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Subregional Headquarters for the Caribbean

Training manual: the design and conduct of
Public Expenditure Reviews in Caribbean countries
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TRAINING MANUAL: DESIGN AND CONDUCT OF PUBLIC EXPENDITURE REVIEWS IN CARIBBEAN COUNTRIES

This training manual has been reproduced without formal editing.

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This training manual was prepared for the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) subregional headquarters for the Caribbean in Port of Spain, by Professor Vanus James in collaboration with the Latin American and Caribbean Institute for Economic and Social Planning (ILPES), under the direction of the ECLAC Port of Spain office. It is designed to address capacity building in relation to Public Expenditure Reviews and linked revenue and expenditure planning and forecasting in addition to issues of fiscal transparency in four Caribbean Member states: Antigua and Barbuda, Barbados, Belize and Saint Kitts and Nevis. While the manual focuses on key areas of interest identified by the member states including, education, health agriculture and social protection, it is anticipated that the issues covered will have relevance for all Caribbean countries. The development of the manual was informed by research and scoping studies in the four identified countries. ECLAC is grateful for the dedicated support of all national focal points and consultants and the funding provided by the United Nations Department of Economic and Social Affairs Development Account programme; all of which were critical to the successful completion of this manual.

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ACRONYMS

ARIMA – Autoregressive Integrated Moving Average
CARTAC – Caribbean Technical Assistance Center
COFOG - United Nations Classification of the Functions of Government
DEA – Data envelope analysis
EPA – Economic Partnership Agreement
EU – European Union
GDP – Gross Domestic Product
IADB – Inter-American Development Bank
ICT – Information and communication technology
IFRS – International Financial Reporting Standards
IMF – International Monetary Fund
ISIC - International System of Industrial Classifications
MOF – Ministry of Finance
NGO – Non-governmental Organisation
OECD – Organisation for Economic Cooperation and Development
PAER - Public Agriculture Expenditure Reviews
PAYE – Pay As You Earn
PER - Public Expenditure Reviews
PEER - Public Education Expenditure Review
PHER - Public Health Expenditure Review
R&D – Research and Development
SPER – Social Protection Expenditure Review
UNCDF – United Nations Capital Development Fund
UNECLAC –United Nations Economic Commission for Latin America and the Caribbean
UNSD – United Nations Statistics Division
UNEP – United Nations Environmental Programme
UNESCO – United Nations Educational, Scientific and Cultural Organisation

1 INTRODUCTION

1.1 BACKGROUND

1. This training manual explains how to carry out a public expenditure review in four Caribbean countries: Antigua and Barbuda, Barbados, Belize, and St. Kitts & Nevis. Throughout the document, these countries are referred to as the ‘partner countries’ for ease of reference. The manual focuses specifically on four sectors: education, health, agriculture, and social protection, as requested by the partner governments.
2. The manual was commissioned by the United Nations Economic Commission for Latin America and the Caribbean (UNECLAC). The UNECLAC project aims to strengthen government finances across the Caribbean.

1.2 INTENDED USERS OF THE MANUAL

3. The intended users of the manual are budget analysts, fiscal managers, planners, internal auditors and other public finance managers in ministries responsible for the following areas: Education, Health, Agriculture, Social Protection, Finance, and Planning.

1.3 BASIS OF THE MANUAL

4. No similar manual has been previously prepared for a Caribbean country. The contents therefore draw heavily on international practice. Two significant influences are the UNCDF (2006) manual on performance-based budgeting¹ and the UNDP/UNEP-inspired work of Kazoora and Ogwang (2010).² In performance-based budgeting for the public sector, a public expenditure review provides the main method of measuring and monitoring the productivity of resource use. In particular, it provides a way to utilize all available information sources, including information from stakeholders, to track the procurement of inputs, their use in production with a particular technology and management process, and the resulting outputs and outcomes. Considerable information is also drawn from other manuals such as Schwartz and Stevenson (1990)³, Robinson (2013)⁴, and Vandierendonck (2014)⁵, all shaped by World Bank practice.

¹ UNCDF (2006). *Achieving Results: Performance-based Budgeting in the Least Developed Economies*. New York: UNCDF. Available at <http://www.uncdf.org>.

² Kazoora, C. and Ogwang, P. (2010). *Public Environmental Expenditure Review to Support Poverty Environment Initiative in Uganda: Training Manual*. Prepared under Glocoms Inc. USA, for UNDP and UNEP.

³ Schwartz, A. and Stevenson, G. (1990). *Public Expenditure Reviews for Education: The Bank’s Experience*. Working Paper WPS 510, Policy Research and External Affairs, World Bank.

⁴ Robinson, M. (2013). *Spending Reviews. GOV/PGC/SBO(2013)6*. Report Prepared for the 3rd Annual Meeting of OECD Senior Budget Officials, OECD Conference Center, Paris, June.

⁵ Vandierendonck, C. (2014). *Public Spending Reviews: design, conduct, implementation*. Economic Papers 525. Brussels: European Commission. Paper available at http://ec.europa.eu/economy_finance/publications/.

Other information comes from applications such as World Bank (2007)⁶, World Bank (2008)⁷, and World Bank (2013)⁸. In the World Bank methodology, public expenditure reviews emerged as a way to ensure efficient, transparent and inclusive use of public resources to support economic growth and industrial restructuring with redistribution and poverty reduction.⁹ The medium-term expenditure framework was developed to support it. This approach is evident in World Bank (1996)¹⁰, a PER that was conducted for Belize, a partner country in this project. Additional important technical sources are cited in context.

1.4 COVERAGE AND LEVEL OF THE MATERIAL

5. The manual covers both the procedural and technical approaches needed when conducting a public expenditure review in the partner countries of the project. It is assumed that the intended users are comfortable with the method of science and with very basic mathematical and statistical exposition. Otherwise, no familiarity with the analytical and technical information is assumed and the simplest possible representation of methods that vary widely in complexity is attempted. It must be admitted, nevertheless, that the approach to balancing the breadth of the intended readership and the comprehensive nature of the technical coverage needed represented a substantial challenge. Thus, content requiring significant symbolic representation and thought has been assigned to a number of annexes.

1.5 STRUCTURE OF THE MANUAL

6. The manual contains the following chapters:
1. Introduction
 2. General Guiding Principles
 - a. What is a public expenditure review (PER), why it is done, and how it fits
 - b. The framework for analysing public expenditure
 - c. Framework for analysing intra-sector allocations
 - d. Public expenditure and revenue planning and forecasting methods.
 3. Conducting a public education expenditure review (PEER)
 - a. Determining what is to be done and why for a public education expenditure review (PEER)
 - b. Preparing to carry out the PEER
 - c. Defining the limits of a PEER
 - d. Framework for analysing public expenditure on education
 - e. Finding relevant data and information for a PEER

⁶ World Bank Group (2007). Philippines: Agriculture Public Expenditure Review. *Technical Working Paper*, Rural Development, Natural Resources and Environment Sector Unit, Sustainable Development Department, East Asia and Pacific Region.

⁷ World Bank Group (2008). Investing in Indonesia's Health: Challenges and Opportunities for Future Spending. *Health Public Expenditure Review*, Washington D.C.: World Bank.

⁸ World Bank (2013). Guatemala Public Expenditure Reviews: Towards better expenditure quality. Washington D.C.: World Bank.

⁹ The core ideas on redistributive growth were well developed in Chenery, H., Ahluwalia, M. S., Bell, C.L.G; John H. Duloy, J. H., and Jolly, R. (1974). *Redistribution With Growth* (Oxford: Oxford University Press); & Chenery, H. and Syrquin, M. (1975). *Patterns of Development, 1950-70*. Oxford: Oxford University Press.

¹⁰ World Bank (1996). **Belize – Fiscal Policies for Stabilization and Growth: Public Expenditure Review**. Report No. 15337-Bel. Washington DC: World Bank.

