|  |
| --- |
| **TECHNICAL ASSESSMENT** |
| **COUNTRY : Bangladesh Bangladesh Strengthening PFM Program to Enable Service Delivery** |
|  |

**Program Description**

1. **Despite the important improvements in PFM, there is significant room to improve several PFM areas which are limiting the effective delivery of services to citizens.** Strengthening PFM has been a corner stone of reforms towards sound macroeconomic management and good governance. A sound PFM system is considered as fundamental to the Seventh Five Year Plan objectives to effectively manage public resources. The PER identifies several challenging areas including low tax to GDP ratio (9%), limited budget absorption capacity, decreasing quality of the investment portfolio resulting in implementation delays (80% of projects), cost overruns, low return on investment, and increasing debt service costs. The PER also raises budget allocation issues such as rapid asset erosion due to lack of maintenance and repairs[[1]](#footnote-1), limitations in the design and targeting of agriculture subsidies, and low per capita health expenditures. Using the 2016 PEFA framework that has tougher benchmarks than the previous one, the PEFA shows Bangladesh’s overall performance in PFM is below average for six out of seven pillars. Finally, the financial and governance related data on SOE is fragmented and performance is not monitored effectively. Fiscal risks, debt and contingent liabilities aggregated for all SOEs are unknown.
2. **In the abovementioned context, the PFM Reform Strategy (2016-21) was approved by the Minister of Finance in August 2016.** The PFM Reform Strategy clearly sets out the key goals and objectives of the PFM reforms and identifies the priority reform actions. The strategy was developed by a cross-institutional team from the Ministry of Finance, OC&AG, the Planning Commission, and the National Board of Revenue, among others. It identified the following five goals for PFM reforms:

* Goal 1: Maintain aggregate fiscal discipline compatible with macro-economic stability and pro-poor growth;
* Goal 2: Allocate resources consistent with government priorities as reflected in National Plan;
* Goal 3: Promote the efficient use of public resources and delivery of services through better budget execution;
* Goal 4: Promote accountability through external scrutiny and transparency of the budget; and
* Goal 5: Enhance the enabling environment for improved PFM outcomes.

1. **A PFM Action Plan (2018-23) has been recently been approved to support the effective implementation of the PFM Reform Strategy.** This PFM Action Plan provides the implementation roadmap for selected priority actions with clear institutional responsibilities for 14 reform components. It consists of a PFM Action Matrix which describes the different reform activities, identifies sub-activities, provides the rough cost estimate and the intended benefits, defines the results indicators with baselines and end-of-plan targets, and the appropriate responsible institution. The PFM Action Plan also describes the governance structure for reforms and the change management approach. The PFM Action Plan was developed through a long consultative process with a broad range of stakeholders.
2. **The PFM Action Plan aims to address specific high-level PFM problems with an innovative and dynamic approach, allowing for the flexibility needed during the implementation.** Successful PFM reforms require both ‘causality’ and ‘discovery’. While the PFM Action Matrix is intended to provide a high-level causal logic needed for reforms to maintain the focus and direction to achieve the desired results, the exact pathway or solutions to drive the reform agenda in Bangladesh will require sufficient flexibility for course-correction. To accommodate this approach, the sub-activities described in the PFM Action Plan will be considered as a guide and will be subject to change as such understanding evolves overtime. At present, it elaborates the current thinking of the program implementation teams on how they can achieve the desired results. For example, the current forecasting model has shortcomings, which limits the accuracy of its analysis to support budget credibility. The PFM Action Plan underscores the need for a dynamic forecasting model and use of reliable data derived from various other systems; however, the detailed methodology to achieve this would be flexible and subject to change during the implementation of the Plan. Another example is that the BMCs are not all institutionalized in accordance with the terms of reference developed by the FD and have limited capacity for preparation of the sector strategy papers, annual performance agreements, and the medium-term strategy and business plans. Accordingly, the result intended in this respect is to improve the performance of the BMCs, but the thinking on how to build their capacity and monitor performance improvements is likely to evolve during implementation.
3. **The new SPFMS Program is designed to support the implementation of a part of the PFM Action Plan with the aim to ensure that PFM improvements enable more and better public service delivery in social sectors.** The intention is not to implement PFM reforms for the sake of merely strengthening PFM - as was the case in the past- but to enable better service delivery to the citizens. SPFMS includes 8 components in the PFM Action Plan that are directly led by the FD including the macro-fiscal forecasting, debt management, budget preparation and execution, IFMIS, TSA, SOE performance monitoring, pensions management, internal audit, and financial reporting. The SPFMS would provide both incentives as well as the technical capacity in a timely and flexible manner to ensure successful implementation of these actions identified by the reform coordination and implementation teams.
4. **The PDO is to improve fiscal forecasting, budget preparation and execution, financial reporting and transparency to enable better resource availability for service delivery in selected Ministries, Departments and Agencies.** PDO-level results indicators are given below:

* Use of improved fiscal projections for budget-making
* Improved budget alignment with development strategy through better performance of BMCs (Average BMCs performance improves by twenty percent)
* Reduced number of days for DDOs to receive budget in selected Ministries, Departments, and Agencies (MDAs) (Sixty percent of DDOs receive budget by July 31)
* Timely, reliable payments of salaries and vendor invoices with strengtheneunt and automated payment system in selected MDAs (Forty percent EFT and thirty percent DDOs submitting online bills, and forty percent reduction in new special accounts outside TSA)
* Budget-holders effectively use financial information (50 percent budget-holders)

1. **Four Program result areas are designed to make significant contribution to abovementioned five goals of the PFM Reform Strategy.** DLIs have been selected to measure concrete achievements in each of these areas as below:

***Result Area 1: Improve fiscal forecasting and resource allocation consistent with Government priorities has three DLIs (DLIs 1, 2 and 3)***

DLI 1 - Currently, static revenue and expenditure estimates restrict effective policy making. Through DLI 1, the Macro Economic Wing will develop a macro-economic model compatible with Bangladesh’s country context and a medium term debt strategy. The model will be used to inform budget preparation and the MTMF. While debt sustainability assessment, medium-term debt strategy, and debt bulletin are well-established terms with fairly standard methodology, the DLI1 technical note provides considerable detail on the qualitative aspects of the macro-economic model and data requirements to define a common expectation as to what constitutes an acceptable model.

DLI 2 - BMCs supported by the Budget Working Groups (BWG) have been established in all line ministries. BMCs are the original budget-makers for each ministry and strengthening them would ensure the allocative and operational budget efficiency. Capacity building is required to empower the BMCs and BWGs to better support their line ministries during budget preparation for improved alignment of the national budget with sector strategies and targets and to effectively monitor performance of budget execution. The DLI 2 takes a scorecard approach to measure the BMC performance through an independent peer review process. The scorecard would not only measure the BMC’s performance, but also the actual quality of budget as well as its implementation through BMC monitoring (see box 1). DLI 2 also seeks to strengthen the gender budgeting report and to ensure the consistent year on year increase of social sector spending as a percent of total expenditure. As part of the climate budget preparation, the FD has completed climate tagging for the top twenty climate spending ministries. The Program will ensure the tracking of these pro-climate expenditures and continued alignment and increased public spending with pro-climate considerations by improving the performance of BMCs under this DLI.

