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Report No: PAD1990

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT PAPER

ON A

PROPOSED ADDITIONAL FINANCING

IN THE AMOUNT OF SDR28 MILLION
(US\$39 MILLION EQUIVALENT)

AND RESTRUCTURING

TO THE

PEOPLE'S REPUBLIC OF BANGLADESH

FOR THE

LEVERAGING ICT FOR GROWTH, EMPLOYMENT AND GOVERNANCE PROJECT

September 29, 2016

Transport & ICT Global Practice
SOUTH ASIA

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CURRENCY EQUIVALENTS

(Exchange Rate Effective: July 7, 2016)

Currency Unit = Bangladeshi Taka (Tk.)
 77.04 Tk. = US\$1
 US\$1.3939 = SDR 1

FISCAL YEAR
 July 01 – June 30

ABBREVIATIONS AND ACRONYMS

A2I	Access to Information Programme	PIC	Project Implementation Committee
BCC	Bangladesh Computer Council	PMC	Project Management Consultant
BEC	Bid Evaluation Committee	PMO	Prime Minister's Office
BTRC	Bangladesh Telecommunications Regulatory Commission	e-Government	Electronic Government
CPF	Country Partnership Framework	FM	Financial Management
ccTLD	Country Code Top Level Domain	FMS	Financial Management Specialist
CBA	Cost-Benefits Analysis	GAAP	Governance and Accountability Action Plan
CIRT	Computer Incident Response Team	GDP	
CPTU	Central Procurement Technical Unit	GOB	Government of Bangladesh
CQ	Consultant Qualifications	Government	Government of Bangladesh
DPP	Development Project Proforma	GPN	General Procurement Notice
DRC	Disaster Recovery Center	IBRD	International Bank for Reconstruction and Development
ITI	Information Technology Institute	ICB	International Competitive Bidding
IT/ITES	IT and IT-Enabled Services	ICT	Information and Communication Technologies
IUFR	Interim Unaudited Financial Report	IDA	International Development Association
LCS	Least-Cost Selection	IT	Information Technology
LICT	Leveraging ICT for Growth, Employment and Governance Project (P122201)	PMS	Project Management Specialist
MOPTIT	Ministry of Post, Telecommunications and IT	PPA	Public Procurement Act
M&E	Monitoring and Evaluation		
NCB	National Competitive Bidding	PPR	Public Procurement Rules
NEA	National Enterprise Architecture	PSC	Project Steering Committee
OP/BP	Operational Policy/Bank Procedures	TAPP	Technical Assistance Project Proforma
PD	Project Director	WOG	Whole-of-Government
PDO	Project Development Objectives	SDR/XDR	International Monetary Exchange Special Drawing Rights

Vice President:	Annette Dixon
Country Director:	Qimiao Fan
Senior Global Practice Director:	Pierre Guislain
Practice Manager/Manager:	Jane Treadwell
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Co-Task Team Leader:	Shah Nur Quayyum

**BANGLADESH
BANGLADESH ADDITIONAL FINANCING FOR LEVERAGING ICT FOR
GROWTH, EMPLOYMENT AND GOVERNANCE PROJECT**

CONTENTS

Project Paper Data Sheet	4
Project Paper	
I. Introduction	8
II. Background and Rationale for Additional Financing	10
III. Proposed Changes	15
IV. Appraisal Summary	20
V. World Bank Grievance Redress	24
Mandatory Annexes	
Revised Results Framework and Monitoring Indicators	25
Optional Annexes	
Annex 1: Detailed Description of Modified or New Project Activities	28
Annex 2: Adjusted Economic and Financial Analysis	34

ADDITIONAL FINANCING DATA SHEET

Bangladesh

BD: AF for Leveraging ICT for Growth, Employment, Governance Project (P159497)

SOUTH ASIA

GTI09

Basic Information – Parent							
Parent Project ID:	P122201			Original EA Category:	C - Not Required		
Current Closing Date:	31-Dec-2017						
Basic Information – Additional Financing (AF)							
Project ID:	P159497			Additional Financing Type (from AUS):	Cost Overrun, Restructuring, Scale Up		
Regional Vice President:	Annette Dixon			Proposed EA Category:			
Country Director:	Qimiao Fan			Expected Effectiveness Date:	30-Nov-2016		
Senior Global Practice Director:	Pierre Guislain			Expected Closing Date:	30-Jun-2019		
Practice Manager/Manager:	Jane Lesley Treadwell			Report No:	PAD1990		
Team Leader(s):	Siou Chew Kuek, Shah Nur Quayyum						
Recipient							
Organization Name	Contact	Title	Telephone	Email			
Bangladesh Computer Council	S.M. Ashraful Islam	Executive Director	88-02-55006848	ed@bcc.net.bd			
Project Financing Data - Parent (BD: Leveraging ICT Growth, Employment and Governance Project-P122201) (in USD Million)							
Key Dates							
Project	Ln/Cr/TF	Status	Approval Date	Signing Date	Effectiveness Date	Original Closing Date	Revised Closing Date
P122201	IDA-50250	Effective	20-Sep-2012	26-Nov-2012	24-Jan-2013	31-Dec-2017	31-Dec-2017
Disbursements							

Project	Ln/Cr/TF	Status	Currency	Original	Revised	Cancelled	Dis-bursed	Un-disburse d	% Disburse d
P122201	IDA-50250	Effective	XDR	44.20	40.00	4.20	19.99	20.01	49.98

Project Financing Data - Additional Financing BD: AF for Leveraging ICT for Growth, Employment, Governance Project (P159497)(in US D Million)

Loan Grant IDA Grant

Credit Guarantee Other

Total Project Cost: 40.00 Total Bank Financing: 39.00

Financing Gap: 0.00

Financing Source – Additional Financing (AF)	Amount
BORROWER/RECIPIENT	1.00
International Development Association (IDA)	39.00
Total	40.00

Policy Waivers

Does the project depart from the CAS in content or in other significant respects?

No

Explanation

Does the project require any policy waiver(s)?

No

Explanation

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
Siou Chew Kuek	Team Leader (ADM Responsible)	Senior ICT Policy Specialist	Team lead and ICT Specialist	GTI11
Shah Nur Quayyum	Team Leader	Financial Sector Specialist	Co-team lead and operations	GFM06
Tanvir Hossain	Procurement Specialist (ADM Responsible)	Senior Procurement Specialist	Procurement	GGO06

Mohammed Atikuzzaman	Financial Management Specialist	Financial Management Specialist	Financial management	GGO24
Andrea Ruiz-Esparza	Team Member	Senior Program Assistant	Operations	GTI09
Jorge Luis Alva-Luperdi	Counsel	Senior Counsel	Legal	LEGES
Sabah Moyeen	Safeguards Specialist	Senior Social Development Specialist	Social Safeguards	GSU06
Satish Kumar Shivakumar	Team Member	Finance Officer	Finance Officer	WFALN
Shashank Ojha	Team Member	Senior e-Government Specialist	Snr ICT Specialist	GTI09
Tapas Paul	Safeguards Specialist	Senior Environmental Specialist	Environmental Safeguards	GEN06
Tenzin Dolma Norbhu	Team Member	Program Coordinator	Adviser	GTI09

Extended Team

Name	Title	Location
Ahsan Habib	Local IT Consultant	Dhaka, Bangladesh
Alan Carroll	STC/Operations Adviser	
Rihfat Ara	Temporary/Program Assistant	
Sebastian Foo	e-Government Consultant	Singapore, Singapore

Locations

Country	Division	Location	Planned	Actual	Comments
Bangladesh	Khulna	Jessore		X	
Bangladesh	Rajshahi	Rajshahi		X	
Bangladesh	Dhaka	Dhaka		X	
Bangladesh	Chittagong	Chittagong		X	
Bangladesh	Sylhet	Sylhet		X	

Institutional Data

Parent (BD: Leveraging ICT Growth, Employment and Governance Project-P122201)

Practice Area (Lead)

Transport & ICT

Contributing Practice Areas

Additional Financing BD: AF for Leveraging ICT for Growth, Employment, Governance Project (P159497)

Practice Area (Lead)

Transport & ICT

Contributing Practice Areas

Governance, Jobs, Trade & Competitiveness

Consultants (Will be disclosed in the Monthly Operational Summary)

Consultants Required? Consulting services to be determined

I. Introduction

1. This Project Paper (PP) seeks the approval of the Executive Directors to provide an additional credit in an amount of SDR28 million (US\$39 million) to the Bangladesh Leveraging ICT for Growth, Employment and Governance Project (P122201, credit number 5025-BD, referred hereafter as “Project” or “parent project”).

2. This PP also seeks approval for Level 2 restructuring to amend 2 of the 5 performance indicators in the parent project’s original financing agreement (OFA); and to extend the closing date of the parent project by 18 months. The proposed changes to the OFA’s indicators are for aligning the official indicators with those used in practice by the Project, and increase the official indicators’ relevance for performance measurement purposes. The operating costs and training definitions are also to be amended to reflect the new country financing parameters.