- f. Analysing funding sources and modalities for Education
 - g. Framework for analysing the institutional arrangements of education expenditure
 - h. Complementary data collection tools
 - i. How to write the PEER report
4. Conducting a public healthcare expenditure review (PHER)
 - a. Determining what is to be done and why for a public education expenditure review (PHER)
 - b. Preparing to carry out the PHER
 - c. Defining the limits of a PHER
 - d. Framework for analysing public expenditure on education
 - e. Finding relevant data and information for a PHER
 - f. Analysing funding sources and modalities for Education
 - g. Framework for analysing the institutional arrangements of education expenditure
 - h. Complementary data collection tools
 - i. How to write the PHER report
 5. Conducting a public agriculture expenditure review (PAER)
 - a. Determining what is to be done and why for a public education expenditure review (PAER)
 - b. Preparing to carry out the PAER
 - c. Defining the limits of a PAER
 - d. Framework for analysing public expenditure on education
 - e. Finding relevant data and information for a PAER
 - f. Analysing funding sources and modalities for Education
 - g. Framework for analysing the institutional arrangements of education expenditure
 - h. Complementary data collection tools
 - i. How to write the PAER report
 6. Conducting a public social protection expenditure review (SPER)
 - a. Determining what is to be done and why for a SPER
 - b. Preparing to carry out the SPER
 - c. Defining the limits of a SPER
 - d. Framework for analysing public expenditure on education
 - e. Finding relevant data and information for a SPER
 - f. Analysing funding sources and modalities for Education
 - g. Framework for analysing the institutional arrangements of education expenditure
 - h. Complementary data collection tools
 - i. How to write the SPER report

2 GUIDING IDEAS AND PRINCIPLES

7. This chapter provides a general understanding of a PER and explains the framework used to analyse public expenditure.

2.1 GENERAL UNDERSTANDING OF A PER

8. Before starting a general PER or one focused on a specific sector, it is necessary to understand what it is, why it should be done, and how it fits into the expenditure of public funds.

2.1.1 What is a PER?

9. Public funds are budgeted and spent to deliver specific outcomes to the public, whether households, firms, or communities. A PER analyses the allocation and management of public expenditures to determine if the desired strategic budgetary outcomes of government are being achieved. It is an integral part of outputs- and outcomes-based budgeting.

BOX 2-1: OVERALL GOALS INDICATED BY SCOPING STUDIES

Antigua Scoping Study: “economic growth and stability” (Page 9).

Barbados Scoping Study: “sustainable growth through encouraging strong foreign exchange earnings, increased productivity and competitiveness, the creation of private sector jobs and greater social advancement”; “debt sustainability” and “employment creation” (Pages 12; 21).

Belize Scoping Study: “poverty alleviation” (Page 6).

St. Kitts/Nevis Scoping Study: “debt sustainability” and “poverty reduction” (Pages 15-17).

10. In the case of the partner countries targeted by this manual, some of the desired outcomes relate to economic restructuring, export development, growth with price stability, job creation, poverty reduction, and debt management.¹¹

2.1.2 Why do a PER?

11. The Scoping Studies indicate that the main reason governments want to do a PER is to determine whether budgetary allocations reflect the policy priorities specified in medium term expenditure frameworks and the long term plans, even when the latter are not explicitly formulated (Box 2-1).
12. Governments also want to use the results of a PER to identify ways to improve existing medium-term plans or long term plans on order to achieve faster progress towards policy objectives.

¹¹ Solomon, D. (2015). ECLAC Scoping Study, Capacity Building for Public Finance Managers: Antigua & Barbuda. Report prepared for UNECLAC, May; Straughn, R. (2015). ECLAC Scoping Study, Barbados. Report prepared for UNECLAC, May; Castillo, P. (2015). Belize Scoping Study: Strengthening Public Finances in the Caribbean SIDS. Report prepared for UNECLAC, May; Straughn, R. (2015). ECLAC Scoping Study, St Kitts and Nevis. Report prepared for UNECLAC, May.

13. In standard language, the summary reason for doing a PER is to increase the economy, efficiency and effectiveness of the expenditures, taking into account environmental factors (Box 2-2). Identification of potential for saving is a by-product, albeit an important one.
14. Economy refers to the extent to which the expenditure patterns are on track to match the planned expenditures. Deviation greater than 10% is considered uneconomical. Economy is closely related to fiscal discipline and to whether procurement of inputs is done on a competitive basis.
15. Efficiency refers to the extent to which the expenditures employ the best technologies available at optimal cost.
16. Effectiveness refers to the extent to which expenditures deliver the outcomes targeted by the strategic plans of government, whether medium term or long term.
17. Attempts to analyse and increase the economy, efficiency, and effectiveness of expenditure must address possible underlying market failure. Market failure exists when the price mechanism cannot stimulate supply of a good or service sufficient to meet demand.
18. The PER may focus on agencies, activities (programs), or the public expenditure management system. Further, a PER may include special in-depth studies of particular agencies, activities or business processes, which look in more detail at outcomes such as the incidence of benefits, the need for privatisation, the need to upgrade procurement procedures, and the need to upgrade customer service.
19. The Scoping Studies also reveal that the partner governments are also seeking to build capacity to undertake routine budget analysis and internal auditing, and thus to incorporate the PER within the normal planning and implementation processes of their ministries.

2.1.3 How a PER fits into the Process of Spending Public Funds

20. It is important for the PER Team to know how a PER fits into the normal process of expending government funds, whether in general or at the level of a sector. **Annex 1** provides a broad description of the expenditure processes of partner countries.
21. Summarily, the PER is a counterpart of internal budget analysis and the audit process, which are applicable to all action units in the government. In addition to checking whether funds are spent in accordance with the law and approved procurement practices, these functions examine expenditures throughout the budget year to determine their economy, efficiency and effectiveness in relation to the specific objectives for which the allocations are made.
22. The results of the internal budget analysis and the audit process are sent to the Ministry of Finance for its records, for the conduct of accounting audits as mandated by law, and for

analysis and use in decision-making regarding: (i) plans for the public sector investment program in the medium term and long term plans; and (ii) response to future requests for allocations and releases.

23. A PER differs from internal budget analysis mainly with respect to timing and the scope of the analysis and the organized inclusion of all stakeholders. Regarding scope, the PER might need to revisit, and even review and revise, the models and forecasts used to prepare the long term plans, the medium-term framework, and the budgets. Further, in contrast to internal budget analysis and audits, a PER is normally conducted as a joint exercise with stakeholders from civil society and the international community, under the leadership of government.

2.2 FRAMEWORK FOR ANALYSING PUBLIC EXPENDITURE

24. This section characterizes the framework needed to analyse public expenditure in the partner countries. Specifically, it describes frameworks for three elements of a PER that must be present in all sector reviews. The first is the budget allocations to sectors. The second is the macroeconomic impact of external deficits and budget deficits. The third is the composition of allocations within sectors.

2.2.1 Framework for analysing sector allocations and aggregate public spending

25. The total allocation to any sector must be analysed by examining its size, its share in the aggregate level of public expenditure, and its rate of growth. This analysis is intended to link the allocations to a sector to government's medium term strategy to economic restructuring, export development, growth, job creation, poverty reduction, and debt management. This is applicable even if the strategy is not explicitly expressed in a formal framework.
26. Further, the allocations to a sector must be compared with allocations to all other sectors in the budget. This approach allows the sector allocations to be checked for consistency with the macroeconomic framework used to define the budget and the strategic plans. Consistency means that aggregate expenditure is not simply a sum of all spending demands from sectors but rather is in line with the development strategy of government.
27. The comparisons will require that the trajectory of all past budget allocations and expenditures, as well as all revenues, be forecasted into the future to match exactly the periods of the strategic projections of government.
28. All revenue and expenditure forecasting assume that the past combines with current discretionary policy interventions to predict the future. That is, let X_t be the category of revenue or expenditure, $g_{x,t}$ the *forecasted rate of change of the category* from $t - 1$ to t , and DP_t government's discretionary policy intervention in t . Then, the general budget forecast equation is:

Equation 2-1

$$1. X_t = (1 + g_{x,t})X_{t-1} + DP_t$$

29. Specific applications of equation (1) are presented in Annex 3. In preparing its forecasts with equation (1), the PER Teams should maintain a high degree of independence, transparency, accountability and prudence. In that regard, given its responsibility to review expenditures, the forecasts used by the Ministry of Finance should serve as sources of information but should not be a substitute for the work of the PER Team.
30. Prudence should be reflected in the assumption that if there are no known specific new policy commitments a no-change assumption is adopted. That is, set $DP_t = 0$ in equation (1). Policy changes are taken into account only when there are clear details about the specific policies and their timing of initiation, implementation and impact. Without such specifics, the budget should be forecasted on the basis of the current paths of revenue and expenditure flows.
31. The forecasts of the PER Team should draw on data compiled in line with the conceptual framework used by the government, and in particular its system of economic accounts. In general, all the partner countries follow the United Nations System of National Accounts. It should be ascertained whether the data generated under this system are comparable with the administrative framework of the budget.
32. For transparency, the specific data, methods and results of the forecasts should be disclosed to the public. The work of the PER Team is meant to provide government with an objective body of data that it can use to inform evidence-based policy and implementation.
33. For the partner countries, the macroeconomic framework demands a flow of savings in each budget year. The PER must therefore consider how the savings can be achieved on recurrent spending, without causing a slump in demand. It must also consider how the savings can be achieved in a manner that is consistent with the government's drive for economic restructuring, export development, economic growth, job creation, poverty reduction, and debt management.