**Box1: Proposed BMCs Perfromance Scorecard**

Composition and functioning of BMC meetings 20%

Annual budget alignment with multi-year strategies & plans 15%

Internal alignment among the ADP, operating budget and APA 10%

Adequate consideration to climate issues in the budget 15%

Adequate consideration to gender and social issues in the budget 15%

Monitoring of budget execution 10%

Audit follow-up 15%

**Total 100%**

DLI 3 - Delay in budget releases is often cited as one of the biggest bottleneck to smooth and efficient service delivery. Budget release for health sector development funds (especially reimbursable project aid for the 3rd and 4th quarters) often takes more than two months[[2]](#footnote-2), primarily due to ministry-level internal approval processes. DLI 3 seeks to expediate the budget release process by delinking the statement of expenditures from the requirements for budget release. To facilitate the implementation and completion of projects and the effective operational management of programs DLI 3 also seeks to release and distribute budget to 80% DDOs by July 31st with a focus on the social sectors of health, education and roads.

***Result Area 2: Improve budget execution has four DLIs (DLIs 4, 5, 6 and 7)***

DLI 4 – Will enable the reduction of cash held outside of the TSA and modernize payment processes. One of the benefits of improving cash management through the proposed TSA is that the impact on the determination of borrowing requirements will be improved by consolidating cash balances. Reduction in costs of borrowing to the government will increase fiscal space for allocation to service delivery and prompt settlement of government obligations will increase confidence in the payment system. This will also promote the use of online bills and thereby greatly reduce the use of paper and transportation back and forth from 36,000 DDOs to accounts office and from thousands of venders to DDOs and their banks for cheque collection and deposit. This, together with DLI5, will be able to directly reduce the transport demands of the government staff, pensioners, and vendors that normally would travel108km on average by car, bike, and bus to complete one public service transaction, leading to savings of approximately 518,055 tons of carbon dioxide.[[3]](#footnote-3)

DLI 5 - Pension processing is cumbersome for both the Government and the pensioners and there is urgent need to modernize the system through: (i) establishment of a dedicated pension office; (ii) the use of EFT; and (iii) strengthened accounting and monitoring systems by strengthening iBAS++. DLI 5 seeks to streamline pension processing and payment systems by undertaking immediate priority and interdependent actions which are necessary for improved service delivery concerning civil servant pension. As like DLI 4, this DLI will likewise prompt pursue the electronic procedure and ensure less transport and paperless jobs which will contribute to the reduction in corresponding carbon footprint and energy consumption.

DLI 6 and 7 - Currently, financial information on a small number of SOEs is published in the annual Bangladesh Economic Review. SOE fiscal risks are not assessed, debt and contingent liabilities are not effectively controlled. Furthermore, while there is some performance monitoring of SOEs there is no systematic and independent monitoring. DLIs 6 and 7 are focused on SOE transparency, accountability and effective monitoring. Finally, DLI7 seeks a tangible outome of reducing the ratio of SOE transfers to total public spending by 15%.

***Result Area 3: Promote enhanced transparency of the budget execution and enable timely accountability has two DLIs (DLIs 8 and 9)***

DLI 8 - There are implementation capacity challenges to support the migration from the old to new BACS for FY19. In-year budget execution reports are not readily available to the DDOs to monitor budget execution. It is through the budget process that competing policy objectives are reconciled and implemented in concrete terms[[4]](#footnote-4). Therefore, timely, accurate and comprehensive in-year budget execution reports are critical for decision making. DLI 8 seeks to further improve iBAS++, to develop priority interfaces with iBAS++ and to enhance its effective use. DLI 8 promots the public dissemination of quarterly budget execution reports. In addition, the use of financial information is measured by its demand by the budgetholders as quantified by their access to iBAS++ for budget execution reports.

DLI 9 - Internal audit is currently ad hoc and unstructured with isolated single audits and the applied standards are not based on International Standards for the Professional Practice in Internal Audit issued by [The Institute of Internal Auditors](http://www.theiia.org) (IIA)[[5]](#footnote-5). DLI 9 seeks to establish a modern internal audit function in selected large spending and high-risk departments as part of the suite of internal controls using risk-based audit methods concentrating on systemic issues and providing independent and objective advice to management. Finally, DLI 9 aims to get a rapid and effective action on the audit observations and procurement post reviews in FD. The audit follow-up will cover both internal and external audit observations.

***Result Area 4: Establish an enabling environment for improved PFM outcomes (DLI 10)***

DLI 10 will support a series of change management activities that are carefully articulated to analyze and learn from both successes and failures during the program implementation and improve approach to tackle the PFM problems. These change management activities include the key elements of program’s governance, implementation, and M&E systems, such as enabling progress reports to the Steering Committee and that these are reviewed in a broad-based program retreat encouraging results monitoring and mutual accountability. DLI10 also seeks to establish a sustainable PFM learning environment with strengthened capacity of the Institute of Public Finance as a learning hub and institutionalizing the PFM research, field inspections, and problem-solving facilitation/ coaching. Annual performance reviews and DLI verification will enable a qualitative analysis of the enabling environment for PFM reforms so evolved and recommend improvements, as appropriate.

**Strategic relevance and technical soundness of the proposed Program**

1. **The proposed Program reflects the Government’s priorities and is strategically relevant.** The strategic goals of PFM reforms are to: (a) maintain aggregate fiscal discipline compatible with macro-economic stability and pro-poor growth; (b) allocate resources consistent with Government priorities as reflected in National Plan; (c) promote the efficient use of public resources and delivery of services through better budget execution; (d) promote accountability through external scrutiny and transparency of the budget; and (e) enhance the enabling environment for improved PFM outcomes. Within these goals, the PFM Action Plan provides the implementation roadmap for some priority actions with clear institutional responsibilities among thirteen thematic reform components, cost-benefit analysis of sub-activities, and results indicators to monitor the successful implementation. The PFM Action Plan also elaborates on the governance structure for reforms and the change management approach through a separate component.
2. **The program is assessed as technically sound for the following reasons:** (i) it is directly founded on the Bangladesh PFM Reform Strategy and PFM Action Plan; (ii) it builds on previous PFM reform efforts and is selective by focusing on the sub-set of critical foundational reforms that are directly under the control of FD; (iii) it considers the implementation capacity and adaptive behavioral change managements needs for the reforms to be successful; (iv) much of the planned support been piloted and proven successful with a promise for progressive scale-up, such as expansion of the iBAS++ and use of EFT.
3. **Several PFM bottlenecks that impede efficiency and effectiveness of social service delivery are resolved by the Program.** The table 1 below describes how several PFM bottlenecks resolved by the Program would enable better availability of resources for social service delivery.