3. *Rationale and expected outcomes for additional financing project (AF):* Annex 1 provides detailed description of the new and/or modified activities under this AF, and its purpose is to:

- i. Address the financing gap in component 1 on IT/ITES, to enable the Project to complete its critical demand oriented activities; and achieve its original target of generating 30,000 IT/ITES jobs for youth and women, and increase the industry’s revenue by \$200 million. The Project has experienced a SDR/USD exchange rate loss of \$8.4 million to date; and an additional \$5.9 million if the cancelation in May, 2014 is taken into account (total of \$14.3 million). The AF’s proposed IT/ITES activities for \$12 million will enable the project to implement the demand oriented activities on (i) chief executive officer (CEO) outreach for investment promotion and international business development, which has a higher than expected cost to engage a reputable and proven firm with niche expertise and experience in the IT/ITES subsector. The AF will also (ii) support a training and employment program in the online freelancing sub-industry, for which Bangladeshi youth and women are proving to have comparative advantage against global freelancers.
- ii. Scale-up the e-Government activities in component 2, to meet the immediate needs and overwhelming demand by other public agencies for the initial e-Government foundations (\$21.5 million). The activity will scale up the cybersecurity component to increase Bangladesh’s ability to meet further security risks and threats; in view of the country’s recent heist experience. The National Data Center (NDC) will also be expanded, as it is fully utilized and not able to meet the overwhelming demand by other agencies. The National Enterprise Architecture (NEA) will be mainstreamed to additional agencies for increased coordination and efficiency in the government’s use of ICT. The AF’s support will further contribute to increased administrative efficiencies, public service effectiveness, coordination and cybersecurity in the GOB’s use of ICT for public administration and development.
- iii. Ensure continuity of the Project Coordination Unit (PCU) until the proposed new closing date, provide transitional support to BCC in their process of becoming the government’s technology office, and to mainstream the existing e-Government foundations (including cybersecurity) to additional public sector agencies, under

Component 3 (\$6.5 million; including counterpart financing of \$1 million). The AF's support will enable the Project to achieve sustainability, as the implementing agency's capacity and experience will be improved. These resources are hired in the interim to support BCC until its new organogram is approved and the hiring process of the new positions is complete.

4. *Rationale and expected outcomes for amendment to OFA's indicators and time extension:* The amendment to the OFA's 2 indicators will align it to the indicators used by the Project, and increase their relevance for measuring the Project's performance. The proposed changes are:

- i. The OFA's indicator on "inclusion as one of the preferred countries for outsourcing in global IT/ITES rankings by major consulting firms"; will be replaced with "increase in IT/ITES industry revenue". The latter indicator is the one that is utilized by the Project, and is of higher relevance and usefulness for measuring the IT/ITES component's performance.
- ii. The OFA's indicator on "number of direct Project beneficiaries" would also be removed. This generalized indicator has not been used by the parent project, and overlaps with the current intermediate results indicator used on "number of manpower trained under the Project". There is a more relevant new intermediate indicator to be included into the results framework on "number of women who have been trained and gained marketable skills", which is also for gender monitoring purposes.
- iii. The Government of Bangladesh (GOB) has also requested an extension of the Project's closing date by 18 months (until 30 June, 2019). This extension is for implementing the successful e-Government component's scale up activities under this proposed AF. It will also enable the Project's IT/ITES component more time to achieve the results, which were delayed due to the initial implementation delays (which lead to the restructuring in May, 2014); and ensure quality delivery of the component's mass training activities to 30,000 youth and women.

5. The detailed Project descriptions below provides detailed information on the key changes and additions in this AF; which are summarized as follows:

- i. *Results framework:* The target dates for all the results indicators will be revised to reflect the new closing date proposed. The results framework will also include two new indicators on gender and citizen engagement. This first additional is a gender monitoring indicator on the "number of women who have been trained and gained marketable skills". The second new indicator on citizen engagement is for the percentage of "trainees satisfied with the training provided".
- ii. *Financial and disbursements:* The original financing parameters will be adjusted to reflect the eligible expenditures under the country's new financing parameters. The disbursement arrangements and categories of the AF will remain unchanged from those of the parent project. However, the AF would not include works, training and grants categories. The implementing agency will maintain separate, clearly demarcated accounts for both the credits and separate Designated Account for the AF in Janata Bank; with separate budgets and IUFs.

- iii. *Procurement*: This AF will utilize the Bank's new procurement framework, and its associated Systematic Tracking of Exchanges in Procurement (STEP) system for online procurement planning and end-to-end tracking system. Relevant team members from the Project Coordination Unit (PCU) will be briefed and trained on the use of the new procurement framework and the STEP system; and procurement packages will use the new framework for flexibility, quality, and greater value of public spending. All procurement will be done as per the Project Procurement Development Strategy.
- iv. *Climate and geophysical hazards, GHG and climate co-benefits*: The AF is assessed to have low risk at this high-level level of screening using the climate and disaster risk screening tool. It is also not subject to GHG accounting, as it does not fall under the projects types for which agreed methodologies exist. This AF is also eligible for the climate co-benefits under the Info and Communications category.

II. Background and Rationale for Additional Financing

6. **Background**: The parent Leveraging ICT for Growth, Employment and Governance Project ("LICT" or "Project") was initiated by the Government of Bangladesh (GOB) in 2011 to address fundamental digital development issues at its inception. Specifically it seeks to support GOB's Vision 2021 and Sixth Five Year Plan at that time, which had ambitious developmental targets and puts an impetus on the use of ICT for improving factor productivity, governance and service delivery, and on the development of the IT industry. The government has also actively promoted its Digital Bangladesh program which has generated high expectations among citizens. The government recognized the need to leverage electronic government (e-Government) for public services delivery and to facilitate these public sector reform efforts; but the lack of basic IT infrastructure and shared services presented a major barrier. The IT/ITES industry was also relatively nascent. The industry was identified as an area of comparative advantage that could generate much need youth and women's employment, and contribute to growth of the services industry and exports.

7. **Project Financing**. An IDA credit of SDR44,200,000 (\$70 million equivalent at time of negotiation) was approved for LICIT on 20, September, 2012; and the credit became effective on 24 January, 2013. In-kind counterpart financing of an estimated \$1 million was also contributed by GOB.

8. The Project was restructured on May 15, 2014, with a cancelation of SDR4,202,500 (equivalent to \$5,857,865). The restructuring was carried out in view of the slow disbursements in the first year of implementation. It also canceled two activities that were overlapping to some degree with other projects; namely the company certification activity under the ITES component; and videoconferencing facilities under the e-Government component. The restructuring resulted in significantly improved implementation performance in subsequent years, as the PCU speeded up implementation and focused their attention to the project's commitments and disbursements. The PCU had spent significant amount of time and resources in the first year preparing for implementation; due to the time required to set up its resources and structure, and extensive consultations with local stakeholders on the project's detailed design. The PCU was also highly motivated by the Bank's commitment to provide additional financing for the canceled amount, if the project is able to show improved performance.

9. The revised credit amount is at SDR39,997,500 (equivalent to \$55,752,515), including an exchange rate loss of \$8,389,620. The loss (excluding the cancellation) represents a 12 percent reduction to the Project's overall budget envelope due to volatility of the SDR to USD exchange rates.

10. **PDO and Components.** The original PDO is to (i) catalyze the growth of Bangladesh's IT/ITES industry for employment creation and export diversification; and (ii) establish basic e-Government foundations to support public sector modernization. The Project has the following main components and financing amounts (US\$ at approval/after cancellation):

- i. Component 1 on IT/ITES Industry Development (\$35 million/\$32.5 million): This component will increase the competitiveness of Bangladesh's IT/ITES industry by increasing the quantity and quality of skills, awareness and perception of the country.
- ii. Component 2 on e-Government (\$29 million/\$27 million): This component will provide critical e-Government technological foundations to support public sector modernization and the e-Government agenda for the years ahead, and build the human capacity to leverage technology within government.
- iii. Component 3 on Project Management Support (\$4 million/\$4 million): This component will support the creation and functioning of the Project Coordination Unit (PCU), hire the required specialists, and support its operational needs.

11. The project also included \$2 million in physical and financial contingencies, which were canceled during the restructuring in 2014.

12. There has not been any changes to the PDO as it remains fully relevant and aligned with the country and sector priorities; especially given the country's priorities for Digital Bangladesh, export diversification, job creation and building a knowledge society, and the strong demand and adoption of the e-Government foundations built by the Project. There were also no substantive changes to the original design and scope of the Project, as the components remain appropriate and relevant for achieving the PDOs.

13. **Performance: PDO, IP, Loan Covenants, Fiduciary and Safeguards:** The Project's PDO rating is moderately satisfactory (MS), as it has performed above satisfactory for its e-Government results, but is lagging in its IT/ITES results. With reference to the results framework attached; the Project is expected to achieve three out of the four project development objectives (PDO) indicators by the current closing date. One of the two PDO level indicators for the e-Government component has been exceeded, and the other is on track. These positive results are due to the high demand for shared IT infrastructure across government agencies. With regard to the other two PDO-level results on the IT/ITES component, the first on IT/ITES employment is significantly delayed and unlikely to be met by the current closing date because of the initial delays in implementation, and the second on IT/ITES industry revenue is slightly delayed. Most of the intermediate results indicators are also on track.