2.2.2 Framework for analysing the macroeconomic impact of external deficits and budget deficits

34. An important element of a PER is the analysis of the impact of balance of payments deficits and budget deficits. **Annex 2** provides details of these indicators for all partner countries. Table 2.1 documents the current account balance and the overall fiscal balance of the partner countries.¹² Evident is a tendency for external deficits and budget deficits to coexist.¹³

¹² The current account balance is defined as exports minus imports plus net factor incomes going abroad. The overall budget balance is revenues minus all costs, including interest cost. If interest cost is excluded, the result is the primary balance.

¹³ The tendency for budget deficits and balance of payments deficits to coexist has been observed in cross-country studies. See Easterly, W. and Schmidt-Hebbel, K. (1991). Fiscal Adjustment and Macroeconomic Performance: A

Table 2-1: Current Account Balance and Budget Balance, Partner Countries							
	Account Balance	2007	2008	2009	2010	2011	2012 (est.)
	Current Account (% of GDP)	-29.80%	-25.70%	-14.20%	-25.70%	-34.30%	-29.60%
Antigua and Barbuda*	Overall Fiscal Balance (% GDP)	-6.40%	-6.10%	-18.20%	-0.30%	-3.60%	-1.20%
	Primary Balance (% GDP)	-2.90%	-3.00%	-11.10%	1.90%	-1.50%	1.30%
	Current Account (% of GDP)	-5.53%	-10.71%	-6.75%	-5.83%	-12.78%	-9.48%
Barbados**	Overall Fiscal Balance (% GDP)	0.30%	-5.61%	-7.45%	-7.66%	-8.01%	-6.17%
	Primary Balance (% GDP)	1.250%	0.061%	0.028%	-0.003%	-0.003%	0.029%
	Current Account (% of GDP)	-2.02%	-5.29%	-2.45%	-1.66%	-0.56%	-0.61%
Belize!!	Overall Fiscal Balance (% GDP)	-1.12%	1.61%	-2.85%	-1.66%	-0.77%	-0.80%
	Primary Balance (% GDP)	0.06%	0.13%	-1.39%	-0.22%	-0.08%	-0.15%
	Current Account (% of GDP)	2.2%	-0.1%	-2.8%	-1.6%	1.5%	0.5%
St. Kitts and Nevis^^	Overall Fiscal Balance (% GDP)	-0.8%	-1.0%	-3.4%	0.02%	1.1%	0.6%
	Primary Balance (% GDP)	-0.5%	-1.1%	-2.9%	-1.2%	1.5%	0.4%

Sources: *Antigua and Barbuda Scoping Study; **Central Bank of Barbados; !! Central Bank of Belize; ^^Eastern Caribbean Central Bank.

35. The model in **Annex 2** provides a tool for use in analysing the overall management of the balance of payments deficits and budget deficits when doing a sector PER. Kazoora and Ogwang (2010) recommends inclusion of this analysis in sector PERs.¹⁴ Balance of payments deficits can lead to other macroeconomic imbalances and to barriers to achieving sector-specific goals depending on how they are managed. They normally require budget cuts aimed at restoring balance. Budget cuts lead to reduced demand and output, and to consequential reduction in imports that help to restore external balance. Budget cuts also lead to increased unemployment.
36. Reduced demand and unemployment can stimulate increased exports, which help to restore balance and some jobs. However, this response depends on whether a set of potential exporters exists (or can be developed) that can use the freed-up resources to supply the foreign market. Absence of this potential is one of the main development challenges of the partner countries.
37. Control of public spending and an increase in public savings is a concern of the partner governments. Failure to control public spending can lead to high and growing budget deficits. These can worsen the external imbalances and increase the national debt, depending on the extent to which the external deficits are financed by foreign private and foreign government loans to the country's government, and on how the domestic deficits are financed.
38. If the external deficits are financed excessively by foreign private and foreign government loans to the country's government, a debt crisis can result. If government makes excessive

synthesis. In Easterly, W., Rodriguez, C.A., and Schmidt-Hebbel, K. (Eds.), *Public Sector Deficits and Macroeconomic Performance*. Oxford: Oxford University Press / World Bank. See also Kreinin, M. E. (1991). *International Economics*. New York: HBJ Publishers.

¹⁴ Kazoora, C. and Ogwang, P. (2010). Public Environmental Expenditure Review to Support Poverty Environment Initiative in Uganda: Training Manual. Report prepared by Glocoms Inc. USA, for UNDP and UNEP.

use of foreign reserves, then the crises in the balance of payments deepens. In the cases of Barbados and Belize, government has the option to print money to finance the domestic budget deficit, but this leads directly to inflation if too much money is printed. If government borrows excessively in the domestic market, this can cause interest rates to rise. The rise in interest rates will lead to lower capital investment by the private sector, preventing the capital-labour ratio from rising fast enough to support the government's development program.¹⁵

39. When seeking to reduce the budget deficits, an across-the-board cut can create a slump in effective demand and output, and can therefore worsen the problem of unemployment. Targeted cuts and reallocation in support of the export-competing sectors can avoid a slump and deliver growth over the medium or long term. However, this depends on whether responsive export activities exist.

2.2.3 Framework for analysing the intra-sector composition of expenditures

40. There are two steps involved in the analysis of the composition of public expenditure allocations within a sector to determine if the allocations can be adjusted. The first is to identify criteria for selecting and evaluating allocations. The applicable criteria are those of the economy, efficiency, and effectiveness with which the allocations are spent. The second is to apply the criteria to the allocations of government agencies or activities, consistent with available data and analytical capacity.

2.2.3.1 Conceptual Framework for Analysis of Economy, Efficiency and Effectiveness

41. The basic conceptual framework incorporating these ideas into an evaluation system follows the trail of funding from the purchase and use of inputs to the outputs and then to the outcomes or benefits produced. The framework is graphed as follows (Figure 2.1).
42. Allocations purchase inputs needed to operate an agency or activity. The allocations may be monetary or non-monetary. Table 2.2 summarizes the evaluation criteria in the process, their definitions, and the measurement indicators needed.

¹⁵ Some analysts think of this in terms of crowding out the private sector from the credit market (Fischer and Easterly, 1990).

Figure 2-1: Criteria for Selecting and Evaluating Allocations

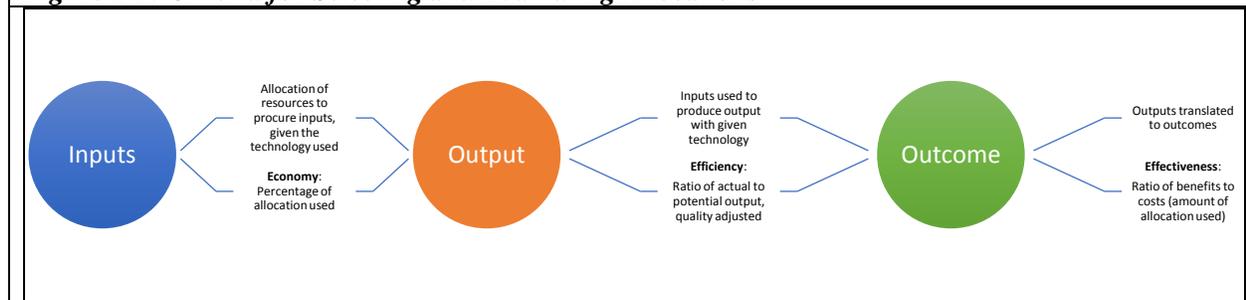


Table 2-2: The Evaluation Criteria used in a PER

Criteria	Definition	Measure
Economy	The degree to which allocations are fully utilized, in line with plans.	Value of inputs purchased divided by total allocation provided.
Efficiency	The degree to which the allocation is used to produce the best quality of output with the best technology.	The ratio of actual output to potential output, for a given value of inputs.
Effectiveness	The degree to which actual outcomes match targeted outcomes or benefits from the allocation.	The benefit-cost ratio.