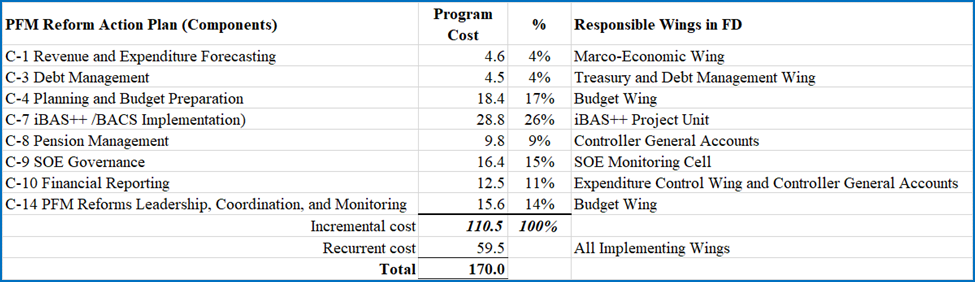
**Table 1: PFM and Social Service Delivery**

|  |  |  |
| --- | --- | --- |
| **Key PFM bottlenecks** | **Impact on social service delivery** | **PFM program interventions** |
| **(a) Unrealistic five-year national plan, other strategic planning documents and MTBF** | Multi-year planning becomes ineffective as the annual budget ceilings are not sufficiently aligned with annual budget, unrealistic 5-year national plans and strategy documents. This creates several disconnects, such as partially completed development schemes with significant cost and time overruns, completed schemes with no recurrent costs budgeted, and insufficient recurrent resources for the existing facilities. Analysis shows that the annual social sector expenditures have been significantly below what was planned in the 5th or 6th five-year plans. | **The PFM program will contribute to:**  Improving the realism of the fiscal projections through an improved forecasting model and with due regards to the fiscal risks (DLI1).  Allowing a steady growth of social sector spending as a percentage of total public-sector spending (DLI2). In part these resources will come from improving the performance of the SOE sector (DLI7).  Improving the alignment of the annual budgets with the multi-year plans (DLI2), enabling quicker completion of the new development schemes and provision of additional resources for service delivery to existing facilities. |
| **(b) Inequitable allocation of health and education resources without due consideration of the need** | The budgets are mostly incremental within tight envelopes. This leads to resources being inefficiently distributed among geographical regions and ineffectively allocated among different programs and cost categories. This may drive regional disparities and hinder some facilities from receiving essential service delivery resources while resources are inefficiently deployed in partially complete schemes or surplus stocks of drugs, for instance. | Annual budget allocations should be made after due regard to the fiscal need (to be separately worked out for development and non-development expenditures) and better aligned to prioritize the programs and cost categories in accordance with the sector strategy.  Better budget allocation could only be achieved over time by making incremental changes each year (transition). This requires significant deliberations and stakeholders’ consultations on a constant basis.  **The PFM program will contribute to:**  Improving the performance of the BMCs (DLI2) to lead these consultations in each ministry to improve the quality of annual budget and its execution over time. |
| **(c) Fragmentation of budget primarily due to externally-financed programs** | Social sector budgets are fragmented due to the vertical programs and externally-financed interventions, even if the activities are performed at the same facilities operated primarily by the government budget. Fragmentation of budget poses several management challenges at the level of the budget holders and frontline service providers. They need to balance out in meeting their needs from different sources of funds and varying conditions accompanied. The timing of availability of these resources also vary and limit the ability to plan ahead. Finally, keeping funds in commercial bank accounts weakens the treasury single account and in turn affects the cash management ability of the government and increases borrowing costs. | All sector programs should be mainstreamed within the core government budget to ensure and demonstrate how the funds are effectively spent to achieve sector strategies.  **The PFM program will contribute to:**  Strengthening BMCs to progressively consolidate various programs into the annual budget and bring them on the treasury to avoid the use of any exceptional procedures (DLI2).  Discouraging the use of the special project bank accounts outside of treasury (DLI4).  Ensuring timely budget releases to the DDOs (DLI3) to remove one key obstacle often cited to allow separate project bank accounts. |
| **(d) Long time taken in procurement** | The PFM in Health report suggests that it takes around 15-18 months in procuring medicines, which is over the average time it would take to procure (i.e. 9 months). Following a narrow interpretation of the general financial rules, most executives will not initiate any procurement actions before the budget approval. This delays the provision of necessary goods and services. | This PFM program does not directly attempt to improve procurement in this regard as there is a separate Bank project dealing with the public procurement (on e-Government Procurement, e-GP).  Nevertheless, the interface between iBAS++ and e-GP and improved payment mechanisms of EFT and online bill submission (DLI8) will expedite the payment for procurements and make them more transparent, thereby enhancing the market confidence. |
| **(e) Delayed budget releases of development expenditures to the budget holders (especially for 3rd and 4th quarter)** | Delay in budget releases is often cited as one of the biggest bottleneck to smooth and efficient service delivery. The PFM in Health report assessed that the budget release for development funds (especially reimbursable project aid for 3rd and 4th quarters) took on average more than two months. This delays the implementation of critical activities and the payment to contracts (often for goods/services already delivered).  The delay in budget release for 3rd and 4th quarter is primarily due to a requirement of submitting a Statement of Expenditures. | **The PFM program will contribute to:**  Addressing the issue of timely budget releases (DLI3). First, this DLI seeks to delink the budget releases from the need to submit a statement of expenditures as the budget execution data is now in iBAS++. Second, it seeks to ensure timely distribution of budget to DDOs by the budget holders by establishing a monitoring mechanism via iBAS++. There are specific DLRs to seek timely receipt of budget by the DDOs. |
| **(f) Lack of flexible resources at the health and education facilities** | Sector ministries often advocate for the need for flexible cash resources at the health and education facilities. In general, cash handling is not considered as a good practice and risky. However, there is sufficient evidence from the field of how public service delivery suffers due to lack of resources for minor repairs, petty purchases, or paying the travel allowance for maternity patients.  In some health sector program, the issue has been addressed on an ad hoc basis. | This is a complex issue to solve and would require broad-based consultations and advocacy to design a system of providing cash resources to the facilities that is not easily abused.  **The PFM program will:**  Conduct quarterly PFM field inspections by multi-institution teams to identify such challenges and then devise exceptional procedures for specific circumstances (DLI10). In case of the health sector, such consultations could lead to allowing the facilities to retain user fees as flexible cash and complement this with what could be collected via community support committees, and if and how a part of these resources could be used for bonuses. |
| **(g) Inadequate audit follow-up affecting Development Partner (DP) disbursements** | There are multiple factors that surface with inadequate audit follow-up. Irrespective of why the audit observation is not timely resolved, it can significantly affect DP disbursements and civil servants’ terminal benefits promoting an unnecessary risk-averse attitude among all civil servants. Delayed disbursements or inaction by civil servants eventually affect the efficiency and quality of the public service delivery. | **The PFM program will contribute to:**  Expediting the audit follow-up by establishing well-functioning audit committees (DLI9). Well-functioning audit committees on one side resolve the pending audit observations, and on other side, they provide useful feedback to auditors to improve audit quality. |