14. The Project's IP rating has been upgraded to satisfactory (S) in the last mission in May, 2016. Its overall results, disbursement and commitments indicate that implementation is generally on track, and there has been steady progress since MTR. The results for the e-Government are on

target; but there is a need for the team to focus on the implementation of the IT/ITES component because of its slower implementation and impact cycle, and the need to scale up implementation to achieve this component's results. Official disbursements are at 50 percent, which represent a 12 percent increase in disbursements since MTR in August, 2015. A steady disbursement stream is expected for the remainder of the Project, as a result of ongoing implementation of the largest subcomponents on skills development. The Project's commitment has also increased steadily from 75 to 84 percent since the MTR. Commitments are expected to remain the same for the next 6 months, as more time is needed to ensure quality of the two most important IT/ITES activities expected to drive demand and employment in the industry. Additional financing is required urgently to meet the immediate demands on e-Government, in addition to the increasing levels of disbursements and commitment.

15. The Project's PDO and IP rating have both been consistently rated Moderately Satisfactory over the last 12 months; with an upgrade of IP to Satisfactory in the last mission as mentioned above. It has also complied with all its key loan covenants, including audit and financial management reporting requirements. The overall fiduciary performance rating of the Project is Satisfactory (S); and the fiduciary risk is Moderate (M). The fiduciary capacity of the Project is deemed adequate for financial management and procurement, in line with recommended implementing arrangements. Procurement risk is Moderate (M) and Financial Management Risk also Moderate (M). The Project also does not present any significant social issues according to the World Bank's safeguard policies and procedures (operational policy (OP) 4.12, OP4.10, OP7.50 and OP7.60). There are no significant environmental issues associated with this Project. In accordance with the Bank's safeguard policies on the environment (OP/BP/GP4.01 Environment Assessment), the Project has been assigned Category C, indicating that no environmental issues are anticipated.

16. **Rationale for additional credit:** The AF is needed to scale up the e-Government activities to meet the immediate needs and demand for e-Government foundations, and increase its development impact. It is also needed to address the financing gap due the depreciation in the SDR/US\$ exchange rates (excluding the canceled amounts), for the Project to meet its original IT/ITES results. The results to create employment and increase industry revenue remain unchanged since the Project's approval, in spite of the significantly reduced budget. The details are as follows:

a.Support to the current CPF FY16-FY20: This AF contributes directly to the current CPF's identified focus areas in multiple ways. For example in the focus area of growth and competitiveness; the proposed IT/ITES activity will enable Bangladesh institutions and companies to engage professionally with global and regional multi-national corporations; in order to attract them to outsource their IT-based services to Bangladesh, create new economy employment, and contribute to transformational growth. The online outsourcing activity will also improve social inclusion; as it will provide unemployed youth/women and rural inhabitants access to global work opportunities and flexible employment from their locality, as long as they have access to internet and computers. The AF also contributes to the AF identified need for sustained upstream and downstream interventions to support governance reforms. The cybersecurity activity will enable the public agencies to better manage digital risks, especially given the recent heist issue. The expanded national datacenter will also enable more agencies to benefit from increased efficiency and robustness of their public services, by hosting their systems

in a shared and reliable, and cost effective hosting facility. Mainstreaming of the national enterprise architecture will also enable more agencies to improve their coordination provide one-stop public services; and increase interagency data sharing for monitoring and increasing transparency of governance.

b.To meet immediate needs and demand for e-Government: The Project is not able to meet the immediate needs and demand for e-Government foundations from other agencies and their projects, including Bank financed projects in the country. The recent Bangladesh Bank heist illustrates the important need for such shared e-Government infrastructure and services across GOB, and the need for the Bank to ensure an appropriate level of security for the ICT-related activities in its financed projects. The existence of GOB cybersecurity procedures, policies, and guidelines as well as a national cybersecurity team would help to reduce the potential for further incidents. The use of the NDC by GOB agencies also helps to provide a higher level of security and reliability for public service delivery, in addition to bringing significant cost savings, as compared to each agency or project developing and operating their own datacenters. This AF is also required to meet the immediate demand for the e-Government foundations across agencies. The NDC is already fully utilized, and the NEA has been adopted by three agencies since its completion in January 2016. This AF will also enable BCC to mainstream the use of the e-Government foundations across more agencies, in order for more GOB agencies and projects to benefit from the higher security, reliability, and significant cost savings of using the shared e-Government foundations.

c.AF is part of the holistic, long-term needs for e-Government: This AF request is part of the longer-term projected needs for e-Government foundations across GOB. BCC had initially requested a significantly larger amount of an estimated \$200 million for additional financing. Their estimate was largely based on an Ernst and Young datacenter audit and expansion study completed in June 2014 for the LICT project. The study estimated a requirement of 200 racks in 10 years' time, and the need for a shared backup/disaster recovery datacenter across government. The high demand experienced by the project to date suggests the estimate is feasible. Given that the sum requested exceeded the budget of the original LICT project, the Bank and BCC agreed that the immediate needs be separated into this smaller AF request, and for the medium to long-term request to be processed under a separate project. BCC (through MOPTIT) has already requested \$231 million for the "Integrated e-Government Project" to address their medium to longer-term needs in e-Government. This proposed new project will also leverage the whole-of-government approach, which has been proven to increase public sector efficiencies and enhance public service delivery in a holistic and cost-effective manner. It also enables government transformation by moving governments from a fragmented situation to a centralized model that can facilitate more informed decision making and improved intragovernmental coordination.

d.To complete implementation of the IT/ITES component's activities: The Project is unable to complete its IT/ITES activities because of the financing gap. The gap is \$8.4 million due to foreign exchange losses, and an additional \$5.9 million if the cancelation is taken into account (total of \$14.3 million). The remaining activities on CEO outreach and online outsourcing are particularly important for achieving the remaining IT/ITES results, as they are the main demand-oriented activities that are will contribute to the outstanding IT/ITES employment target. These two IT/ITES activities could not be implemented within the original budget; as the exchange rate

had fluctuated unfavorably, and due to the significantly higher cost of the chief executive officer outreach activity.

e.To enable the PCU's functioning and mainstreaming: This AF is also needed for the PCU to function until the end of the new closing date. In addition it will enable the PCU to mainstream the Project's important e-Government foundations across government, especially with regards to the NDC, NEA, and cybersecurity.

17. **Alternatives considered.** The following alternatives to the proposed AF and the restructuring have been considered and rejected:

- i. *Doing Nothing.* There is clear opportunity to enhance the development impact of the Project's e-Government component, and the financing gap had to be addressed for the Project to meet its IT/ITES results. This AF also provides the opportunity to align the OFA's indicators with those used in practice, and increase their relevance for measuring the Project's performance.
- ii. *Restructure without Additional Financing.* A restructuring to reduce the IT/ITES results targets could reflect the significantly reduced resources for the Project; but these targets on employment for youth and women, and increasing exports, are priority development issues for Bangladesh. The Project has also improved its performance significantly since the initial implementation delays and restructuring in May, 2014.
- iii. *Alternative funding source.* GOB has considered bilateral finance for this requirement, given the significant interest and resources for this sector by neighboring countries. The implementing agency's assessment and varied experiences working with such donors indicate that this form of financing is not viable, as the major activities for this AF requires international expertise that are not available from a single country's providers. These activities' scope also extend beyond the typical hardware or physical assets offered for such financing; as it includes national enterprise architecture and cybersecurity for e-Government; to IT/ITES employability training and industry promotion.

III. Proposed Changes

Summary of Proposed Changes	
The proposed changes are to (i) enable implementation of the remaining IT/ITES activities in component 1 that cannot be implemented owing to the financing gap; and (ii) scale-up the e-Government activities in component 2, to meet the immediate needs and overwhelming demand by other public agencies for the initial e-Government foundations, and address urgent cybersecurity challenges.	
Change in Implementing Agency	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]
Change in Project's Development Objectives	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]
Change in Results Framework	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>]
Change in Safeguard Policies Triggered	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]
Change of EA category	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]
Other Changes to Safeguards	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]
Change in Legal Covenants	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]
Change in Loan Closing Date(s)	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>]
Cancellations Proposed	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]
Change in Disbursement Arrangements	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]
Reallocation between Disbursement Categories	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]
Change in Disbursement Estimates	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>]
Change to Components and Cost	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>]
Change in Institutional Arrangements	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]
Change in Financial Management	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>]
Change in Procurement	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>]
Change in Implementation Schedule	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>]
Other Change(s)	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>]
Development Objective/Results	
Project's Development Objectives	
Original PDO	
The PDO is to (i) catalyze the growth of Bangladesh's IT/ITES industry for employment creation and export diversification; and (ii) establish basic e-Government foundations to support public sector modernization.	
Change in Results Framework	
Explanation:	
Adjustments were made to the results framework to reflect the changed project duration, scope and budget. The target for the PDO-level indicator on percentage of ministries that have undertaken 1 or more	

skills development course was increased from 25 to 40 percent. The intermediate level indicator targets on savings in government IT spending was increased from 15 to 20 percent, and the number of manpower trained under the project was increased from 30,000 to 40,000. These changes are in addition to new social safeguard indicators on the number of women trained and gained marketable skills, and percentage of trainees satisfied with the training at BCC. All the indicators' end target dates have also been adjusted to reflect the new closing date of June 30, 2019.