2.2.3.2 Applying the Criteria

43. Once the criteria have been identified, they must then be applied to each sector of interest, specifically to the agencies and activities or programs of the sector. The application to the agencies and activities or programs of the sector is done in two steps that result in the selection of financing or activities to be cut. The first step analyses the expenditures. The second step reprioritizes them.

2.2.3.3 Analysing the sector expenditures

44. In applying the criteria selected, the first step is to do the following:

- a. Analyse aggregate public spending and the budget deficit for consistency with the government’s macroeconomic framework.
- b. Analyse the allocations across sectors for their consistency with the development goals of economic restructuring, export development, growth, job creation, poverty reduction, and debt management.
- c. Analyse the allocations within the sector of interest for the consistency with the development goals.
- d. Analyse market failure in the sector of interest to determine the extent to which it influences expenditure performance, and to determine its implications for the comparative roles of the public and private sectors in the financing and provision of economic infrastructure and social programs.
- e. Analyse the impact of the sector’s main public programs on the poor and vulnerable, with specific attention to their incidence (who benefits) and total costs.

- f. Analyse the budgetary institutions and processes of the sector, to determine the extent to which they promote transparency and fiscal discipline in procurement, equity, and therefore economy.
- g. Analyse the inputs purchased by the allocations of the sector, with respect to wages, goods and services, minor equipment and materials, social programs, and capital spending, and the outputs produced, to determine if efficiency is promoted.
- h. Analyse the allocations to capital and recurrent spending, and to activities (programs) and agencies, and the outcomes of the spending, to determine their effectiveness. Outcomes should include equity in distribution of the benefits.

45. The outcome of this step should be a set of rated expenditure classes, agencies, or activities that are candidates for savings and reprioritization. Where possible, numerical indicators should be used, since this makes it straightforward to choose the candidates for cutting or to utilize savings. However, depending on the information available, qualitative evaluation may be all that is possible and should be done where necessary.

BOX 2-3: THE ALGEBRA OF APPARENT CONSUMPTION CAPACITY PER DOLLAR OF IMPORTS

Apparent consumption capacity per dollar of foreign exchange can be measured as:

$$1. A = 1 + \frac{GDP+reserves}{imports} - \frac{exports}{imports}$$

Substantively this requires government to pursue policies that grow export competitiveness and hence $\frac{exports}{imports}$ as fast as possible and then to grow $\frac{GDP+reserves}{imports}$ even faster.

46. Indeed, it is important to emphasize that if quantitative data are not available, the analysis of efficiency and effectiveness can be qualitative. In particular the analysis can be replaced by more thorough analysis of economy. If spending is not disciplined or economical, it is unlikely to be efficient or effective.

2.2.3.3.1 Reprioritizing sector expenditures

47. The second step of the PER is to reprioritize and reassign the public expenditures to sectors that reflect the priorities of government. The results are then sent to the team in the Ministry of Finance responsible for development of the strategic framework and compilation of the budget. To do the reprioritisation and reassignment, the impact of the spending on the outputs and outcomes of sector expenditures must be estimated, relative to the specific objectives for which the funds were allocated. Once estimates are made, two rules should be applied in moving funds to support other objectives.

48. The first rule is the familiar “more is preferred to less”. The second rule is that programs and activities or agencies that are given the highest priorities to receive the reassigned savings are those that:

- a. Support government’s strategy to reduce poverty and increase social equity.
- b. Respond to market failure and therefore be targeted at supply that the private sector will not tend to deliver or cannot deliver at a sufficiently economic cost.
- c. Target activities that can be shown to have high social benefit, defined in terms of economic restructuring for export development and their impact on economic growth,

- job creation, poverty reduction, and debt management. Since the country imports in order to export, the main applicable test should be the ratio of apparent consumption capacity to imports (**Box 2-3**).
- d. Target activities that can be shown to have high social benefit, defined in terms of economic development.
 - e. Have been identified by communities as important to their well-being and development.
 - f. Be targeted to activities that are well-planned, and therefore supported by sound feasibility studies that detail inputs, costs, output and outcomes, and for which there is a well-developed expenditure proposal.
 - g. Support policy development and planning in the sector.
 - h. Give priority to capacity-building that promise significant reduction of future recurrent costs.
 - i. Target activities and infrastructure which can deliver the greatest positive benefits to whole target populations or communities, not those that deliver benefits to a few.
 - j. Target disadvantaged groups, such as minority communities, children, women, and the age-based, and promote their various rights.

2.3 TIMING THE INTRODUCTION OF THE SECTOR PER

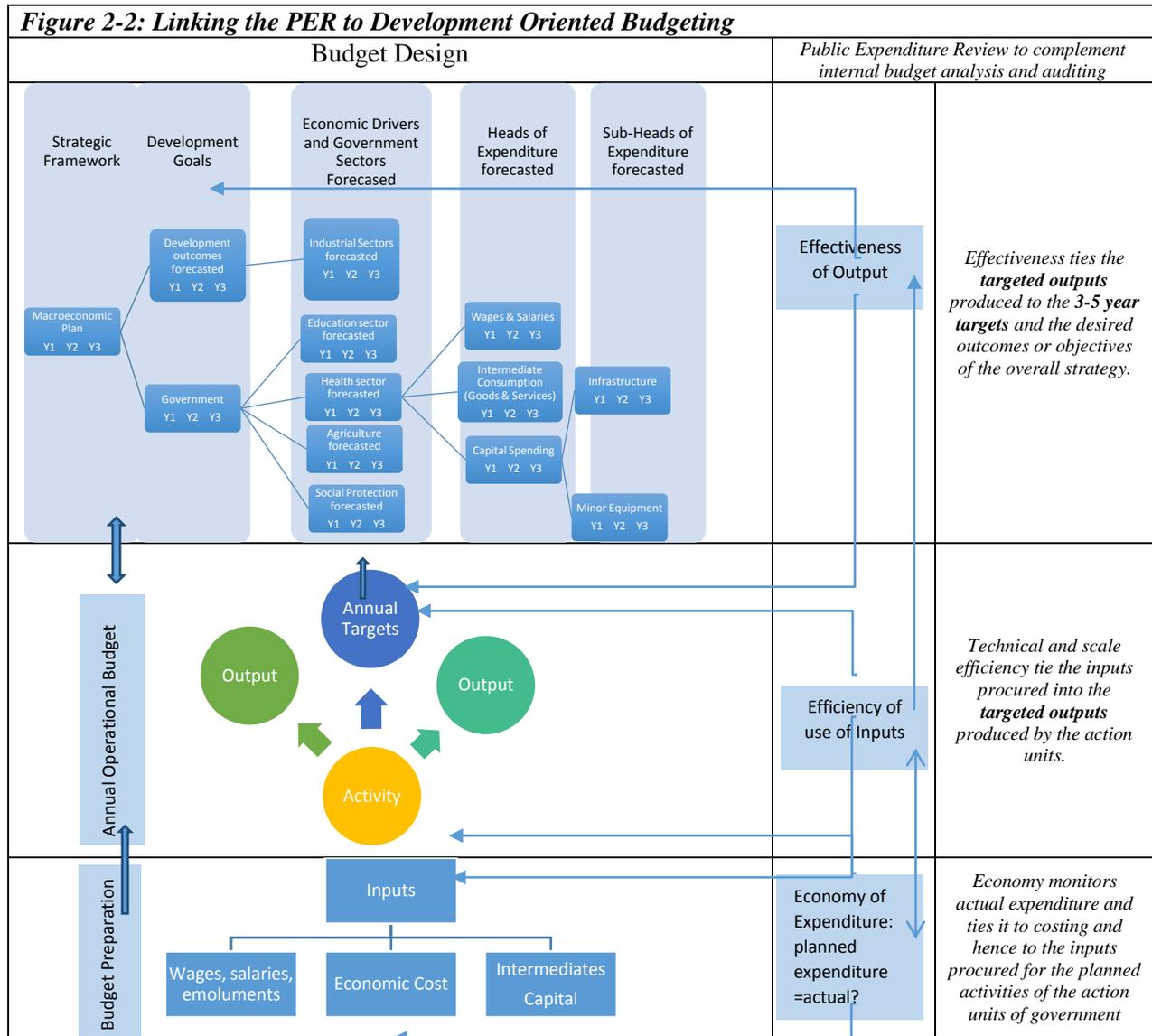
49. Sector PERs are likely to be expensive, complex, data-intensive, and time consuming. It is not likely to be viable to introduce all the desired sector PERs simultaneously and comprehensively, and in the same year. The MOF in each of the four countries should therefore:
- a. Start with a pilot selective PEER in the first year of the exercise.
 - b. Define the scope for **selective** annual PERs in Education, Health, Agriculture, and Social Protection, which can add new skills to the internal budget analysis and audit process, and should target the next budget.
 - c. Establish a program to introduce **comprehensive sector** PERs to be carried out on the time-scale of revisions of the medium-term expenditure framework, say every 3-5 years.