**Program’s expenditure framework**

1. **The total cost of PFM reforms laid out in the PFM Action Plan exceeds US$350 million for the next five years.** The Program supported by the PforR, the SPFMS, comprises eight components of the PFM Action Plan to strengthen fiscal forecasting, budget preparation and execution, financial reporting and transparency. The SPFMS will be implemented over five years, at an estimated total cost of US$170 million out of which IDA would finance US$100 million (about 28 percent of overall, incremental program costs).The SPFMS incremental cost is estimated to be around US$110 million (Table 2 below). Additional US$59.5 million of recurrent expenses of FD which represent 35 percent of the program cost are closely related to the implementation of these reforms taking the total estimated cost to US$170 million. Each component of the Program will be established as a budgetary special program on the government’s recurrent budget. This is similar and to some extent an expansion of the ongoing PEMSP.
2. **The Program budget will be distinguished as non-Annual Development Program (non-ADP) special program with separated sub-schemes for which detailed technical notes have been prepared for each DLI.** The IDA funds will be disbursed to the government Treasury Single Account (Consolidated Fund) on verification of achievement of DLRs.

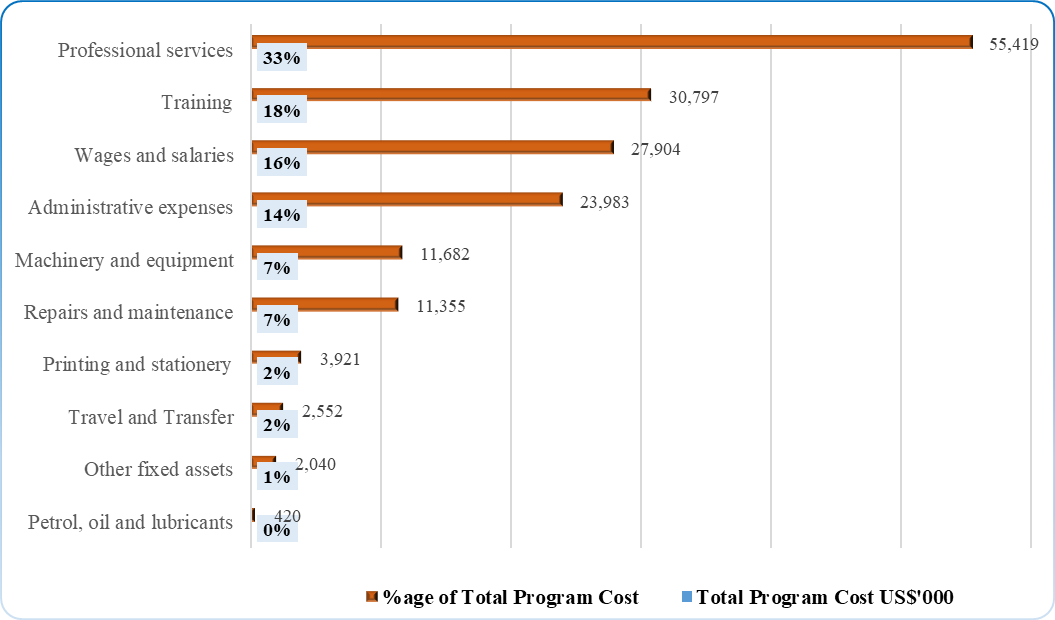
**Table 2: Program Cost Estimates (US$ millions)**



1. **The expenditure is adequately structured to achieve the program’s objective. The nature of expenses for the program is shown in Table 3 below.** Professional fees and training together represent 55 percent of the program cost estimate which reflects the substance of the reform activities especially around the iBAS++ enhancements and planning/budget reforms. The other cost items are: wages and salaries 16 percent; administrative expenses 14 percent (including rent of program office); machinery and equipment 7 percent; and the rest includes software development, survey and study, repair and maintenance, travel, printing, and fuel & oil.

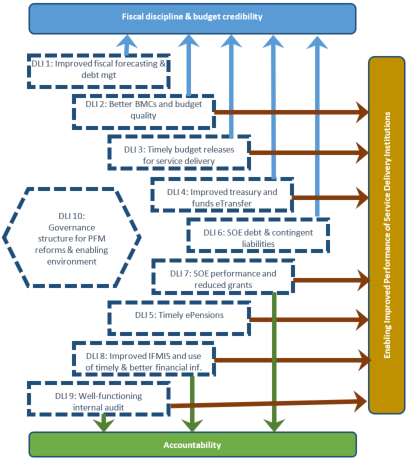
**Table 3: Program estimates by nature of expenses for FY2018-19 to FY 2021-22 (US$'000)**





1. **Finally, the Program is complemented by a compact, but important, change management/enabling environment technical assistance to support, anchor, deepen, and sustain the reform processes.** A separate Bank-executed technical assistance (approximately US$10-12m over the lifetime of the Program) under the SPEMP MDTF will support selected PFM reforms. It will ensure the provision of timely and quality technical assistance and advice as required and include the engagement of expertise to support the government in niche areas (such as cash management, commitment control, TSA expertise, budgeting, and MTBF), as well as several discrete studies to help enhance understanding of key public resource management constraints at central or sectoral levels. The technical assistance would help the government identify relevant actions to address challenges faced as they evolve, broker solutions to collective action problems, and help ensure that reform processes are informed and adapted as implementation progresses.

**Results chain and logic for DLIs selection**

1. **There is a logical connection linking key result areas to DLIs, and in turn to intermediate objectives, elements of the PDO, and the overall outcome.** DLI1 supports adoption of an improved macro-economic model leading to improved fiscal forecasting. DLI2 supports improved budget alignment with development strategy, leading to better budget preparation and execution in line ministries. DLI3 supports timely budget releases. DLI4 supports automation to enable timely payments of salaries and invoices. DLI5 supports improved pension service including timely payments to pensioners. DLI6 and DLI7 supports improved monitoring and evaluation of and reporting by SOEs. DLI8 supports better reporting on budget execution linked to BACS and IBAS++. DLI9 supports improved audit procedures, reporting, and resolution of audit recommendations. DLI10 supports appropriate governance and change management processes for the Program. DLIs and intermediate objectives feed into the PDO elements of improved fiscal forecasting, improved budget preparation and execution, enabling of better resource availability and management for service delivery, and improved financial reporting and transparency. These elements contribute in turn to the intended outcome of improved service delivery (see Figure 1 above).