Compliance

Covenants - Additional Financing (BD: AF for Leveraging ICT for Growth, Employment, Governance Project - P159497)

Source of Funds	Finance Agreement Reference	Description of Covenants	Date Due	Recurrent	Frequency	Action
IDA	Article IV, 4, 4.01	The Operational Manual has been updated by the Recipient in a manner satisfactory to the Association	31-Oct-2016	<input type="checkbox"/>		New
IDA	Article 4, 4.02	The Effectiveness Deadline is the date ninety (90) days after the date of this Agreement.	15-Dec-2016	<input type="checkbox"/>		New
IDA	Schedule 2, II, B.4	The Recipient shall maintain throughout the period of implementation of the Project: (a) the services of a financial management specialist and an accountant, both with education, experience and terms of reference satisfactory to the Association; and (b) an		<input checked="" type="checkbox"/>	CONTINUOUS	New

IDA	Schedule 2.I.C	<p>operational computerized accounting system for the Project, satisfactory to the Association.</p> <p>The Recipient shall ensure that any activity under the Project are carried out in accordance with the provisions and arrangements set out in the Operational Manual</p>		☒	CONTINUOUS	New
IDA	Schedule 2.I.D	<p>The Recipient shall prepare and furnish to the Association for approval, each year during Project implementation, an annual work plan and budget for the Project, covering the activities proposed for the subsequent year of Project implementation; which plan and budget shall be of such scope and detail as the Association shall have reasonably requested</p>		☒	Yearly	New

Conditions

Source Of Fund	Name	Type			
Description of Condition					
Risk					
Risk Category		Rating (H, S, M, L)			
1. Political and Governance		Moderate			
2. Macroeconomic		Low			
3. Sector Strategies and Policies		Moderate			
4. Technical Design of Project or Program		Moderate			
5. Institutional Capacity for Implementation and Sustainability		Moderate			
6. Fiduciary		Moderate			
7. Environment and Social		Low			
8. Stakeholders		Moderate			
9. Other		-			
OVERALL		Moderate			
Finance					
Loan Closing Date - Additional Financing (BD: AF for Leveraging ICT for Growth, Employment, Governance Project - P159497)					
Source of Funds		Proposed Additional Financing Loan Closing Date			
International Development Association (IDA)		30-Jun-2019			
Loan Closing Date(s) - Parent (BD: Leveraging ICT Growth, Employment and Governance Project - P122201)					
Explanation:					
An extension of the closing date of the parent project by 18 months (until 30 June, 2019) is requested by the client. This extension is for implementing scale up of the successful e-Government component; and for meeting its IT/ITES component results and ensuring the quality of its mass training.					
Ln/Cr/TF	Status	Original Closing Date	Current Closing Date	Proposed Closing Date	Previous Closing Date(s)
IDA-50250	Effective	31-Dec-2017	31-Dec-2017	30-Jun-2019	
Change in Disbursement Estimates			(including all sources of Financing)		
Explanation:					
Estimates are adjusted to reflect the new closing date; and are based on current SDR/US\$ exchange rates.					

Expected Disbursements (in USD Million)(including all Sources of Financing)										
Fiscal Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Annual	6.2	0.00	7.5	15.2	18.0	20.0	27.9	0.00	0.00	0.00
Cumulative	6.2	6.1	13.7	28.9	46.9	66.9	94.8	0.00	0.00	0.00

Allocations - Additional Financing (BD: AF for Leveraging ICT for Growth, Employment, Governance Project - P159497)

Source of Fund	Currency	Category of Expenditure	Allocation	Disbursement %(Type Total)
			Proposed	Proposed
IDA	USD	Goods, consultants services, non-consulting services	38,500,000.00	100
IDA	USD	Operating Costs (including counterpart financing of \$1 million)	1,500,000.00	100
		Total:	40,000,000.00	

Components

Change to Components and Cost

Explanation:

The changes to the (i) IT/ITES industry development component are for addressing the financing gap to complete implementation of the key activities; (ii) e-Government component are for scale up of the successfully established foundations and address urgent cybersecurity challenges, and (iii) project management support is for the PCU to function until the end of the new closing date, and mainstream the important e-Government foundations from the parent project across government. The US\$ amounts for current costs are based on SDR/US\$ exchange rates at project initiation.

Current Component Name	Proposed Component Name	Current Cost (US\$M)	Proposed Cost (US\$M)	Action
IT/ITES Industry Development	IT/ITES Industry Development	32.50	44.50	Revised
e-Government Technology Foundations	e-Government Technology Foundations	27.00	48.50	Revised
Project Management Support	Project Management Support (including counterpart financing of \$1 million)	4.00	10.50	Revised
	Total:	63.50	103.50	

Other Change(s)

Implementing Agency Name

Type

Action

Change in Financial Management

Explanation:

The original financing parameters will be adjusted to reflect the eligible expenditures under the country's new financing parameters. It will specify that eligible expenditures for incremental operating expenses and training will not include fuel, salaries of civil servants, per diem paid in cash, allowances and honorarium of officials of the Recipients civil service and/or other sitting allowances and honorariums, etc.; and any cash payment other than that approved under GOB petty cash rules. These changes are also reflected in the financing agreement for this additional financing. GOB will also have to make sufficient provision for the new financing parameter in their Development Project Proforma (DPP); and their \$1 million counterpart contribution will be used to finance the associated expenditure for items excluded in these new parameters.

Change in Procurement

Explanation:

This AF project will utilize the new procurement framework of the Bank as it is mandatory for all operations with concept reviews after July 1, 2016. It will also use the new framework's associated Systematic Tracking of Exchanges in Procurement (STEP) system for online procurement planning and end-to-end tracking system. Relevant team members from the Project Coordination Unit (PCU) will be briefed and trained on the use of the new procurement framework and the STEP system; and procurement packages will be use the new framework for flexibility, quality, and greater value of public spending.

Change in Implementation Schedule

Explanation:

Schedule is revised due to the time extension/new closing date.

Appraisal Summary

Economic and Financial Analysis

Explanation:

The analysis for both the IT/ITES and e-Government were adjusted to account for the change in project duration, scope and budget; and the details and results are presented in Annex 2 of the Project Paper.

For the IT/ITES component - the adjusted net present value (NPV) is \$22 million instead of \$20 million, and the return on investment (ROI) is 58 instead of 59 percent. The NPV and ROI remains close to the original estimate, due to the additional 1.5 years in benefits while the cost has increased only slightly. The decrease of 2.8 percent per year in the cash discount rate also has a significant effect on the NPV and ROI, as they would be \$10 million 27 percent respectively if the rate had not decreased. The component is expected to breakeven at an estimated 39 percent (11,730 out of 30,000) of projected employment instead of 48 percent. This improvement is also due to the longer duration for benefits but moderately increased cost. The estimated breakeven level of employment occurs at 10,000 instead of 7,500 jobs; and is after year 5 instead of year 3. This is due to the initial slow start of the project and the delayed IT/ITES results.

The e-Government component are also expected to have a high ROI for this AF. The original analysis provided benchmarked cost savings by commercial customers using a shared datacenter of 15 to 20 percent, and cost savings of 73.3 percent for a Bank-financed project in Moldova. The adjusted CBA analysis also shows that the cost of this component represents only 3.3 percent of the five year budget for Ministry of Post, Telecommunication and IT (MOPTIT). This percentage is minuscule compared to the saving benchmarks, and suggests that the component will be highly cost-effective with a high ROI. The benefits and returns would be higher in multitudes, if the savings for other government agencies using the e-Government foundations are taken into account. This result is also aligned with the original analysis, for which the component cost represented only 0.03 percent of overall government budget across all ministries and departments.

Technical Analysis

Explanation:

The list below shows the breakdown of activities to be financed under this AF; and Annex 1 provides the detailed technical description of each of these activities.