2.4 A SUMMING UP

Figure 2-2 provides a summary picture of the link between development-oriented budgeting and the PER exercise. In partner countries, the PER, including the sector reviews, should be introduced as an input into a development budgeting cycle that must be concerned with outputs and outcomes, especially development outcomes. Its counterparts are:

- a. The poverty-reduction and prevention strategy
- b. The medium-term expenditure framework, which is predominantly an economic development strategy as distinct from countercyclical strategy.
- c. The action and implementation plans, in particular the PSIP and service delivery plans of organisations.

Figure 2-2: Linking the PER to Development Oriented Budgeting



50. To the PER, these counterparts should form an integrated set, shaped by an overarching development model. They must not be a mere compilation of requests from ministries and organisations. The expenditure framework yields 3 to 5 integrated budgets.

51. In any budget year, the PER, along with the internal budget analysis and audits, must assume that the strategic framework exists. It is not the job of the PER to create one. However, it must check to see that the past and proposed expenditures indeed fit into a unified framework. Here:

- a. The approach requires identification of the framework used by the government. This might be the modelling framework of the Central Bank, for example, complemented by other information such as background information on the general development situation, poverty indicators, education and health indicators, infrastructure indicators,

- locational or geographical indicators, as well as key development objectives and costings to achieve them.
- b. If no written framework exists, then the PER must formulate a suitable evaluation model that is based on available trend-cycle data and the development imperatives adopted by government when budgeting. This is an important reason the composition of the PER Team must include relevant public officials at the highest levels of government. For example:
 - i. If the framework of choice is a growth-cycle expenditure framework, then the allocations to the productive sectors can be tested for their proportionality to either a sector's contribution to productivity growth or to the sector's share of GDP. The residual funding is then allocated to the social protection and economic stepping-stone programs in proportion to their contribution to poverty reduction.
 - ii. If the framework of choice is an export-led growth framework, then the allocations to productive sectors can be tested for their proportionality to each sector's contribution to exports per dollar of imports used.
 - c. The best way for the PER to determine if an integrated framework is being followed is to project (or forecast) the expenditures and revenues of the past years and the proposals into the next 3-5 years to see if they fit into the integrated framework designed under (a) or (b) above. This is the main way to assess the 'allocative efficiency' of the past and proposed allocations.

52. Then, once the allocative efficiency of the budget has been assessed, the PER must do the following:

- a. Review the performance of the last year (and in that context the last 3 years).
- b. Review the proposals for the next year's budget
- c. Review the proposed resource requirements to support the proposals in (b).

53. In doing these reviews, the PER must

- a. Measure the economy, technical and scale efficiency, and effectiveness of the PSIP expenditures and service delivery expenditures and proposals, and identify potential savings accordingly. Identification of savings is an important by-product of the measurement. Note that:
 - i. Economy ties costing to the inputs procured for the planned activities of the action units of government.
 - ii. Technical and scale efficiency tie the inputs procured into the **targeted outputs** produced by the action units.
 - iii. Effectiveness ties the **targeted outputs** produced to the **3-5 year targets** and the desired outcomes or objectives of the overall strategy.
- b. Assess the performance against the resource requirements, taking into account the adequacy of the costing of the proposals and the previous budgets.
- c. Feed the results back to the Ministry of Finance to inform development of the strategic framework and the budgets.

3 CONDUCTING A PUBLIC EDUCATION EXPENDITURE (PEER)

54. Chapter 2 provided a general approach to the conduct of a PER. This chapter shows how to use these methods to conduct a public education expenditure review (PEER). The issues covered are the following:

1. Determining what is to be done and why for a public education expenditure review (PEER)
2. Preparing to carry out the PEER
3. Defining the limits of a PEER
4. Framework for analysing public expenditure on education
5. Finding relevant data and information for a PEER
6. Analysing funding sources and modalities for education
7. Framework for analysing the institutional arrangements of education expenditure
8. Complementary data collection tools
9. How to write the PEER report

3.1 DETERMINING WHAT IS TO BE DONE AND WHY

55. The first step in conducting a PEER is to know what it is, why it should be done, and how it fits into budgeting of recurrent and development programs.

3.1.1 What is a PEER?

56. Public education expenditures by public institutions purchase inputs to be used to undertake activities aimed directly at producing educational outputs and outcomes. The expenditures seek to implement government's education policy.

57. Regular analysis of public education expenditures contributes to fulfilling this role. The PEER is one tool used for this purpose. A good example is the World Bank (2012) review of basic education in the Philippines.¹⁶

BOX 3-1: EDUCATION AS A PRODUCTION PROCESS

- Education is a service sector used by society to transmit to its citizens new and historically accumulated knowledge, technology and the skills and values to use them.
- The inputs are teachers, support staff, educational facilities (such as school buildings), along with ideas, equipment, and materials such as paper and pens.
- The accumulated knowledge, technology and the skills and values to use them, such as are indicated by the highest examinations passed or the number of professional publications, can be thought of as the outputs of the expenditures. The outputs are forms of capital, used as inputs into all other activities of an economy.
- Types of output range from early childhood education and development to post-secondary education.
- The number of citizens trained and the number of persons removed from poverty because of the education received are examples of the outcomes into which the outputs are translated.
- The sector is run by a network of social institutions and persons with resources acting to deliver the output of the sector to the population of persons: government, in particular the Ministry of Education and other relevant institutions; schools and allied practitioners, NGOs, and other private providers; local government and other government agencies providing regulatory and justice services; and, purchasers and users of education services, including businesses making provisions for staff development.

¹⁶ World Bank (2012). Philippines Basic Education Public Expenditure Review. Washington D.C.: World Bank.

3.1.2 Main issues to be addressed in a PEER

58. The main issues to be addressed in a PEER are: (i) the size, growth and share of the allocations to the education sector; and (ii) the use and management of the allocations to produce their outputs and outcomes. The main elements of a PEER are set out in Box 3.1.