**Figure 1: Selection of DLIs**

1. **DLIs provide an ideal mechanism to advance these reforms, including incremental and process targets to guide implementation.** Based on the SMART (specific, measurable, appropriate, realistic, and timebound) principle, select indicators will draw from the PFM Action Plan. The DLIs aim to address the bottlenecks along the results chain, including a reasonably even distribution of disbursements. The DLIs are structured to strike an appropriate balance between high-level and intermediate results. Figure 5 below shows that certain reform activities incentivized via DLIs rest at the intersection of achieving more than one strategic goals of fiscal discipline & budget credibility, efficient service delivery, and accountability.

* **The Program will make significant contributions for improved fiscal discipline and budget credibility.** Specific reform activities would include improving fiscal forecasting supported by better IFMIS data and SOEs fiscal risks, strengthening the BMCs for budget credibility, ensuring timely budget releases to support improved budget out-turn, and enhancing use of the treasury single account.
* **The Program interventions would contribute to improved financial accountability.** These accountability reforms will include strengthening the monitoring of the performance of SOEs, ensuring the timely submission of central government financial statements for auditing, and strengthening internal audit function and audit committees.
* **The program is aimed to ensure that the improved PFM performance enables more and better public service delivery in social sectors.** While SPFMS would gradually cover all key sectors in Bangladesh, social sectors are prioritized to pilot the PFM improvements.

Examples include: (a) improving the functioning of BMCs in the line ministries, (b) reducing the current 3 months’ time taken to 2 weeks for release of budget from departments to frontline service delivery units, (c) using financial information by the budget controlling officers, (d) monitoring performance of SOEs, (e) user group endorsing the iBAS++ improvement plan, (f) budget-holders submitting payment bills online, (g) connecting iBAS++ with other applications/systems for direct bank transfer to pensioners or beneficiaries, (h) launching a portal to push the boundaries for fiscal transparency by disseminating key fiscal datasets (disaggregated revenue/ expenditure and output) in user-friendly accessible formats; and (i) using smart phone to access real-time budget information for decision-making to enhance service delivery.

**Program’s results framework and monitoring and evaluation**

1. **The results framework (Annex 1) captures the direct benefits linked with the program. The theory of change (Figure 2) explains the links between DLIs, intermediate outputs, the PDO, and the ultimate intended outcome.**

**Figure 2: Program Theory of Change**

|  |  |  |  |
| --- | --- | --- | --- |
| The PDO is ***"to improve fiscal forecasting, budget preparation and execution, financial reporting and transparency to enable better resource availability for service delivery."*** | | | |
| **Selected key**  **Activities/Outputs** | **DLIs** | **PDO Intermediate Results** | **PDO elements** |





**Outcome: Improved service delivery**

1. **Marco-economic model requirements finalized**

**2. Application for the model procured and configured with data**

**3. Macro-economic model completed with updated database**

**4. Macro-economic model used for MTMF and budget preparation**

**5. Updated medium term debt strategy.**

**DLI 1: Use of improved fiscal projections for budget-making**

**Use of improved fiscal projections for budget- making**

1. **Monitoring framework (including a performance scorecard) for the BMCs developed as part of reconstituted TORs**
2. **15% BMCs undertook inter-ministry peer-reviews**
3. **Increase Social Sector spending to 29%**
4. **25% improvement in the average performance score of BMCs evaluated through the peer-reviews**
5. **Increase Social Sector spending to 29.25%.**

**Improve fiscal forecasting**

**DLI 2: Improved budget alignment with development strategy and gender, social, and climate considerations through better performance of BMCs**

**Improved budget alignment with development strategy through better performance of BMCs**

1. **Delink budget release from the fund utilization report submission**
2. **At least 80% of DDOs have budget released & distributed July 31**

**DLI 3: Reduced number of days for DDOs to receive budget in selected MDAs - (education, health, roads, public works & local government)**

**Improve budget preparation and execution**

1. **Stock-take of special accounts and EBFs and EBCG outside TSA completed**
2. **At least 50% govt payment transactions are made through EFT**
3. **At least 40% DDOs submit pay bills online**
4. **Number of new (outside TSA) special accounts opened annually reduced by 50%**
5. **GP Fund module and Pension Service module of iBAS++ implemented**
6. **Centralized pension roll with EFT enabled**
7. **Govt-wide annual GPF and Pension Service report produced**
8. **50% reduction in the delayed pension cases**
9. **90% of new pensioners paid through EFT no later than the following pension payment cycle after retirement**

**DLI 4: Timely, reliable payments of salaries and vendor invoices with strengthened treasury single account and automated payment system**

**Reduced number of days for DDOs to receive budget in selected MDAs**

1. **Policy and procedures issued to regulate SOEs debt and contingent liabilities (including upgraded financial reporting framework to FD for SOEs)**
2. **100 SOEs and autonomous bodies publish their audited financial statements**
3. **SOE debt and contingent liabilities statement prepared.**

**DLI 5: Improved pension service through the EFT no later than the following. pension payment cycle after retirement**

1. **SOE performance evaluation guidelines developed with clear scoring criteria**
2. **Adopt a policy and procedures manual that enable an effective review of grants to SOEs**
3. **At least 10 SOEs subjected to an independent performance evaluation**
4. **Turnaround/ exit strategies for at least 10 non-performing SOEs**
5. **The ratio of total transfers to SOEs as a percentage of overall total public spending reduced by 15%**

**Timely, reliable payments of salaries and vendor invoices with strengthened treasury single account and automated payment system in selected MDAs**

**DLI 6: SOE and autonomous bodies fiscal risk assessed, and debt and contingent liabilities statement prepared and submitted to the policy makers**

**Enable better resource availability for service delivery**

1. **FY18/19 budget released on new BACS**
2. **At least 3 priority iBAS++ interfaces with other systems are operational**
3. **At least 4 SAEs using iBAS++**
4. **Govt. wide unaudited Annual financial statements (including SAEs) submitted to OCAG within 6 months of the fiscal year-end**
5. **Detailed budget execution reports published on the official website**
6. **60% of budget-holders generate monthly 10 or more iBAS++ reports for budget execution decisions**

**DLI 7: Improved performance of the SOE sector and reduced subsidies**

**DLI 8: Budget holders in MDAs effectively and transparently use financial information**

1. **Model Internal Audit Charter and risk based internal audit manual issued**
2. **System for annual procurement planning and procurement post review established and training conducted in FD**
3. **Internal Audit reports issued to two respective heads of the Departments and PAOs**
4. **Audit committee resolves at least 50% of audit recommendations for selected MDAs including FD & procurement post review finding in FD**

**DLI 9: Action taken on audit reports in selected MDAs - (education, health, roads, public works, & local government) and ost rocurement review in FD**

**Improve financial reporting and transparency**

**DLI 10: PFM program is effectively led through an adequate governance structure and an effective change management approach**