- Component 1: IT/ITES Industry Development (for Financing Gap)
 - i. Strengthening of CEO outreach activity (additional to current budget): \$5.5m
 - ii. Oversea event and travel organizer: \$0.5m
 - ii. Online outsourcing training for 10,000 trainees: \$6m

- Component 2: e-Government (for Scale Up)
 - i. Additional National Data Center (NDC) expansion and annual maintenance contract: \$10m
 - ii. Mainstreaming of the NDC across other agencies: \$2m
 - iii. Mainstreaming of the National Enterprise Architecture (NEA) across agencies: \$1.5m
 - iv. Technical assessment of the NEAs medium to long-term needs to move to an integrated e-Government infrastructure and services: \$1m
 - v. Pilot on data analytics for use as NEA platform across government: \$0.5m
 - vi. Development of cybersecurity strategy, assessments, systems hardening and mainstreaming: \$6.5m

- Component 3: Project Management Support (for Continued Implementation Capacity and Mainstreaming)
 - i. Extension of existing consultant contracts until extended Project closing date: \$3m
 - ii. Additional PCU resources to meet immediate needs and demands on NDC, NEA and cybersecurity: \$2m
 - iii. Operating cost: \$1.5m (including counterpart financing of \$1 million)

The IDA credit for the original Project is fully committed in principle; and the AF usage by components is as follows:

1. \$12 million to address the financing gap and cater to the significantly higher cost of the CEO outreach activity: The proposed budget will be used to complete three key activities in IT/ITES; which are the (i) the CEO outreach for direct business development by Bangladesh with international IT/ITES clients and providers; (ii) event and travel organizer to provide logistical support to the CEO outreach event, and (iii) online outsourcing/freelancing training and employment program to support growth in this promising new area of online employment for Bangladesh. Fluctuations in the USD/XDR exchange rate have reduced the purchasing power of the IDA credit by \$8.4 million, or 12 percent of the original credit amount. This shortfall had been exacerbated by the restructuring in May 2014, which canceled \$5.9 million (SDR4.2 million). The total financing gap is \$14.3 million if the cancelation is taken into account. The CEO

outreach is the most important activity for achieving the projects IT/ITES results but the cost are significantly higher than estimated; due to the need to increase the scope and quality of this important activity, and cater to the increase in GOB taxes for consulting services.

2. \$21.5 million to scale up the e-Government component: The scale up is for the component only to meet the immediate needs for e-Government foundations across the other agencies and projects. The National Data Center (NDC) is also fully utilized with outstanding requests that are unmet. Its 83 rack spaces are fully installed and used by various agencies, including Bank funded projects with Election Commission (for the NID), NBR and BBS. There are also immediate outstanding requests by other GOB agencies for a total of 34 rack spaces. The bulk of the AF for this component will be for expanding the NDC and to scale up the national cybersecurity effort by developing a strategy, assisting key agencies in cybersecurity assessments and fixing security loopholes. The other key activities are to mainstream NDC and NEA to additional agencies and projects; in order to enable higher efficiency and effectiveness, and standardize the use of ICT across additional agencies.

3. \$6.5 million for project management support (including counterpart financing of \$1 million): The Project Coordination Unit (PCU) will use this AF to extend the existing consultant contracts until the new project end date (refer to time extension below). It will also hire resources for transitioning BCC to become the government technology office; and for immediate mainstreaming of the NDC, NEA, and cybersecurity across additional agencies and projects.

Social Analysis

Explanation:

General safeguards: The AF does not present any significant social issues according to Bank safeguard policies and procedures (operational policy (OP) 4.12, OP4.10, OP7.50 and OP7.60). There are no significant environmental issues associated with this Project. OP 4.12 Involuntary Resettlement will not be triggered for the AF, as no major civil works are included. The screening shows that indigenous peoples (IPs) will not be impacted as the training areas are focused in Dhaka and other urban centers, where IPs do not present, or have collective attachment to Project areas.

Safeguards for Gender: The parent project was already gender informed, and an intermediate results indicator would be included into the results framework for monitoring and evaluation purposes. The Project had conducted gender analysis that identified IT/ITES as an industry bias towards women's employment based on international leading experiences of India and Philippines. The significant potential for increasing women's participation is agreed by the local industry during its initial consultations. The Project also has specific actions to address the specific needs of women; as one of its goals is for at least 30 percent of women to be including in its training activities; for an estimated 9,000 young women to benefit by gaining marketable and globally recognized IT/ITES skills, increased incomes due to skills upgrading, and enhanced employment opportunities in a growing IT industry. This AF will include a monitoring indicator into the results framework; which is the number of women who have been trained and gained marketable skills, and it would be evaluated based on the completion target of 9,000 women. A survey will be conducted by the Project after this AF starts implementation for a baseline number, and another survey will be conducted at Project completion for evaluation purposes.

Safeguards for Citizen Engagement: The AF will include an additional intermediate results indicator on citizen engagement, conduct baseline and completion citizen engagement surveys, and report on the indicator in subsequent ISRs and aide-memoires. The citizens engaged will be the clearly identified beneficiaries from the IT/ITES training activities, and the new indicator to be included will be the percentage of trainees satisfied with the training provided by BCC. The satisfaction measure will be based

on their ability to access the training, and the equity of training provided to them compared with those provided to their peers across the training program. The target at completion will be at least 50 percent of the remaining trainees under the Project. The Project will also carry out a survey amongst the recipients of the training on a sample basis, and the feedback received will be analyzed and incorporated into the design and delivery of the training.

Environmental Analysis

Explanation:

There is no change to the Category C assignment in accordance with Bank's Safeguard policies on environment (OP/BP/GP4.01 Environment Assessment); as there are also no significant environmental issues associated with this Project. The AF encompasses mainly skills, shared services and institution-building activities. The AF will also support the expansion of the data center; but these activities do not include physical construction services. The only refurbishment work is for expansion of the current datacenter in the existing building of BCC.

This AF is not subject to GHG accounting, as it does not fall under the projects types for which agreed methodologies exist in the transport, energy, agriculture, forestry, water and urban sectors. The Project is also eligible for the climate co-benefits under the Info and Communications category; as the national/centralized datacenter will improve energy efficiencies as compared to use of multiple distributed datacenters across GOB agencies.

Risk

Explanation:

Risks identified under the parent project have been well managed and no new risks are identified for the proposed AF. The risk ratings of the proposed AF under the Systematic Operational Risk Rating Tool (SORT) are shown in the Data Sheet. The overall implementation risk of the Project is rated as Moderate. Political and Governance risks and Macroeconomic risks remains moderate, as the Project has not encountered any major implementation in spite of political and governance challenges in recent years. The institutional capacity risk is rated Substantial in the parent project, but this has been lowered to Moderate for this AF due to their satisfactory performance to date. Fiduciary risk is rated as Moderate, as there has been 2 consecutive years of unqualified audits reports and no procurement complaints.

The Recipient's Governance and Accountability Action Plan (GAAP) under the parent project, which identifies key governance issues under the Project and sets forth mitigating actions to address said issues, remains in effect for this AF.

Climate and geophysical hazards: The Project is assessed to have low risk at this high-level level of screening using the climate and disaster risk screening tool. The only physical item to be procured under this AF is expansion of the existing datacenter above the fifth floor of the current BCC building; and the Project is assessed to have low risk from potential extreme precipitation and flooding. The Project will continue to monitor the level of these risks during implementation.

V. World Bank Grievance Redress

Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints

received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

RESULTS FRAMEWORK

Project Name: BD: AF for Leveraging ICT for Growth, Employment, Governance Project (P159497)	Project	Status: DRAFT
Team Leader(s): Siou Chew Kuek	Requesting: SACBD	Created by: Andrea Ruiz-Esparza on 06-Jul-2016
Product Line: IBRD/IDA	Responsible	Modified by: Siou Chew Kuek on 18-Aug-2016
Country: Bangladesh	Approval FY: 2017	
Region: SOUTH ASIA	Lending: Investment Project Financing	
Parent Project	Parent Project	

Project Development Objectives

Original Project Development Objective - Parent:

The PDO is to (i) catalyze the growth of Bangladesh's IT/ITES industry for employment creation and export diversification; and (ii) establish basic e-Government foundations to support public sector modernization.

Results

Core sector indicators are considered: Yes

Results reporting level: Project Level

Project Development Objective Indicators

Status	Indicator Name	Core	Unit of Measure		Baseline	Actual(Current)	End Target
Revised	Percentage of public sector (Ministries/Divisions and Departments) officials undertaken 1 or more e-Government skills course at BCC	<input type="checkbox"/>	Percentage	Value	0.00	12.00	40.00
				Date	24-Jan-2013	22-May-2016	30-Jun-2019
				Comment			Target increased from 25%, and revised closing date
Revised			Number	Value	115.00	109.00	110.00

	World Economic Forum's Network Readiness Index Ranking for Bangladesh	<input type="checkbox"/>		Date	24-Jan-2013	22-May-2016	30-Jun-2019
				Comment			Revised closing date
Revised	IT/ITES Employment (number of people)	<input checked="" type="checkbox"/>	Number	Value	12000.00	20000.00	42000.00
				Date	24-Jan-2013	22-May-2016	30-Jun-2019
				Comment			Revised closing date
Revised	Increase in IT/ITES Revenue	<input type="checkbox"/>	Amount(USD)	Value	0.00	85,000,000.00	200,000,000.00
				Date	24-Jan-2013	22-May-2016	30-Jun-2019
				Comment			Revised closing date

