



FRAMEWORK OF A DECISION SUPPORT SYSTEM FOR APPLYING PROGRAM-FOR-RESULTS FUNDING MECHANISM

KAREEM ZAHRAN and A. SAMER EZELDIN

Construction Engineering Dept, American University in Cairo, Cairo, Egypt

Following the introduction of the Program-For-Results funding mechanism, in year 2012, The World Bank's Board of Executive Directors requested a follow-up review of the instrument to be performed two years later. A report titled "Program-For-Results: Two-Year Review" was issued by the operations policy and country services department in the World Bank. One of the main conclusions of the report is the lack of knowledge and experience of the stakeholders involved in the application of the Program-For-Results (P4R) funding mechanism. This leads to the need for further guidance and support for future P4R operations. This research aims to fill the gap between any in-pipeline programs planned to be financed through P4R and previous experiences within the same sector or financing mechanism. It is planned to summarize all P4R experiences to-date and other sectoral experiences in a detailed framework that guides new governments through the life-cycle of P4R. This is achieved by developing the main framework of a Decision Support System (DSS) that guides governments/decision makers throughout the lifetime of the P4R program. It provides guidance for the government in each stage of the P4R starting from the borrowing preparation stage up to the closing stage.

Keywords: World-Bank, Infrastructure, Preparation, Results-based-finance, Government, Foreign aid.

1 INTRODUCTION

Governments employ several methods for funding infrastructure projects within their development programs. The selection among such methods depends on several parameters including the economic and political status of the country, the type of project, priority of government spending and the availability of funds. In case of developing countries, governments may require support from International Financial Institutions (IFI). IFIs support developing countries in achieving their development goals through several methods including financial support. One of the mechanisms of support is result based finance, which links disbursements to the achievement of agreed results. This research focuses on the application of Program-For-Results mechanism, offered by the International Bank for Reconstruction and Development (IBRD) (One of the World Bank institutions) (Zahran and Ezeldin 2016a). Since P4R was initiated in year 2012, there were 52 different programs approved in several countries in different regions. There are also 27 programs that are under preparation (World Bank 2016). This shows continuous demand for P4R from developing countries.

2 PROGRAM-FOR-RESULTS APPLICATION

The application of P4R funding mechanism on infrastructure programs passes through several stages, starting from the initiation, by the borrower, and preparation of the program, its required expenditures, stages and schedules. Then the submission of the program to the World Bank (WB) team and performing some preliminary discussions, this is known as the identification stage. It is followed by the preparation stage where the WB team starts in performing the program assessments and getting initial approvals for them. Then the appraisal stage where all agreements between the government have to be settled and action plans are agreed and signed by the borrowing government and the WB management, following a negotiation phase. Later, the implementation stage where the program objectives and stages are achieved and disbursements are made against previously specified DLIs. Finally, the closing stage where the WB closes the program financing account and completion reports are prepared (World Bank 2012, Zahran and Ezeldin 2016b).

3 PROGRAM-FOR-RESULTS TWO YEAR REVIEW

Two years after the WB started applying the Program-For-Results mechanism, a two-year review report was issued to address the request initially made by the WB Board of Executive Directors. This review had two main objectives (1) to perform an assessment of the experience of bank staff, borrowing countries and third-parties in applying the new funding mechanism over these two years throughout the life cycle of P4R (from the identification phase to the closing phase) and (2) the identification of lessons learned and any suggested changes to the originally proposed framework to help improve its implementation. This review involved several reviews of literature, desk reviews, structured interviews and surveys of all stakeholders who were involved in any of the P4R operations stages.

One of the main observations concluded from the analysis of the surveys was that most of the interviewees faced the problem of the lack of experience of stakeholders involved in the application of P4R and the need for previous experience and guidelines. This leads to the need for further guidance and training into the application of P4R. It also confirmed the increased interest of the WB clients in using the instrument.