1. **Semi-annual PFM program progress reports submitted to the Steering Committee**
2. **Semi-annual program/ stakeholder retreats conducted to review the respective program progress reports**
3. **Learning Hub at IPF produced at least 3 research papers on reform lessons and published through their website**
4. **6 PFM field inspections are made**
5. **Facilitation evaluation report submitted**
6. **At least 100 civil servants (disaggregated by gender) completed specialized courses**

**Budget-holders effectively use financial information**

1. **The Program monitoring will be a continuous process of gathering data and comparing actual results of DLRs and other key indicators with expected results.** The SPFMS will use existing systems within the government whenever possible to carry out results-based monitoring, including the MOF's SOE Monitoring Unit, OC&AG, and IMED. When needed, non-governmental bodies will be engaged including research institutes and external audit firms. The goal will be to measure how well the Program is being implemented, and to ascertain when specific targets have been met that trigger disbursements by the Bank operation to the government. The monitoring will also provide feedback on progress achieved so that decision makers can make necessary changes to improve performance. The DLI verification would reinforce the M&E arrangements of the Program. Five DLIs will be verified by an independent verification agent to be appointed by the FD as part of the annual program assessment financed by the SPEMP BETF. Four DLIs, that involve financial data, will be verified by the Supreme Audit Institution (OC&AG). Finally, one DLI on the performance of the BMCs will be verified by the Cabinet Division as part of their support to other ministries on annual performance agreements.
2. **In addition, an independent evaluation of the SPFMS will be carried out in the third year of the program.** The evaluation will assess, inter alia, whether the targets and expected outcomes are still relevant, how effectively and efficiently they are being achieved, what unanticipated effects are evident, and whether the program represents the most sustainable and cost-effective means for achieving the intended outcomes. It will also look at the continuing relevance of the Program's theory of change, including the extent to which the performance-based allocations and capacity development supported by the program is helping to successfully drive the reforms.
3. **The Program is trying to measure the increased capacity to adapt through DLI10, though there is no easy barometer for measuring the behavioral changes.** Attitudinal barriers to achieving the objectives of the PFM reform program will be addressed through behavioral and change management interventions. Among those described in the DLI10, these will include strategic communication about the reform benefits with the political leadership to solicit commitment and the administrative cadre for ‘buy-in’ to better manage resistance; participatory engagement with stakeholders (citizens/beneficiaries/DPs); and recognizing and rewarding agencies and individuals for good PFM performance. This will help provide a conducive authorizing environment for sustaining the deep institutional reforms that require ownership and support by multiple stakeholders.

**Program’s governance structure and institutional arrangements**

1. **The PFM reform process has a two-tier governance structure comprising of a Steering Committee (SC) and a Program Execution & Coordination Team (PECT).** The SC headed by the Finance Secretary will comprise senior representatives from major spending ministries, Cabinet Division, Controller General of Accounts, Comptroller and Auditor General, National Board of Revenue, Economic Relations Division, and Planning Commission. SC will oversee implementation progress, provide policy guidance and ensure an enabling environment for reforms to succeed and sustain. The FD, through the PECT, would lead the coordination of the reforms with active support from the line ministries as well as the DPs. PECT will consist of 6 members from FD and 2 members from other PFM instutions. PECT can invite observers to their meetings and is expected to invite selected DPs for inputs and advice. The PECT will also be responsible for establishing a forum for institutional collaboration (PFM Reform Learning Hub at the Institute of Public Finance) for areas requiring collective action and mutual learning and accountability and for more systematic capturing, sharing and replication of reform lessons.

**Figure 3: Program Governance Structure**

**Steering Committee**

**Program Execution & Coordination Team**

**PFM Learning Hub (IPF) Team**

**Program Implementation Team (SOEs)**

**Program Implementation Team ( -- - )**

**Program Implementation Team (MacroEco)**

**Program Implementation Team (Budget)**

1. *Steering Committee*: The SC will be chaired by the Finance Secretary and will provide general strategic oversight and direction to program implementation. The SC will also monitor the program’s implementation.
2. *Program Execution & Coordination Team (PECT)*: The PECT will be anchored at the Budget Wing, FD. The PECT will consist of 8 members, the head of the Budget Wing will be *ex officio* Program Director. To ensure a broad-based representation for the overall PFM reforms, at least 2 members of PECT will represent institutions other than the FD.
3. *Program Implementation Teams (PITs):* Every lead institution for each of the seven components of the PFM Action Plan will nominate a 3-5 member PIT from amongst their staff. There will be a total of seven PITs. The PIT would be accountable for implementation of the respective reform interventions and achieve the performance targets.
4. *Focal Points in Counterpart Institutions:* The lead institutions have identified around 3-4 focal points in their counterpart institutions to ensure a smooth institutional collaboration for the implementation of PFM reform activities under each component.
5. **PECT will have clear division of responsibilities among its executives to perform specialized duties as follows:**
6. Program Executive & Coordinator (PFM Reforms & Change Management)
7. Program Executive & Coordinator (Macro Economics & Debt)
8. Program Executive & Coordinator (Budget and Expenditure Control)
9. Program Executive & Coordinator (iBAS++ & BACS)
10. Program Executive & Coordinator (SOE Governance)
11. Program Executive & Coordinator (Payments, Pensions & Financial Reporting)
12. Program Executive & Coordinator (Revenue Mobilization, Planning & Procurement)
13. Program Executive & Coordinator (Accountability & Parliamentary Oversight)
14. **SPFMS will use existing formal country systems structures to ensure that responsibility for meeting the DLIs is within the mandate of the assigned implementing agencies.** The attitudinal barriers to achieving the objectives of the PFM reform program will be addressed through behavioral and change management interventions.These will include strategic communication about the reform benefits with the political leadership to solicit commitment and the administrative cadre for ‘buy-in’ to better manage resistance; participatory engagement with stakeholders (citizens/beneficiaries/DPs); and recognizing and rewarding agencies and individuals for good PFM performance. This will help provide a conducive authorizing environment for sustaining the deep institutional reforms that require ownership and support by multiple stakeholders.
15. **Technical assistance for coordination, capacity development, and M&E have also been built into the implementation arrangements and supported via DLI 10**.This will include capacity strengthening of the governance arrangement for PFM reforms and adequate enabling environment, including the establishment of the PECT that will function as a secretariat to coordinate implementation and provide technical oversight of the program. The PECT will be led by a Program Coordinator who will provide technical guidance and overall management and will also include specialists in the areas of monitoring and evaluation.

***Role of the Development Partners***

1. **The PFM Action Plan was developed under the leadership of the FD in close collaboration with DPs: The Governments of Canada and the United Kingdom, the European Union, and the Japan International Cooperation Agency (JICA).** This included DPs’ provision of time, comments on the PFM Action Plan and contributions on specific analytical inputs, as well as financing for engagement of technical and secretarial assistance through the SPEMP multi-donor trust fund. DPs will continue to support the technical assistance required for SPFMS success. A complete mapping of the DPs’ support for PFM reforms is provided in Annex 4.