Intermediate Results Indicators

Status	Indicator Name	Core	Unit of Measure		Baseline	Actual(Current)	End Target
Revised	Percentage of ministries using 2 or more e-Government technology foundations established under the project	<input type="checkbox"/>	Percentage	Value	0.00	28.00	50.00
				Date	24-Jan-2013	22-May-2016	30-Jun-2019
				Comment			Revised closing date
Revised	Number of e-Government skill courses available in BCC	<input type="checkbox"/>	Number	Value	0.00	4.00	6.00
				Date	24-Jan-2013	22-May-2016	30-Jun-2019
				Comment			Revised closing date
Revised	Percentage savings in government IT spending	<input type="checkbox"/>	Percentage	Value	0.00	8.00	20.00
				Date	24-Jan-2018	22-May-2016	30-Jun-2019
				Comment			Target increased from 15%, and revised closing date
Revised		<input checked="" type="checkbox"/>	Number	Value	0.00	3322.00	40000.00
				Date	24-Jan-2013	22-May-2016	30-Jun-2019

	Number of Manpower Trained under the Project (number of people)			Comment			10,000 increase in training target, and revised closing date
Revised	Number of international consulting firms provided statistical data for their ranking indices	<input type="checkbox"/>	Number	Value	0.00	4.00	5.00
				Date	24-Jan-2013	22-May-2016	30-Jun-2019
				Comment			Revised closing date
Revised	Number of women who have been trained and gained marketable ICT skills	<input type="checkbox"/>	Number	Value	0.00		9,000.00
				Date	30-Nov-2016		30-Jun-2019
				Comment			New indicator
Revised	Trainees satisfied with the training provided by BCC	<input type="checkbox"/>	Percentage	Value	0.00		50.00
				Date	30-Nov-2016		30-Jun-2019
				Comment			New indicator

Annex 1: Cost Breakdowns and Detailed Description of Modified or New Activities

Description	Additional in USD (millions)
<i>Component 1: IT/ITES Industry Development (for Financing Gap)</i>	
i. Strengthening of CEO outreach activity (additional to current budget)	5.5
ii. Overseas event and travel organizer for CEO outreach	0.5
iii. Online outsourcing training for 10,000 trainees	6
<i>Component 2: e-Government (for Scale Up)</i>	
i. Additional National Data Center (NDC) expansion and annual maintenance contract renewal	10
ii. Mainstreaming of the NDC across other agencies	2
iii. Mainstreaming of the National Enterprise Architecture (NEA) across agencies	1.5
iv. Technical assessment of the NEA's medium to long-term needs to move to an integrated e-Government infrastructure and services	1
v. Pilot on data analytics for use as NEA platform across government	0.5
vi. Development of cybersecurity strategy, assessments, systems hardening and mainstreaming	6.5
<i>Component 3: Project Management Support (for Continued Implementation Capacity and Mainstreaming)</i>	
i. Extension of existing consultant contracts until extended project closing date	3
ii. Additional PCU resources to meet immediate needs and demands on NDC, NEA and cybersecurity	2
iii. Operating Cost (Including \$1 million in counterpart funding)	1.5
Total	40.0

Component 1 on IT/ITES Industry Development: To strengthen and improve PDO-level results and support the growing online outsourcing/freelancing industry:

i. *Strengthening of CEO outreach activity:* This is one of the most important activity for achieving the project's IT/ITES PDO-level results and is part of the parent project's design. It is in the rebidding process as the initial budget has been shown to be insufficient for engaging a reputed firm, with proven expertise and experience in IT/ITES-specific outreach/business development. The scope of work and resulting estimated cost also has to be increased significantly to expand the deliverables. It will enable the project to reach and engage more potential "C-Level" clients, and provide comprehensive deliverables and support to local government and industry representatives in the engagement process. This is also a more realistic budget for ensuring the high quality of this important activity. The increase will enable the project to engage an internationally reputed, well-established consulting firm; with global presence and bespoke capabilities and networks to deliver on similar engagements. The increase is also needed to cater

for the 20 percent increase in the government's AIT taxes for consulting services, which has raised the cost of this engagement substantially.

ii. *Overseas event and travel organizer for CEO outreach:* This activity will provide event and travel organizational and logistical support for the CEO outreach activity. The CEO outreach activities includes targeted business development trips by selected Bangladesh officials and companies to the source markets, including India, USA and United Kingdom for direct business development meetings and engagements with top management from potential clients. It also requires attendance in select IT/ITES events. It is expected that there will be significant organizational and logistical support required, and this activity be coordinated with the CEO outreach activity, to ensure sufficiently strong and smooth delivery of these business development events.

iii. *Online outsourcing (OO) training for 10,000 trainees:* This activity will provide targeted support for Bangladeshi youth and women's participation in this new and rapidly growing approach to IT/ITES outsourcing. OO, or online freelancing and microwork, refers to online jobs that can be performed anywhere and anytime, by any worker with access to a computer and the Internet. These jobs cover a broad range - such as data entry, digitalization, translation, web/graphics design, coding/programming, HR, accounting, or even legal services. They are typically conducted on virtual platforms or marketplaces, which distributes jobs from anywhere in the world to a global labor pool through the Internet. There are already an estimated 48 million workers globally on these marketplaces with total earnings of an estimated \$2 billion per year.

Bangladesh is already growing as one of the key supplier countries in this new industry, and significantly more Bangladeshis could benefit from this new jobs and income opportunity. Even though this is a new IT/ITES segment for Bangladesh, the draft strategy of this Project shows that there were already 30,000 active workers and \$45 million in revenue during 2013. This intervention will support higher participation of youth and women into this rapidly growing industry segment, and assist existing workers to move up the value chain for higher value-added work and earnings. This intervention is expected to enable and support online employment readiness, job creation, export diversification; and the achievement of the IT/ITES employment results.

Component 2 on e-government: To meet the immediate need and demand for e-government foundations across the public sector, especially with regards to the National Data Center, and National Enterprise Architecture (NEA) that are being supported by the Project. The items for scaling up are in line with the parent project activities, and are for the following:

i. *Additional expansion of the National Data Center (NDC):* To meet the immediate and growing demands for colocation and hosting services from the public sector agencies, given the overwhelming demand the Project has experienced to date. The NDC is one of the key e-government shared foundations supported by the Project. However demand for this facility has resulted in lack of physical space to accommodate an outstanding request for another 34 racks by the other agencies; including those requested by Bank supported projects in the National Board of Revenue and Election Commission. This activity will expand the NDC into the fourth floor of BCC's building; and the expansion will provide shared information technology infrastructure

services to all central and local government programs in the short term. The data center's professional technical environment within a Tier 3 certified facility will also enable BCC to provide a higher level of system availability, cybersecurity, and customer satisfaction, in addition to higher effectiveness and efficiency in use of ICT by the government. The scope of the work includes design, supply, build, installation, and commissioning of the expanded National Data Center (NDC) at Bangladesh Computer Council (BCC) with capacity of installing around 144 racks in the proposed extended area. This activity will also renew the annual maintenance contract for the existing datacenter, for which maintenance contracts are required for both the general infrastructure and IBM-based products.

ii. *Mainstreaming of the National Data Center (NDC) across agencies:* To deliver data center offerings as a service to GOB, BCC needs to strengthen and professionalize their service delivery unit with internal client engagement and marketing capabilities. This will enable BCC to clearly market and communicate their NDC offerings, engage in client discussions with proper standard operating procedures, and elaborate their operational procedures and standards. The proposed mainstreaming effort would comprise: (i) establishing a service portfolio which comprises of service identification, catalogue creation, assessing the feasibility of a self-service portal and drafting service level agreements, (ii) institutionalizing IT Infrastructure Library which is a set of practices on IT service management into NDC's operational processes; (iii) establishing relationship management which comprises of sales management, service management, marketing and communications, (iv) pricing which focuses on cost by service and P/L accounting, (v) reorganization which looks into the organization implications, change management and retooling. (vi) establishing performance indicators, monitoring and measuring performance, and establishing standards for reporting against service levels.

iii. *Mainstreaming of the National Enterprise Architecture (NEA):* The scope of NEA in the first mainstreaming phase which has been completed covers three ministries i.e. ICT Division, Ministry of Food and Ministry of Primary and Mass Education. NEA as a concept is growing with majority of the ministries but a key concern is the level of adoption of the foundational principles, standards, frameworks and design frameworks. The NEA will require whole-of-government awareness and adoption of the foundational principles, standards, frameworks, and design frameworks to realize the program benefits. To realize the benefits of NEA, the proposed next phase of NEA mainstreaming should be considered for ministries, departments and agencies which have an important role to play in e-Governance. In this regard, multiple workshops and training programs are to be undertaken and the demonstration of NEA is to be presented to showcase the benefits to be derived from NEA adoption. The proposed NEA extension would consist of:

- a. Advisory and support activities comprising of identification of changes in standards and impact assessment to the NEA framework. Specific activities are:
 - ai. Identify changes in standards and assess impacts and risks to NEA framework
 - aii. Assist in NEA standards, principles and reference model frameworks review of Bangladesh NEA committee
 - aiii. Support queries and concerns on NEA framework in collaboration with NEA working group and architecture coordination committee
 - aiv. Assist in planning for workshops and training programs