Box 3-2: The Main Elements of a PEER

The main elements of a PEER are as follows:

1. Overview of allocations and trends in public revenues from all sources, domestic revenues and foreign sources.
 - a. Trends in allocations and forecasts of allocations
 - b. Trends in revenues from all sources, and forecasts of revenues
2. Overview of all other expenditure by civil society
 - a. Private
 - i. Firms
 - ii. Households
 - b. NGOs
3. Analysis of trends in priority given to education expenditure in total budget.
4. Analysis of trends in priority given to budget classified by purpose or activity within the education sector budget.
5. For each class, related to specific objectives, analysis of the following aspects of the expenditures
 - a. Economy
 - i. Outline differences in actual disbursements and expenditures versus allocations.
 - ii. Link the differences to policy objectives.
 - iii. Evaluate the performance by comparison with regional and international standard of 10% variance, or less.
 - b. Efficiency
 - i. Analyse the input mix
 1. Recurrent vs capital
 2. Capital versus labour and social protection
 - a. Salary versus non-salary
 3. Management overheads versus cost of actual service delivery
 - ii. Analyse the output mix
 - iii. Relate the two – output/input/inefficiency
 - iv. Compare with international best practice if information available
 - c. Effectiveness
 - i. Compare current and projected benefit-costs, if improvement is possible.
 - ii. Compare with regional and international standards if possible
6. Identification and highlighting of areas for, and levels of, savings from improvement in
 - a. Economy
 - i. Compare current performance and projected performance, if improvement is possible.
 - b. Efficiency
 - i. Compare current and projected unit output costs, if improvement is possible.
 - c. Effectiveness
 - i. Compare current and projected benefit-costs, if improvement is possible.
 - ii. Compare with regional and international standards if possible.
7. Evaluation of autonomous and semi-autonomous government agencies on the same basis as above.

3.1.2.1 Analysis of Allocations

59. Here, the PEER should do the following analyses of allocations:

- a. Analyse the allocation of expenditures to the education sector, education activities and programs.
- b. Measure the cost of education policy priorities and compare with the spending window made available by the Ministry of Finance.
- c. Identify low-priority education activities and programmes that could be cut to make room for education programs with a higher priority or reallocated to other sectors.
- d. Identify the scope for increasing the resources available to the education sector.
- e. Identify possible policy inconsistencies in budget allocation. This is normally done by:
 - a. Comparison of allocations with international practice.
 - b. Analysis of allocations across the geographical or administrative regions of the country.
 - c. Analysis of trends in allocations over time, in terms of their shares, levels and growth.

3.1.2.2 Analysis of the management of expenditures in education programmes

60. Analysis of the management of the education allocations involves analysis of the following:
- The rationale for the activities and programs of the sector.
 - The integration of capital and recurrent expenditures, with specific reference to the comparative rates of growth of these components.
 - The degree of economy of the expenditures, with specific attention to the institutional matters that arise and the quality of the procurement process used to spend the funds allocated, and the potential for savings.
 - The efficiency of educational activities and institutions, and the potential for savings.
 - The effectiveness of education programs and institutions, and the potential for savings.
 - Problems encountered (e.g. data quality, non-cooperative ministries).

3.1.3 Why the PEER is done – goals and objectives

61. The general goal of the PEER is to provide information that guide government about how to make expenditure more economical, efficient or effective in its current use or redirect the expenditure to better uses.

62. Based on the Scoping Studies, these goals should be tied to the following specific objectives of the PEER:

- To establish baseline data and a framework for analysing education expenditure.
- To analyse how education expenditure conforms to budgets and the medium-term strategies of government in the context of balance of payments and budget deficits.
- To evaluate the economy, efficiency and effectiveness of education expenditure, and related potential for savings.
- To assess how to position future education expenditure in the context of the growing demand for policy reforms.
- To monitor the allocation expenditure to deliver needed services to the poor and vulnerable.
- To address the availability of revenues to meet the resource requirements of the education sector.

BOX 3-3: PRIORITIES AND MARKET FAILURE IN EDUCATION

When identifying low-priority activities and analysing the management of public education funds, the impact of market failure must be considered.

Market failure is pervasive in the education sectors of the partner economies because the economies, firms and governments are small. There are necessary investments that will not be undertaken by the private sector for various reasons:

- Some education outputs become part of the commons.
- Some education investments exceed the capacity of the private firms.
- Some education investments exceed the capacity of the governments themselves, and may require regional or international cooperation. UWI research in Tropical Medicine is a good example.

They are nevertheless necessary priority investments because of their externalities, hence their impact, on the performance of the activities and agencies of the education sector and wider economy.

3.1.4 How the PEER fits

63. As clarified in Chapter 2 and **Annex 1**, the PEER is a counterpart of the internal budget analysis and audits done by the Ministries and should be done before the next year's budget preparation begins. If done at another time, the findings should be disseminated as soon as possible.

3.1.5 Delivering the goals and objectives

64. To deliver the goals and objectives of the PEER, the PEER Team must have some basic understanding of: (i) the details of the type of analysis to be done; and (ii) how the analysis will inform the authorities in the Education Ministry, the Ministry of Finance, and other stakeholders to make appropriate decisions on how to redirect expenditure or make its current use more optimal.

3.1.6 The type of analysis to be done in the PEER and the guidance provided

65. The PEER team should provide answers to the following questions about government's revenues and expenditures:

- a. **Revenues:** How much money does the government have to spend? Where does it come from? How much of it is generated by the country's tax base? How much of it comes from external funds, including through foreign grants/gifts?
- b. **Expenditures:** What has the government spent its resources on previously? What sort of public services have been provided with the previous budgets? Which sectors have provided good service and which sectors need improvement? Who are the main beneficiaries of government spending? For example, is it the rich or the poor; women or men; rural or urban areas? Are the benefits spread equitably? Do the beneficiaries have equal access to services? Are there disadvantaged groups that need special attention? Have the services provided resulted in improved living conditions including poverty reduction?

66. The answers will assist the government in determining the potential, if any, for increasing the government's financing envelope: (i) through taxes; and (ii) through borrowing, local and foreign.

67. The answers will be derived partly from revenue forecasting for comparison with the medium-term strategic framework of the government. **Annex 3** presents a set of methods that can be used for revenue forecasting. The main methods considered include: (i) qualitative forecasting and judgement forecasting; (ii) moving average methods, including ARIMA; (iii) exponential smoothing and Holt-Winters methods; (iv) single equation regression forecasting; and (v) macroeconomic and hence GDP-based forecasting models. Microsimulation models are mentioned for completeness.

68. The forecasts will inform the government about the adequacy of the current planning and budgeting framework and process, in particular whether:

- a. The framework and process are closely linked to government's priorities, and in particular whether the planning priorities are reflected in the budget.
- b. The public service has the capacity to utilize the budgets allocated.
- c. Capacity-building should be initiated anywhere.
- d. Some allocations should be shifted to other government priorities or to the private sector.

3.2 PREPARING TO CARRY OUT THE PEER

69. This section emphasises the need for good planning to conduct a successful PEER.

3.2.1 A ToR for the PEER Team

70. In preparing to carry out the PEER, terms of reference (ToR) should be prepared for the PEER Team that will be charged with the conducting review. The PEER Team should be recruited with suitable qualifications to execute the ToR. **Annex 4** provides an annotated outline of a ToR, including qualifications, which can be adapted for the PEER Team. The level of detail in the final ToR is related to the depth of the sector PEER.

3.2.2 Sensitization of Stakeholders

71. The introduction of a PEER in each country should be supported by a sensitization initiative to generate a wide understanding of the processes and the responsibilities it brings. This can be done through appropriately timed workshops.

3.3 DEFINING THE LIMITS BY CLASSIFYING THE ACTIVITIES AND PROGRAMS OF EDUCATION

72. In defining the boundaries of the PEER, it is necessary for the PEER Team to classify the education expenditures to which the assignment refers.

73. The United Nations Classification of the Functions of Government (COFOG) provides the main system on which the partner countries rely when grouping and defining education expenditure (**Annex 5**). COFOG classifies expenditure by purpose of the transactions undertaken, whether the expenditure is final consumption expenditure, intermediate consumption, gross capital formation, and capital and current transfers by general government. Heads, Subheads, Items, and Sub-Items of expenditure can be fitted into the COFOG. The United Nations also provides the International System of Industrial Classifications (ISIC), to be used when activities or programs of the sector are to be analysed (**Annex 6**).

3.3.1.1 COFOG Classifications for Education

74. The main classifications for education are:

- a. **Pre-primary and primary education** –expenditure to introduce very young children to a school-type environment and provide a sound basic education.
- b. **Secondary education** – expenditure to provide general secondary and technical and vocational secondary education that lays the foundation for further education, lifelong learning and human development.
- c. **Post-secondary non-tertiary education.**
- d. **Tertiary education** – expenditure on tertiary education, including granting of degrees at baccalaureate, graduate or post-graduate level.
- e. **Education not definable by level.**
- f. **Subsidiary services to education**, including scholarships.
- g. **R&D education.**
- h. **Education n.e.c** – i.e., not classified under a-g.