***Citizens Engagement***

1. **Citizen engagement and access to information is a key precondition in improving accountability.** The 2009 RTI Act provides an adequate legal basis for pursuing information and data sharing. The RTI together with the 2009 Public Money and Budget Management Act encourages government bodies to proactively disclose financial data in the interest of promoting transparency and accountability by complying with the specific transparency requirements. According to the 2017 Open Budget Index, however, the Government of Bangladesh provides the public with limited budget information and has not been consistent with the type of documents made publicly available in a given year. Since 2015, the availability of budget information to the public has decreased with in-year budget reports and audit reports not published in a timely manner, and pre-budget statement and citizens budget not available. Access to timely and reliable information will be critical in promoting development and citizen participation in governance.
2. **The Program will support the preparation and testing of a prototype of the Citizen Budget.** A citizen’s budget is a simpler and less technical version of the government’s Executive’s Budget Proposal or Enacted Budget, designed to convey key information to the public. For this purpose, the Budget in Brief can be built on and improved with infographics and citizen friendly terminologies to start publishing a citizen’s budget. The Program will also support publishing the quarterly budget execution reports. The citizen’s budget would augment the existing series of documents that include the gender budget, child budget, and climate budget that are regularly produced by the government.
3. **The Program design has a special emphasis on the outreach activities and engagement with beneficiaries and citizens.** Specifically in DLI 10, a DLR about PFM field inspections aims to reach out to officials, beneficiaries and general public, both in and surrounding the public facilities, to understand how PFM-related bottlenecks are affecting the efficiency and effectiveness of the services being delivered at the last-mile. This would enable those teams to remove those bottlenecks from the service delivery chain as part of the PFM reform process under this program.

***Gender***

1. **The Program will have a positive contribution for the gender development in the country.** DL2 is focused on improved budget alignment with development strategy and gender, social, and climate considerations and the BMCs scorecard proposes a 15% weight to gender and social issues to ensure ex-ante deliberations for increased pro-women and pro-children expenditures. The current gender and child budget documents provide sufficient background on the gender disparities in the social sectors to provide a good starting point for BMCs.
2. **The Program aims at improving gender equality in terms of easy access to pensions.** Both male and female civil servant pensioners are covered by the noncontributory defined pension scheme and draw pensions following a uniform policy and processes. However, long processes and complex documentary requirements to accessing pensions (which affect both women and men) impinge more heavily on women due to women’s lower access to information and financial, time, and mobility constraints as well as socio-cultural norms and *purdah* practices, and potential exploitation. Having an automated system (EFT) will reduce hurdles which women commonly face and thus facilitate easier access to pension benefits. This would particularly benefit family pension recipients as widows of pensioners have to undergo a number of additional processes to claim family pensions – something that often results in surrendering of the pension claims of the deceased. Having the analysis of delayed pension cases by gender will also enable focusing on expediting resolution of cases for women pensioners. This is expected to benefit women disproportionately by helping overcome information access and mobility barriers, while enabling women to circumvent gender bias and discrimination. Establishing a separate women's counter at the pension office will also be considered. A few indicators will measure progress in gender equality in access to pensions. For example, the Program aims to ensure that 90% of new female pensioners (as well as 90% of new male pensioners) are paid through EFT. Another indicator will measure progress on widows’ access to pensions by targeting a 60% reduction in delayed family pension cases (compared to a 50% reduction in all delayed pensions cases).
3. **Finally, the Program has a gender-disaggregated indicator on the number of civil servants who have completed specialized courses.** Based on the updated competency framework in year one of the program, there will be more clarity on where the most urgent training needs exist within the government and more tailored training of civil servants will commence in year two and three of the program. The gender action on training courses includes additional efforts to ensure that female staff are well informed about the courses in which they can enroll as well as tailored outreach activities targeted to female staff. Courses will be customized in some way to support a high participation by female staff (for example, the location/time the training is held). As a result, in the fourth year of the program, a minimum of 100 civil servants are expected to have completed training (of minimum 6-month duration) in areas such as macroeconomic fiscal modelling or debt management for example and professional certifications (such as CIPFA, PMP, CIA…) of which at least 30% are women. Over the medium term, this would help to reduce the gender disparity in the skills and career opportunities of government employees.

**Economic Justification of the Program**

1. **The economic and social rationale for this Program is compelling.** As per described PFM bottlenecks, Bangladesh pays a significant price for delayed and inefficient resource availability for service delivery. While an accurate estimation is hard, the Program is expected to add more than US$1 billion in economic gains for an overall program cost of US$170 million which more than justifies the public investment. This estimation is based on the benefits attained in other settings where similar complex PFM reforms have taken place, and one would expect similar benefits to be achieved in Bangladesh.