- av. Provide briefing, consultation and advisory sessions tailored to senior decisions makers; e.g. PS Level, directors and IT groups which shall subsequently help in promoting and adopting of NEA
- b. Enablement activities covering guidance on ministry-specific enterprise architecture developments and guidance on three e-service alignment with the NEA Specific activities include -
 - bi. Prepare ICT roadmap for the identified ministries
 - bii. Provide guidance to BCC technical team to assist respective department users of the identified ministries in developing enterprise architecture for their respective departments under NEA standards, following components will be covered under NEA IT Roadmaps:
 - Business Architecture limited to identifying the first level business process, high level business components and critical stakeholders of the relevant ministry. Data Architecture limited to conceptual data model
 - Application Architecture will define the high-level critical applications and re-usable components and services of the department/ministry
 - Technology Architecture will identify the infrastructure needs of the department based on Application architecture
 - Proposed Ministries / Department for which IT roadmap shall be prepared for includes the Health Ministry, Election Commission, National Board of Revenue, Social Welfare Department, Power Department, and Agriculture Department
 - biii. Development of three e-services as proof-of-concept; these being e-Bill for Power Department, dashboard for Social Welfare Department; and mobile grievance redressal system for all departments
- c. Implementation activities comprising of guiding ministries to create application adaptors and connectors for the NEA bus to facilitate data exchange. Specific activities include:
 - ci. Implementation support for existing three e-Services for inclusion under NEA demonstration, roll out of existing e-Service will be done by BCC
 - cii. Guiding ministries to create adaptors and connectors for existing NEA Bus for up to a maximum of five connectors cutting across three ministries. Indicative ministries/ department are the Power Department, Social Welfare Department, and multiple department/ministries
- d. Capacity building activities which include conducting training on the NEA framework, service delivery platform, and design of adapters and connectors. Ministries will be required to conduct an internal EA readiness assessment and identify e-services to be integrated with the Enterprise Service Bus to achieve ease in system integrations and data exchanges. Specific activities include:
 - di. Conducting workshops (two batches in a month of 20 participants in each batch) to help ministries to use NEA repository and available existing artifacts
 - dii. Conducting training workshops covering larger number of Ministries on the following NEA components:

- Bangladesh NEA framework
 - NEA, e-GIF and MSDP standards and reference models
 - Service delivery platform
 - Mobile service delivery platform
 - NEA Bus Design of Adapters
- diii. Capacity development
- Training and knowledge transfer sessions for various NEA components
 - Joint code review sessions (for e-services) with BCC team
 - Establish EA community in Bangladesh

iv. *Technical assessment and design of e-government foundations:* To assess the medium to long-term needs and design of shared ICT infrastructure and services across the public sector, based on an AS-IS analysis and a whole-of-government approach. This will provide a strong analytical foundation for BCC to provide more holistic e-government support and services, and serves as the output will serve as the technical framework for their envisioned whole of government approach. This activity will include a technical assessment on infrastructure, software, and platform as a service (IaaS, SaaS, PaaS); and related constituent services. It will also review BCC's current service outsourcing model, and GOB's cross-charging model and framework agreement to propose a viable business model for BCC in the longer term. In addition, this activity will provide the financial estimates and develop the technical bidding documents for its proposed e-government infrastructure and services.

v. *Pilot on data analytics across government:* The data analytics program will pilot the set-up of a data analytics center for GOB in BCC. It will empower GOB to analyze the ever growing transactional and social data, to develop timely insights for policy design, service improvements, and resource optimization. GOB is interested to gain a better understanding of its citizen's views on the public policies and programs via social media platforms and is keen to leverage on the data analytics program which will enable analysis of social data to improve and optimize policy and program decisions and performance.

vi. *Development of cybersecurity strategy, assessment, systems hardening and mainstreaming:* This activity will scale up the initial effort in developing the country's cybersecurity with emphasis on developing a National Cybersecurity strategy, conducting assessments on national level critical infrastructure, and establishing a basic security coverage for the ministries. A more robust cybersecurity effort is required to safeguard GOB digital assets and operations, especially in view of the recent cybersecurity issue at Bangladesh Bank. The proposed cybersecurity program would comprise of (i) Development of national cybersecurity masterplan 2017-2020; (ii) cybersecurity incident response team [CIRT] enhancements. The key activities include the development of self-assessment toolkit for ministries/divisions to conduct the checks with CIRT's support, development of cybersecurity manuals and command center physical enhancements; (iii) assessments for more than 15 identified critical national infrastructure. Activities include assessments and installations of sensors for continuous monitoring linked to CIRT to identify real-time threats; (iv) starter cybersecurity package; which will provide basic security coverage in policy, response, identity/assess management, web servers, networks etc., and provision of basic competency to manage essential security areas and coordination with CIRT; and (v) 'Defender' cybersecurity package. Activities include procurement of the security software

tools and hardware if necessary, and establish the necessary basic security setup. From the above cybersecurity action items, the GOB would be able to:

- Strengthen the cybersecurity team in BCC;
- Provide cybersecurity audits on critical infrastructures and 61 Ministries and divisions;
- Provide a basic/baseline cyber-attack defense for 61 ministries and divisions; and
- Provide a basic/baseline cyber-attack defense for 15 or more critical infrastructures.

Component 3 on Project Management Support: For contract extensions and additional manpower to meet the immediate e-government needs and demands. This support is transitional in nature, and will help before BCC is staffed with sufficient responses to deliver its mandate as the government's technology office. BCC has already developed a new organogram that has been approved by the government, and is in the process of being approved by the public service commission.

i. *Contract extensions for PCU's existing consultants:* To extend their contracts' until the end of the Project, to ensure sufficient resources for execution, monitoring and supervision. The DPP had provided 14.5 months of consultancy for three IT/ITES specialists, and 36 months for two technical specialists. The Project's experience has shown that this is insufficient, as their full involvement is needed until the end of the Project's original closing date. Hence, there is a need to extend their contracts for sufficient resources to cater to the Project activities until the closing date (including the additional period of extension). There is also a need to extend all of the consultants' contract until the new closing date that has been proposed.

ii. *Increased manpower for National Data Center and National Enterprise Architecture:* To provide sufficient expertise and manpower to support the immediate needs of the NDC and NEA. An additional headcount of 14 persons is needed to support the NDC and NEA's services given the current high demand and proposed scale up.

Annex 2: Adjusted Economic and Financial Analysis

The project's economic and financial returns are reanalyzed to take into account the changes in scope, budget and timeline under this AF. The analysis for both the IT/ITES and e-Government components were adjusted; and the explanation for each component is provided below.

a. Component 1 on IT/ITES

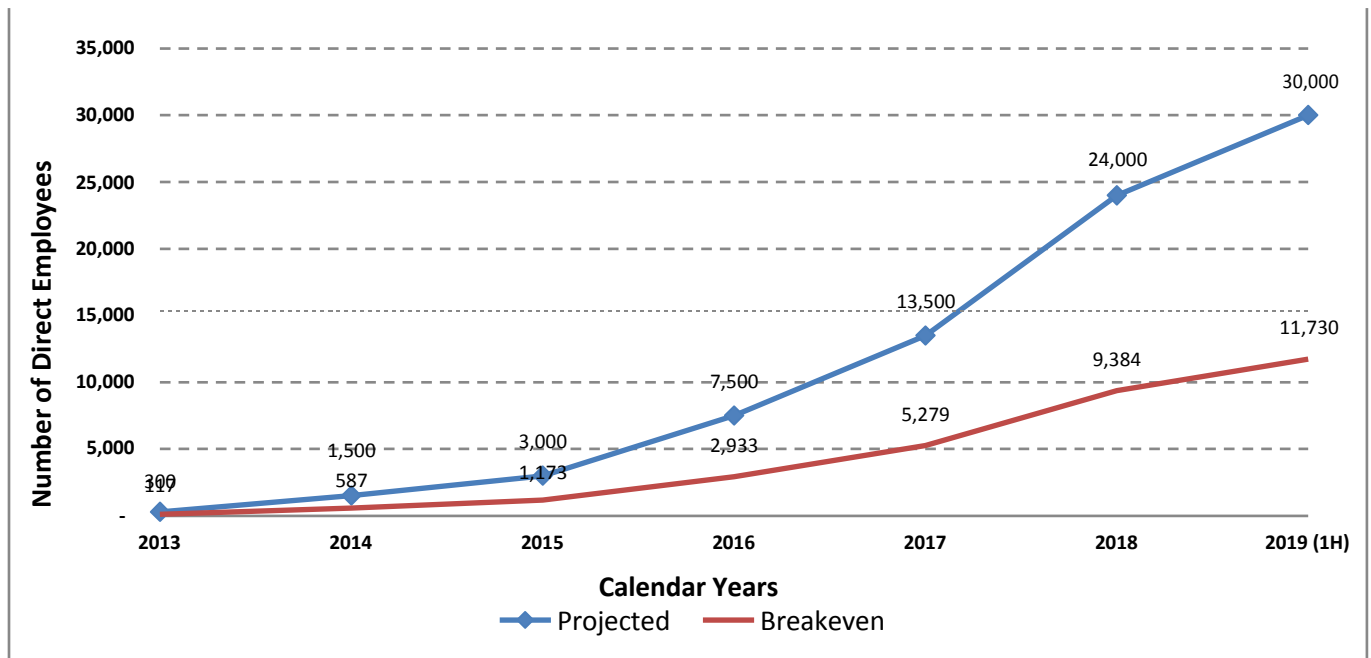
The parent project's cost-benefit analysis (CBA) for this component is adjusted to take into account various changes. The adjusted duration of the project is 7.5 instead of 5 years to account for the time extension. The project's adjusted budget is \$38.6 million instead of \$35 million, which is the total component cost after adding the \$12 million additional financing and deducting \$8.4 million for exchange rate losses. The cash discount rate used is 12 instead of 14.8 percent, as the actual and forecasted nominal lending rates for Bangladesh has decreased on average for 2012 to 2019¹. The employment and industry growth projections have also been adjusted to 7.5 years; based on the same assumption of a normal curve growth rate.