4 PROPOSED FRAMEWORK

This research aims to introduce a framework that supports decision makers in developing countries throughout the preparation and implementation of P4R mechanism on their programs. This is a multistage process that involves several phases of decision making by the government, which have to be agreed with the WB, that requires a knowledge base of previous experiences for making well informed decisions. This is shown through the transferal of responsibilities throughout the lifecycle of the P4R programs. It starts by the full responsibility of the government for the preparation of the program proposal, then the discussions and modifications between the government and the WB in the Identification stage, where both the WB and the borrowing government share responsibilities. In the preparation stage, the WB hold the full responsibility for performing assessments and issuing subsequent reports. The appraisal stage includes final negotiations and agreements between the WB and government, which is led by the WB, so the WB has the main responsibility of performing relevant tasks. The Implementation stage involves the full operation of the program by the government while the WB performs audits and releases finance amounts.

Figure 1 shows the proposed framework throughout the program lifecycle. The first stage of the framework focuses on the borrower preparation stage for preparing a well-informed program, that decreases the time required for reviews and negotiations, to be submitted to the WB. The program developed at this stage, by the borrowing government, is then updated through the identification stage, according to the outputs of preliminary discussions with WB. This update serves as a support mechanism for the government in defining the effect of any modifications requested by the WB on its cash flow and its arrangements for the implementation process. This applies to both the preparation and appraisal stages, where any outputs from the assessments performed by the WB or any modifications from the final negotiations are always reflected on the program prepared by the government, to let it know where it is standing.