* The reform program is likely to improve the quality of the MTBF and this in turn will lead to more efficient allocation of resources. The budget implementation rate for Bangladesh has been falling consistently in comparison to increasing size of budget allocation. Experts have repeatedly pointed out that poor revenue mobilization against the projection makes implementation of the budgetary measures difficult. The failure to keep up with reality in the short run makes the implementation of multi-year plans and strategies even more difficult. The implementation of the program will help the FD to make a realistic projection of macroeconomic variables. It is expected that a more realistic projection of expenditure and revenue will ultimately lead to improvement of the budget implementation rate, which fluctuated between 79-85 percent[[6]](#footnote-6) in the FY 2013-14 to 2016-17. In terms of revenue collection and expenditure, only 81 percent and 79 percent were materialized respectively in FY 2016-17[[7]](#footnote-7). Debt analysis and publication of debt bulletin will enhance debt management capacity of the government, which in turn will strengthen the overall fiscal situation and free up public funds that can be used efficiently in other sectors. It is expected that the fiscal space that the government will gain through the implementation of the program will have a multiplier effect throughout the economy for several years in the future.
* A more realistic budget announcement will help different public and private sector stakeholders to plan more efficiently, leading to further economic gains. Timely and predictable budget releases speed up the completion time for capital investments and improve the infrastructure utilization through timely payment of recurrent costs; these reforms, in turn, help projects deliver economic benefits faster and more reliably, thus improving value added as measured by net present value. The program will establish a monitoring mechanism in this regard which will reduce time and costs associated with the process.
* The program is likely to have a significant effect on the SOEs, which remains an important part of the economy of Bangladesh. Estimated net profit for SOEs was BDT 66.4 billion (around US$ 800 million) in FY2016-17[[8]](#footnote-8), many of them are not profitable and dependent on subsidy from the government. In FY 2015-16, subsidies to 11 SOEs amounted to BDT 17 billion (around US$ 204 million)[[9]](#footnote-9). The stock of debt service liabilities against 112 SOEs stood at BDT 2,031 billion (around US$ 24 billion) in FY 2015-16 and energy-sector SOEs have been the main beneficiaries of government guarantees. Losses in the energy sector alone are estimated at Tk. 51.4 billion (around US$ 620 million) in FY 2015-2016. Data from the Bangladesh Bank shows a total of 10 banks, including seven state owned banks faced a capital shortfall of Tk.233.6 billion (US$ 2.8 billion)[[10]](#footnote-10) at the end of March 2018. Fiscal risk assessment and the preparation of debt and contingent liabilities statement will improve the overall management of these SOEs. This will lead to economic benefits from two directions: it will increase the profitability of the SOEs and the government will need to provide lesser subsidies. These will again free up public funds that can be spent in productive sectors. A 10 percent increase in overall profitability of the SOEs due to loss prevention can free up US$80 million in a single year.
* Using human resource management systems and EFT for payroll and pension payments will improve the incentive structure, encourage public officials to work harder and deliver greater economic benefits. These systems have already removed 100,000 ghost pensioners. Using EFT for paying vendor invoices can lead to more timely and reliable payment, and potentially enable vendors to offer lower bids for future government contracts. Online bill submission will make the payment process more reliable and transparent, leading to higher market confidence.
* The use of online bill submission and EFT will significantly reduce the use of paper and back and forth transportation of DDOs to the account’s office and contractors to DDOs and their banks, respectively. Given the present number of DDOs (around 36,000), this will amount to significant cost savings. Taking into consideration the cost of paper, logistics and travel that is spent currently for DDOs to execute their budget, these reforms can have economic savings of at least US$ 35 million in the long run (out of which US$31 million only comes from the reduction in the use of transport and related greenhouse gas emissions).
* Strengthened TSA will save bank fees, commissions, and interest charges by consolidating all government cash in a single account.
* The program would support the growth of key social sector spending areas like health and education as a percentage of the total public-sector spending. Spending in these areas as a percentage of GDP is very low for Bangladesh compared to other developing countries. The positive effect of health and education improvements on GDP growth is well established in the literature and the reform program is likely to play an important role in this regard. A 0.4 percent increase in social infrastructure spending means an additional US$ 240 million in this sector (based on FY18 budget allocation) over four years after the end of the Program. This can have multiplier effect over the long run.
* Improved transparency in public finance increases the confidence of citizens that they can expect that public resources are used to improve services, and thus improve their willingness to pay taxes. Tax to GDP ratio for Bangladesh is one of the lowest in the region and has the scope to improve significantly.
* Expansion and improvements of iBAS++ will strengthen controls that can better support the audit process to uncover financial irregularities and enable improved expenditure management going forward.
* Well-functioning audit committees both help to resolve pending audit observations leading to significant fund recoveries, and they also provide useful feedback to auditors to improve audit quality. Improved audit quality and follow-up is expected to reduce the prevalence of costly, inappropriate behavior, and to incentivize more efficient and effective spending that delivers greater value for money.

***Climate Co-Benefits:***

1. **The Program will bring the climate co-benefit in several ways.** *First on mitigation,* through DLI 4 and DLI 5, the Program will promote the use of online bill submissions and EFT for payments to government staff, pensioners, and venders. This will greatly reduce the use of paper and transportation back and forth from 36,000 DDOs to accounts office and from thousands of venders to DDOs and their banks for cheque collection and deposit. This will be able to directly reduce the transport demands of the government staff, pensioners, and vendors that normally would travel over 10km on average by car, bike, and bus to complete one public service transaction, leading to savings of approximately 518,055 tons of carbon dioxide.[[11]](#footnote-11)
2. ***On the adaptation side,* the FD has completed climate tagging for the top twenty climate spending ministries as part of the climate budget preparation.** The Program will ensure the tracking of these pro-climate expenditures and continued alignment of public spending with pro-climate considerations by improving the performance of BMCs as part of DLI 2. Where applicable, the BMCs will ensure that budget programs set out and reflect policy goals in full compliance with the strategic goals of achieving gender equality, climate change and citizens’ participation set out in the five-year plans, cross-cutting and sectoral strategies, clearly identifying the respective performance indicators. Finally, the Program will also finance maintenance and replacement of solar panels as a secondary electricity source for several upazila accounts offices.

**Evaluation of the technical risks**

1. **The technical risk of PforR is rated as “Moderate” considering the aforementioned context and technical preparations.** The government has the readiness to implement the approved PFM Action Plan that has been prepared with analytical underpinning; the Program design provides the institutional framework and incentives for continued focus and prioritization of PFM reforms to have a clear impact on social service delivery; there is strong technical preparation with the DLI technical notes prepared by the notified government teams; and finally, the appropriate attention given on adaptive challenges has raised stakeholders’ understanding of the PFM challenges and thereby procured the necessary appetite for the changes needed.

**Improvements proposed to be carried out as part of the PAP**

1. **The following actions are included in the PAP to retain Program’s technical soundness and smooth implementation:**

* Ensuring establishment of the PECT and PITs and that these are maintained throughout the Program implementation
* DLI technical notes are reviewed and amended as necessary in consultation with the Bank
* Arrange DLI verification of four DLIs by the OC&AG and one by the Cabinet Division and enable verification of other five DLIs through a third-party verification.

1. The Global Competitiveness Report 2014-15 ranks Bangladesh’s overall infrastructure at 130 out of 144 countries. [↑](#footnote-ref-1)
2. World Bank. In press. *Diagnostic Study of PFM for Strengthening Health Financing and Service Delivery in Bangladesh*. [↑](#footnote-ref-2)
3. [↑](#footnote-ref-3)
4. Program team made calculations based on data from Bangladesh Road Transport Authority and The United States Environment Protection Agency’s Greenhouse Gas (GHG) calculator Allen and Tommasi (2001), page 15 [↑](#footnote-ref-4)
5. [www.theiia.org](http://www.theiia.org) - its Certified Internal Auditor (CIA) designation has become a hallmark of professionalism for internal auditover the world. [↑](#footnote-ref-5)
6. Budget in Brief, 2013-2014 to 2016-2017 [↑](#footnote-ref-6)
7. Budget in Brief, 2016 and 2017 [↑](#footnote-ref-7)
8. Bangladesh Economic Review 2017, Chapter 9, page 135 [↑](#footnote-ref-8)
9. Data collected by World Bank [↑](#footnote-ref-9)
10. The banks are: Bangladesh Krishi Bank, Sonali, BASIC, Rupali, Janata, Agrani, Rajshahi Krishi Unnayan Bank, Bangladesh Commerce Bank, ICB Islamic Bank and Farmers Bank [↑](#footnote-ref-10)
11. Program team made calculations based on data from Bangladesh Road Transport Authority and The United States Environment Protection Agency’s Greenhouse Gas (GHG) calculator [↑](#footnote-ref-11)