75. Education expenditure is usually done by several ministries and NGOs. The PEER Team must identify them all.

3.4 THE FRAMEWORK FOR ANALYSING PUBLIC EXPENDITURE ON EDUCATION

76. According to the Scoping Studies, all of the partner governments want to use the PEER as a tool to improve public expenditure management. Their main focus are the following three areas: (i) macro-economic fiscal discipline; (ii) priority setting, that is, ensuring that resources are allocated and used to deliver the priorities of the government; and (iii) economic, efficient and effective use of the resources.

3.4.1 Macroeconomic fiscal discipline

77. Given the existence of budget and balance of payments deficits, the partner governments must control total expenditure. The controls must prevent growth in the deficits as a share of GDP, and related growth in the share of tax revenues and expenditure in GDP, and generally must ensure that spending is in line with plans. Consequently, the PEER must review ways to control each of the following aggregates: (i) total revenue; (ii) total spending; (iii) the deficit (or borrowing requirement); and (iv) the public debt.

3.4.2 Priority setting

78. The governments must identify new priorities that will use resources in ways that yield the highest social return, and hence will lead to growth of the GDP and exports. Here, the PEER must take a strategic and evaluative viewpoint, looking at the strategic and long terms plans to see what government wants to achieve and looking back to examine the results of past actions.

3.4.3 Searching for Opportunities to Improve Economy, Efficiency, and Effectiveness

79. The search begins with infrastructural expenditures that generate goods and services for the commons and can only be addressed adequately by government. These include pre-school and primary school construction, staffing and research facilities to ensure adequate opportunity for enrolment and attendance at school. They must be accorded the highest priority among all expenditures, since their neglect will have the greatest impact on the largest number of persons, especially the poor. For this purpose, the meaning of poverty is clarified in **Annex 9**.

80. The tables distinguish gross and net enrolment. These are defined and calculated as indicated by UNESCO (2009)¹⁷:

81. To determine where deficits might exist, the historical data for the review years would provide guidance. Table 3-1 and Table 3-2 illustrate the type of data that might inform the availability of infrastructure for early childhood development, on the principle that the best education for successful personal and national development begins in early childhood.

¹⁷ UNESCO (2009). Education Indicators: Technical Guidelines. UNESCO Institute for Statistics, UNESCO.

82. Such success also depends on access to and enrolment in primary school, and Table 3-3 and Table 3-4 illustrate the type of analysis that the PEER Team must conduct to gauge the extent of deficits and the challenges in gaining access to primary educational opportunities. Table 3-4 documents key causes of non-enrolment, effectively drawing attention to the types of programs that are needed to ensure enrolment at the rates targeted by government’s strategy.

BOX ERROR! NO TEXT OF SPECIFIED STYLE IN DOCUMENT.-1: DEFINING & MEASURING ENROLMENT

- a. “Total enrolment in a specific level of education, regardless of age, expressed as a percentage of the eligible official school-age population corresponding to the same level of education in a given school year” (UNESCO, 2009:9).
 - i. Gross enrolment measures the general level of participation in a given level of education. It indicates the capacity of the education system to enrol students of a particular age group. It also indicates the extent of over-aged and under-aged enrolment at each level of education.
 - ii. Date required are:
 1. Total enrolment for a given level of education.
 2. Population of the age group corresponding to the specified level.
 - iii. Calculation is:
 1. Divide the number of students enrolled in a given level of education regardless of age by the population of the age group which officially corresponds to the given level of education.
 2. Multiply the result by 100.
- b. “Net enrolment is the enrolment of the **official age group for a given level of education** expressed as a percentage of the corresponding population” (UNESCO, 2009: 10).
 - i. Net enrolment measures extent of coverage in a given level of education of children and youths belonging to the official age group corresponding to the given level of education.
 - ii. Date required are:
 1. Enrolment in single years of official age for a given level of education.
 2. Population of the age group corresponding to the given level of education.
 - iii. Calculation procedure is:
 1. Divide the number of students enrolled who are of the official age group for a given level of education by the population for the same age group
 2. Multiply the result by 100.

UNESCO, 2009

Location of Household	2012	2013	2014	% Change 2012-2013	% Change 2013-2014
District1	85	86	88	1.2%	2.3%
District2	86	88	90	2.3%	2.3%
...					
District N	87	90	92	3.4%	2.2%
Urban	87	88	92	1.1%	4.5%
Rural	85	86	88	1.2%	2.3%
Gender					
Male-Headed Households	85	86	88	1.2%	2.3%
Female-Headed Households	87	90	92	3.4%	2.2%
Welfare Status					
Extreme Poor	80	81	82	1.3%	1.2%
Poor	85	86	88	1.2%	2.3%
Employment Status					
Employed	89	91	93	2.2%	2.2%
Unemployed	82	83	84	1.2%	1.2%
Country	85	86	88	1.2%	2.3%

	District1	District2	...	District N	Urban	Rural	All
Money problems	45	40		35	33	47	40
Distance to School	45	40		35	33	47	40
Family Problems	45	40		35	33	47	40
Work / Support Family	45	40		35	33	47	40
Not Interested	45	40		35	33	47	40
Other	45	40		35	33	47	40

83. For long-term success, graduates from early and primary education must gain access to and use opportunity for capacity-building at the secondary and tertiary levels of education. Table 3-5 illustrates aspects of the background analysis needed to gauge education sector needs at the secondary level. Table 3-6 and Table 3-7 illustrate the analysis of the underlying reasons for poor enrolment that education strategy must address.

Location of Household	2012	2013	2014	% Change 2012-2013	% Change 2013-2014
District1	65	68	71	4.6%	4.4%
District2	65	66	68	1.5%	3.0%
...					
District N	66	69	72	4.5%	4.3%
Urban	65	66	68	1.5%	3.0%
Rural	65	66	68	1.5%	3.0%
Gender					
Male-Headed Households	65	66	68	1.5%	3.0%
Female-Headed Households	66	68	72	3.0%	5.9%
Welfare Status					
Extreme Poor	55	56	58	1.8%	3.6%
Poor	65	66	68	1.5%	3.0%
Employment Status					
Employed	75	76	78	1.3%	2.6%
Unemployed	65	66	68	1.5%	3.0%
Country	65	66	69	1.5%	4.5%

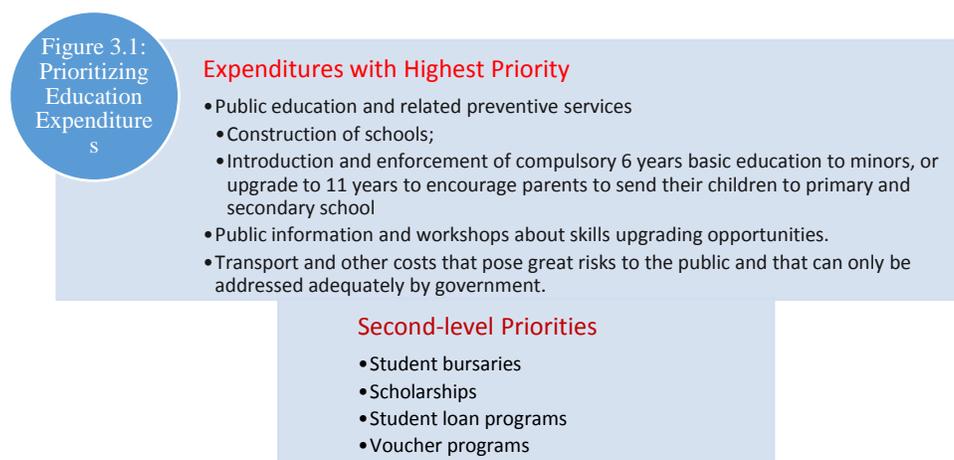
	District1	District2	...	District N	Urban	Rural	All
Money problems	45	40		35	33	47	40
Distance to School	45	40		35	33	47	40
Family Problems	45	40		35	33	47	40
Work / Support Family	45	40		35	33	47	40
Not Interested	45	40		35	33	47	40
Other	45	40		35	33	47	40

84. Next in importance to spending on infrastructure is spending to increase basic financial access that establish broad foundations for education aimed at the core functions of society. These foundations include development of student loan programs with possible cost-sharing, designed with grants that target the poor. Table 3-9 illustrates the type of analysis that would be needed to assess the outstanding challenges.