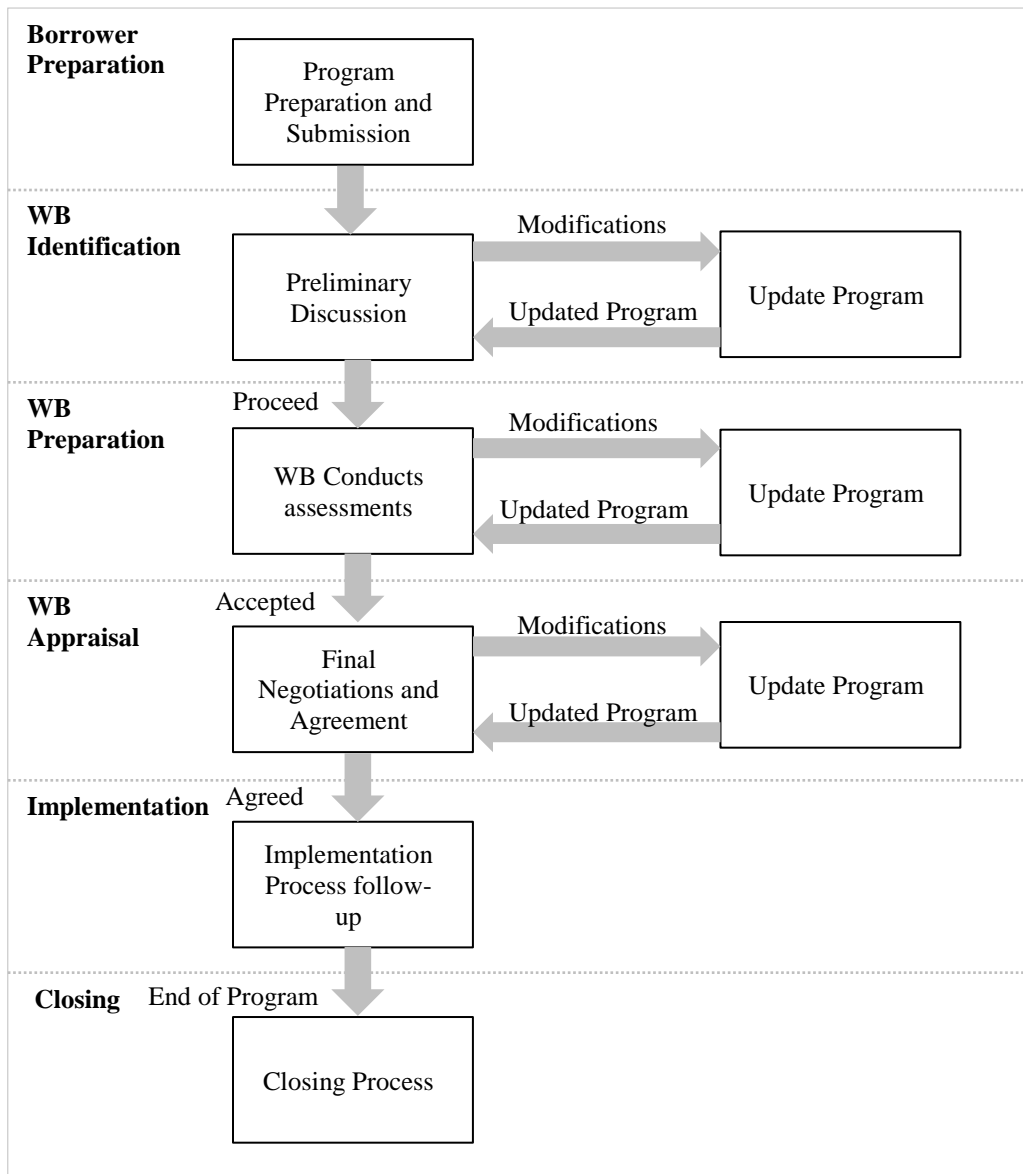


Figure 1. Proposed framework flow chart.

4.1 Borrower Preparation Stage

In the borrower preparation stage, as shown in Figure 2, the user starts by inserting some inputs about the program, including: (1) program name, (2) description, (3) Program Development Objective (PDO), (4) sector, (5) region, (6) sub-projects included in program, (7) activities/ tasks required in the program, (8) time relationship between sub-projects or activities/tasks (predecessors or successors), (9) financing requirements for each project, task or activity and (10) any required milestones.

These inputs are then used in three different modules. (i) A database of previous operations is going to be used to define commonly used parameters in similar program. For example, in a program from the health sector, this module gets how result areas are commonly distributed and the types of Disbursement Linked Indicators (DLIs) used under each result area. It can also offer recommendations for the most common risks in the health sector within the same region or internationally. (ii) A database of constraints that are applied by the WB to P4R financing, such as that it does not cover high value procurements within its programs, so the government will have to look for another sort of finance for such procurement contract. P4R also does not cover projects/activities that have high environmental or social impact or do not conform with the WB anti-corruption guidelines. (iii) A Scheduling and financing module, this module considers the defined sub-projects, activities and tasks, their durations, financing requirements and milestones to calculate a detailed time schedule for the full program and set the amounts and dates of the financing requirements. Based on this time schedule, cumulative cash-out curve is calculated.