Table A1 and A2 below show the calculations and results of the CBA. The adjusted net present value (NPV) is \$22 million instead of \$20 million, and the return on investment (ROI) is 58 instead of 59 percent. The NPV and ROI remains close to the original estimate, due to the additional 1.5 years in benefits while the cost has increased only slightly. The decrease of 2.8 percent per year in the cash discount rate also has a significant effect on the NPV and ROI, as they would be \$10 million or 27 percent if the rate had not decreased.

The component is expected to breakeven at an estimated 39 percent (11,730 out of 30,000) of projected employment instead of 48 percent. This improvement is also due to the longer duration for benefits but moderately increased cost. The estimated breakeven level of employment occurs at 10,000 instead of 7,500 jobs; and is after year 5 instead of year 3. This reflects the initial slow start of the project and the delayed IT/ITES results. Figure A1 below is also adjusted to illustrate the projected and breakeven employment levels over the project's period.

¹ Economist Intelligence Unit. *Bangladesh Country Data: Lending Interest Rates*. Available at: www.eiu.com.

Figure A1: Comparison of Projected and Breakeven Level of Direct Employees



b. Component 2 on e-Government

The AF for this component will bring continued cross-agency and cross-sectoral benefits to the government. As discussed the parent project provides the e-Government technology foundations for governance reforms and public sector modernization. The major and expected benefits include improved internal operational effectiveness and efficiencies, and increased reliability and security of information and services provided by the government.

As noted in the parent project’s analysis, investment decisions in e-Government foundations are typically based on a future cost avoidance approach, but the broad and cross-cutting nature of this foundational component makes it highly complex to conduct a cost-effectiveness analysis as it will require significant inputs and assumptions to quantify the benefits based on the expected outcomes or effects. The cost savings are expected to be also significant for this AF based on experiences in implementing individual technology foundations; and the parent project’s analysis provided benchmarked cost savings by commercial customers using a shared datacenter of 15 to 20 per cent²; and cost savings of 73.3 percent for a Bank-financed project in Moldova³.

² Refers to Dell Inc. CIO Insight Series. 2010. *Shared Infrastructure: Scale-Out Advantages and Effects of TCO*. http://www.dell.com/downloads/global/products/pedge/en/Shared_Infrastructure_Scale_Out_Advantages_and_Effects_on_TCO.pdf; and HP. 2009. *Business Case Development Best Practices for Data Center and IT Projects*. <http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA2-6903ENW.pdf>

³ Refers to World Bank. 2011. *Project Appraisal Document: Governance Transformation Project for Moldova (P121231)*

An adjusted CBA analysis is also conducted for this component to estimate the breakeven amount of savings in government budget per year that will make this investment feasible. This analysis uses the government’s ICT ministry budget, instead of the overall government budget, to provide a more specific and relevant assessment of breakeven. The Bangladesh Ministry of Post, Telecommunication and IT (MOPTIT) has both the ICT Division and the Post and Telecommunication Division. The government’s revised budget in FY 2015-2016 for both these divisions are combined as the total budget for the ministry⁴. The total budget is calculated over 5 years, instead of the full 7.5 years, to discount 2.5 years conservatively as the time it may take to set up each e-Government foundation. The budget is converted to US\$ for calculation purposes⁵; which is a total of \$1,453 million. The total cost for this component is \$47.5 million; based on \$26 million for the parent project and \$21.5 million for scale-up under this AF.

The table below summarizes the simplified CBA calculations. Based on these inputs cost this component represents only 3.3 percent of the five year budget for MOPTIT. This is significantly below the 15 to 20 percentage savings experienced by commercial customers using such e-Government foundations. It is relatively small compared to the saving benchmarks, and suggests that the component will be highly cost-effective with a high ROI. The benefits and returns would be higher in multitudes, if the savings for other government agencies using the e-Government foundations are also taken into account. The result is also aligned with the parent project’s analysis, for which the component’s cost represented only 0.03 percent of overall government budget across all ministries and departments.

Time Period	FY 2015-2016 (In Crore Taka)	In USD millions per year	In USD millions (5 Years)
ICT Division Budget	954	119,250,000	596
Post and Telecom Division Budget	1,370	171,250,000	856
Total MOPTIT Budget	2,324	290,500,000	1,453
Total Cost of Component 2 (Original and AF Budget)	NA	-	47.5
Percentage of Cost/Budget	NA		3.3%

⁴ Ministry of Finance, GOB. *Budget in Brief 2016-17 – Development Expenditure by Ministry/Division*. Available at: http://www.mof.gov.bd/en/index.php?option=com_content&view=article&id=343&Itemid=1

⁵ Based on the average US\$/Bangladesh Taka exchange rate of 80, which is the estimated average asking rate for 2013 to 2016 (in yearly frequency, and is average to date for 2016) at www.oanda.com.

Table A1: Adjusted Cost-Benefits Analysis for Component 1 (Projected)

Calendar Year	Projected							Totals
	2013	2014	2015	2016	2017	2018	2019 (1H)	
Assumptions								
Industry Growth Rate (Yearly)	1%	4%	5%	15%	20%	35%	20%	100%
Industry Growth Rate (Cumulative)	1%	5%	10%	25%	45%	80%	100%	NA
Disbursement Cycle (Estimated and Expect to Lead Industry Growth Cycle)	1%	4%	5%	15%	20%	35%	20%	100%
Cumulative Direct Employee Growth Rates	300	1,500	3,000	7,500	13,500	24,000	30,000	NA
Cumulative Increase in IT/ITES Industry Revenue	2,100,000	10,500,000	21,000,000	52,500,000	94,500,000	168,000,000	210,000,000	NA
Benefits								
Contribution to Total Value Add by Direct Employees	423,990	2,119,950	4,239,900	10,599,750	19,079,550	33,919,200	42,399,000	112,781,340
Cost								
Estimated Project Disbursements for IT/ITES Component	386,000	1,544,000	1,930,000	5,790,000	7,720,000	13,510,000	7,720,000	38,600,000
Net Benefits/Cost								
Gross	37,990	575,950	2,309,900	4,809,750	11,359,550	20,409,200	34,679,000	74,181,340
Cumulative Discount Rate	12.0%	24.0%	36.0%	48.0%	60.0%	72.0%	78.00%	NA
Discounted Cash Flows & Net Present Value (Total)	33,431	437,722	1,478,336	2,501,070	4,543,820	5,714,576	7,629,380	22,338,335
Rate of Return	58%							

Table A2: Adjusted Cost-Benefits Analysis for Component 1 (Breakeven)

Calendar Year	Breakeven							Totals
	2013	2014	2015	2016	2017	2018	2019 (1H)	
Assumptions								
Cumulative Direct Employee Growth Rates	117	587	1,173	2,933	5,279	9,384	11,730	NA
Cumulative Increase in IT/ITES Industry Revenue	821,100	4,105,500	8,211,000	20,527,500	36,949,500	65,688,000	82,110,000	NA
Benefits								
Contribution to Total Value Add by Direct Employees	165,780	828,900	1,657,801	4,144,502	7,460,104	13,262,407	16,578,009	44,097,504
Cost								
Estimated Project Disbursements for IT/ITES Component	386,000	1,544,000	1,930,000	5,790,000	7,720,000	13,510,000	7,720,000	38,600,000
Net Benefits/Cost								
Gross	(220,220)	(715,100)	(272,199)	(1,645,498)	(259,896)	(247,593)	8,858,009	5,497,504
Cumulative Discount Rate	12.0%	24.0%	36.0%	48.0%	60.0%	72.0%	78.00%	NA
Discounted Cash Flows & Net Present Value (Total)	(193,794)	(543,476)	(174,207)	(855,659)	(103,958)	(69,326)	1,948,762	8,342
Rate of Return	0% (at breakeven level)							