agency	PhilNITS (NPO)	VITEC(NPO)	MCF(NPO)
Institution for good practices	PhilNITS Society	FPT Corporation	University of Information Technology (UIT)
Background	Alumni of ITEE passers	Large IT company	Top IT university
Good practices	<ul style="list-style-type: none">· Passers spread words on the merits of obtaining ITEE using social media such as Facebook· Passers organize and conduct lecturers of ITEE preparation	<ul style="list-style-type: none">· Plan to send 100,000 Vietnamese engineers to Japan by 2020 and encouraging engineers to obtain ITEE and JLPT· Established FPT university and introduce curriculum tailored to Japanese IT standard	<ul style="list-style-type: none">· Introduced ITEE elements into curriculum· Promotion of studying ITEE (IT passport at 3 years, FE at 4 years)

4.3.2. Promotion Plan

Promotional activities are very important to raise awareness of ITEE. It is essential to spread ITEE is the only ICT related national exam and it measure the basic ICT skill subjectively in Bangladesh.

- (1) **ITEE dissemination activities:** Conduct promotional activity on ITEE to Bangladesh ICT companies and universities such as seminar session and distribute flyers. At the same time promote to Japanese companies that ITEE acquired personnel has merit point to obtain occupational visa to Japan.

- (2) **Establishment of ITEE passer union:** Organize an union formed by ITEE passers and conduct ITEE dissemination activities (use successful case in Philippine)
- (3) **Utilization of Social Networking System:** Use Social Networking System (SNS) such as Facebook and twitter to form a public page for ITEE Bangladesh and set up Question and answer forum.
- (4) **Periodical campaign:** Twice a year before the exam, conduct campaign on campus and companies to increase the numbers of ITEE registration, and follow up the test takers by providing information about ITEE classes and intensive course until the exam date.
- (5) **Collaborative work with B-JET:** Create a promotional video by interviewing with returned B-JET program who acquired ITEE and use this video at campaign or other promotional activities.

4.3.3. Learning Environment

To set up ITEE learning environment, 50 trained ITEE lecturers during Phase 2 are fully utilized. Especially those who were selected for intensive training in Japan from each institution such as Government (GOV), Industry (IND), and University (UNI) will be the leaders of TOT (Master trainers) and, they are responsible for running, maintaining, and updating the ITEE learning environment. They will also lead and manage the rest of ITEE lecturers who were trained in phase 2 project.

- (1) **Form an organization of ITEE trainers:** Establish a committee for ToT in BCC (Master trainer of GOV in charge). Coordinate ITEE training and report the status at an annual meeting or equivalent to PSC or PIC. (Master trainer of UNI and IND in charge). Form a TOT registration system, and trainers are assigned to ITEE training to be held at BCC, BITM, or universities.
- (2) **Conduct ITEE training:** Those who attended TOT during phase 2 project, will conduct ITEE training course with Project budget such as 120 hours training in universities. In the long run, it is important to consider adopting e-learning or open course in rural area where there is test site such as Chittagong and others for the dissemination of ITEE nationwide.
- (3) **Conduct special training:** As for examination preparation purpose, the trainers will hold mock exam and intensive courses a few months before the exam.
- (4) **Follow-up by SNS:** the trainers provide further assistance by SNS such as Facebook to answer specific questions, make announcement for mock exam and intensive course.
- (5) **Conduct soft skill training courses:** Soft skill training such as foreign languages and human resource development course are conducted as part of BCC training courses to target Japanese market along with ITEE.

4.3.4. Capacity Building Plan for BD-ITEC

BD-ITEC is the organization to manage ITEE in Bangladesh and it plays very important role for the operation of ITEE. After technical assistance from by JICA, BD-ITEC is responsible for all the items which were assisted by JICA project team. Therefore, planning and capacity building of personnel at BD-ITEC is significantly crucial for better operations of ITEE in Bangladesh.

- (1) **Annual operational plan (including financial plan):** Prepare working papers for different components of the project and coordinate for the implementation. Re-evaluate examination fee based on the annual cost and budget of ITEE operations. Coordinate with TOT trainers and prepare annual lecture plans and intensive courses assignments.
- (2) **Maintain the quality of ITEE:** Organize, supervise and monitor course material development and multimedia-based courseware development.
- (3) **Function as ITEPC member:** Develop management capacity to run the ITEE exam the international standard of IPA, and ITPEC. Create number of quality questions maker with the standards of IPA and ITPEC.
- (4) **Promotion activities:** Scale up an international brand image of ICT industry in Bangladesh. Promote a brand image of Bangladeshi ICT professionals to be increased and more countries will be interested to invest in the ICT sector of Bangladesh.
- (5) **Liaison and coordination:** Work with concerned officials of the Ministry, Departments, Universities, ICT industries, ant other related agencies for implementation of the project. Work exclusively with foreign experts, other officers, accountant and staffs. Maintain BD-ITEC website by updating statistical data such as exam announcement, passer information, and future examination.

4.4. Action Plan

ITEE Imp mentation Plan is synchronize with an existing plan which have approval by GoB so called TAPP (Technical Assistance Project Proposal). Some of the activities are already planned and their budgets are already allocated in TAPP. Based on the given conditions, each activity of ITEE Implementation Plan is implemented in the following table.

5. Revision of ITEE Implementation Plan

The team proposed ITEE Implementation Plan from 2019 to 2021 described in the action plan, however, the plan needs to be maintained periodically. Especially ITEE Implementation Plan should be drafted after 2021 based on the status and evaluation of the activities between 2019 and 2021. ITEE Implementation Plan needs to be adjusted based on the indicators of ITEE such as the number of passers, and number of participants by reviewing the examination result twice a year. If the indicator turned out negative, identify issues and analyze the root cause by referring the lesson learned item from Phase 1 and Phase 2 for improvement action. Once the issues are identified, update the analysis by revising the ITEE Implementation plan based on the needs of current situation. Following diagram illustrate the workflow of revising and updating the ITEE Implementation Plan.