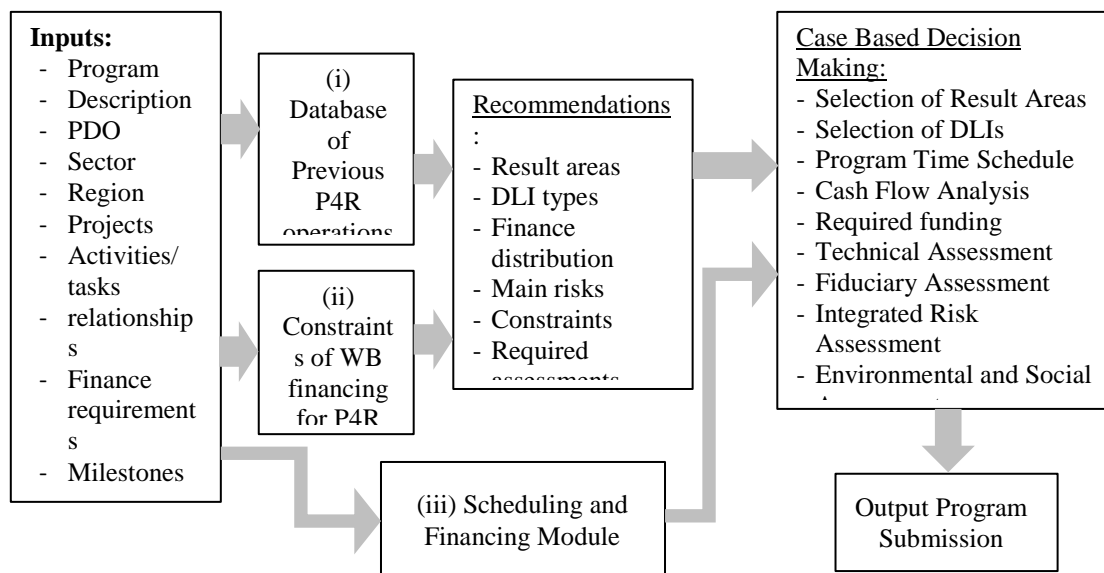


Figure 2. Borrower preparation process framework.

Based on modules (i) and (ii), a list of recommendations is offered to the user for being considered while preparing the program documents. These recommendations include (1) a list of relevant result areas that were used in similar programs previously, (2) DLI types that are most suitable for this type of programs, (3) the financing distribution commonly used in this type of programs based on the constraints of the WB and the program type and sector, (4) a list of the main risks that were considered in programs within the same sector, same region or country, (5) a detailed list of the WB constraints that are most relevant to the program and (6) a list of all

assessments that are required to be done and guidelines for their preparation. Finally, such recommendations and the output of the scheduling and financing module are considered while preparing the program documents by the user. The prepared program is then reapplied on the Scheduling and financing module for adding DLIs, to include the cash-in amounts and calculate the exact amounts that need to be financed by the government.

4.2 Program Updates

As shown in Figure 1, this program is updated in three different stages, (1) preliminary discussions in the identification stage, (2) results of assessments performed in the preparation stage and (3) final negotiations in the appraisal stage. These updates are then applied on the scheduling and financing module to reflect the change of any decisions on the financing requirements. After the program is finalized and the legal agreement for program financing is signed by the WB and the borrowing country, the implementation stage starts.

4.3 Implementation Follow-Up Support

Through the implementation stage, the framework offers several sorts of support for the borrowing country, such as: (1) providing feedback for the government on the effect of the audits and restructuring instructions made by the WB on the program implementation process, (2) provides a notifying mechanism for the dates of DLIs achievements, (3) provides guidelines for government on providing evidence for the achievement of DLIs, (4) guides the government through the process of the electronic submission of disbursement requests, (5) checks the performance of the government in the implementation process and the follow-up of the financial status of the program, to alert for any additional funding or renegotiation, (6) provides support for the government for the management of the implementing agencies, (7) sustains a list of all problems, risks or events that occurred throughout the program implementation for being considered in future programs and (8) maintains a register of all expenditures and received funds on account of the program.

4.4 Closing Stage

Through the closing stage, the framework supports the government in setting the final account of the program with the WB. It also warns the government of any un-disbursed amounts and the deadline for closing the financing account by the WB. It also serves as a mechanism for combining lessons learned from the program, for being reflected on future programs. It also offers a mechanism for the government to evaluate the use of P4R over other financing mechanisms.

5 CONCLUSION

This research aims at providing a supporting mechanism for the governments of developing countries throughout the life cycle of the P4R application. A framework was developed to summarize P4R procedures and lessons learned from previous experiences, for governments newly introduced to P4R. The developed framework supports the government throughout the P4R process and enables the government, from early stages, to prepare a program that conforms with WB requirements and does not require much time in reviews and negotiations.

References

World Bank, *A New Instrument to Advance Development Effectiveness: Program-For-Results Financing*, The World Bank, Operations Policy and Country Services, 2012.

World Bank, Program-For-Results Financing (PforR), The World Bank, November 2016. Retrieved from <http://www.worldbank.org/en/programs/program-for-results-financing#pipeline> in January 2017.

Zahran, K., and Ezeldin, A., Funding Infrastructure Projects Through International Financial Institutions, *CSCE 2016 Conference*, (pp. GEN-60-1-11), London, Canada, 2016a.

Zahran, K., and Ezeldin, A., The Application of Program-For-Results Funding Mechanism on Infrastructure Programs, *CSCE 2016 Conference*, (pp. GEN-148-1-7), London, Canada, 2016b.