Category	Eligible Population	Number of Students Seeking Financial Assistance	% of Eligible Students Seeking Financial Assistance	Number of Students Receiving Financial Assistance	% of Applicants Receiving Financial Assistance	% of Eligible Students Receiving Financial Assistance
Age						
15 - 19	400	200	50%	185	93%	46.3%
20 - 24	500	10	2%	5	50%	1.0%
25-29	600	560	93%	330	59%	55.0%
30-39	700	465	66%	283	61%	40.4%
40-49	500	100	20%	45	45%	9.0%
Social Status						
Extreme Poor	500	450	90%	300	67%	60.0%
Poor	700	400	57%	350	88%	50.0%
Non-Poor	100	60	60%	50	83%	50.0%
Location of Household						
Rural	900	600	67%	484	81%	53.7%
Urban	1300	600	46%	484	81%	37.2%
District 1	300	200	67%	200	100%	66.7%
District2	400	100	25%	70	70%	17.5%
...						
District N	500	400	80%	200	50%	40.0%
Gender						
Male-Headed Households	1000	500	50%	300	60%	30.0%
Female-Headed Households	1200	500	42%	440	88%	36.7%
Employment Status						
Employed	1100	500	45%	484	97%	44.0%
Unemployed	1400	700	50%	484	69%	34.5%

85. In general the spending priorities reflect attempts to address market failure. Figure 3.1 provides examples of this prioritization.

Figure 3-1: Prioritizing Education Expenditures



86. The overall success of the education system and economy is gauged by the level of knowledge and the skills to use knowledge. Table 3-8 and Table 3-9 illustrate the analysis

that would point to achievements and challenges in this respect. Table 3-9 is included to emphasize that education of the physically challenged is not simply a social policy matter to be ignored by a PEER.

Table 3-6: Mean Years of Schooling of Population 10 years and Older, by selected social indicators

	2012	2013	2014
Age			
10-14	8	9	10
15 - 19	8	9	10
20 - 24	8	9	10
25-29	8	9	10
30-39	8	9	10
40-49	8	9	10
50-69	8	9	10
70+	8	9	10
Social Status			
Extreme Poor	4	5	6
Poor	4	5	6
Non-Poor	8	9	10
Location of Household			
Rural	6	7	8
Urban	10	11	12
District 1	6	7	8
District2	6	7	8
...	6	7	8
District N	6	7	8

Table 3-7: Educational Achievement of Persons with Disability, Age 10 years and Older (% illiterate)

	Population	Persons with Disability	Difference
Age			
10-14	15	85	70
15 - 19	20	79	59
20 - 24	25	76	51
25-29	25	75	50
30-39	26	74	48
40-49	28	71	43
50-69	30	68	38
70+	32	60	28
Social Status			
Extreme Poor	32	60	28
Poor	32	60	28
Non-Poor	32	60	28
Location of Household			
Rural	32	60	28
Urban	32	60	28
District 1	32	60	28
District2	32	60	28
...	32	60	28
District N	32	60	28

3.4.3.1 Improving efficiency

87. The search for ways to improve efficiency involves two steps. The first is to assess whether resources are allocated to the ministries, agencies, and activities in accordance with the strategic objectives of government. Chapter 2 clarifies that what is to be done in this regard is

to compare the actual allocations to those required by the government’s medium-term framework. Allocations to sectors out of line with priorities should be identified for corrective action by the Ministry of Finance. The second step is to assess whether, once allocated, the resources are used with maximal technical efficiency and promotes scale efficiency if necessary, and to recommend adjustment of the use accordingly.

88. Each aspect of the efficiency analysis is conducted for: (i) each key purpose under the COFOG/ISIC classifications; and (ii) selected agencies under each class and across all classes. In each case, analysis is done of the utilisation of education allocations to improve: (i) allocative efficiency; (ii) technical efficiency; and (iii) scale efficiency

3.4.3.2 Improving allocative efficiency

89. Here, the PEER Team examines the allocations of the sector activities or agencies to see if they align with strategic plans, and if gains in the value of outputs can be achieved by shifting resources from current or previous priorities to new priorities. Sector allocations should not be a mere amalgam of sector demands but rather must be in line with those defined by the strategies to promote development.

90. To assist with improving allocative efficiency, the PEER Team must receive from the government, in particular the Ministry of Finance, the new priorities and expectations of output that the PEER must use when examining the past allocations.

91. Then, the PEER Team must assess the actual outputs of the current allocations and compare them with the new target outputs and the projected outputs of the allocations to see if gains in output can be generated and the value of the gains from a shift of the resources.

92. Table 3-10 sets up a simple scheme for the required basic analysis. The table indicates that the gap between allocations and the requirements of strategy must be identified as well as analysed.

Table 3-8: Analysis aimed at improving allocative efficiency							
Allocation	Actual or projected output	Past priorities	Match of allocation and strategy	New priorities	Projected output with new priorities	Action to achieve new priorities	Gain from action
\$80 million allocated to pre-primary and primary education	25000 students to graduate	30000 students to graduate	Gap of 39% between allocations and strategic requirements	40000 students to graduate; complete cohort coverage	38000 students expected to graduate; new cohort larger	Increase allocation to enforce attendance laws	8000 additional students to graduate
\$6 million to school feeding	10000 participating students	40000 students to participate; complete coverage; \$150 per student	No gap of allocation and strategy; program not supported by households	20000 students to be fed; \$300 per student	12000 students participating	Adjust food and promote program	2000 additional students participating; program not well-supported by households; \$2.4 million saved by reducing size of program

93. Once the analysis of allocative efficiency is complete, the PEER Team must turn to the analysis of the utilization of the resources, aimed at improving economy, technical and scale efficiency, and effectiveness. **Annex 7** presents a set of methods that can be used to measure the economy, efficiency and effectiveness of public expenditures in the partner countries in an integrated framework. The methods suggest that in-depth analysis of the economy of expenditure is a substitute for the numerical analysis of efficiency and effectiveness when financial accounting data are not available. **Annex 8** presents questions to be used in designing a data collection tool to support the analysis.

3.4.3.3 Improving economy

94. Here, with prioritization guided by Figure 2.1, the PEER Team examines the allocations of the sector activities and agencies to see if funds allocated are used in accordance with the priorities set out in the budget, following all relevant procurement procedures.

95. To assist with improving the economy of expenditure, the PEER Team must receive from the government, in particular the Ministry of Finance and the Ministry of Planning, the new priorities and expectations of output that the PEER must use when examining the past allocations.

96. Then, the PEER Team must assess the actual outputs of the current allocations and compare them with the new target outputs and the projected outputs of the allocations to see if gains in output can be generated and the value of the gains from a shift of the resources. Table 3-11 sets up a simple scheme for easy reference.

Table 3-9: Analysis aimed at improving economy of education expenditures					
Allocation	Actual inputs purchased	Budgeted inputs	Match	Action taken to address mismatch	Gain from action
\$80 million allocated to pre-primary and primary education; hire teachers with Master's Degrees	2000 new teachers hired with Masters' Degree or better; \$76 million spent	2100 new teachers hired with Masters' Degree or better. \$38000 average salary	Gap of less than 5% between allocations and expenditures on post-graduate teachers; excellent by 10% international standard	Hire additional teachers; no change in procurement methods	100 additional number of teachers competent hired; no significant savings
\$6 million allocated to School feeding program	10000 food baskets meeting nutritional standards;	40000 food baskets meeting nutritional standards	\$1.5 million spent; Gap of more than 75% below planned; poor by international standard of 10%	Adjust and promote program; upgrade accounting systems in program; closure of selected production units; consolidation of production in selected units; upgrade food quality. \$300 per student	2000 additional students served; 40% allocation gap persists; \$2.4 million in unspent balances can be found by reducing allocations; \$5 million savings can be found by eliminating program and distributing \$1 million of vouchers to means-tested poor persons.

97. Additional indicators to be used in assessing the economy of budget implementation are the following:

- a. Timeliness in meeting budget target.

- b. Capacities of the action units (agencies or programs/projects) for planning, budgeting, implementation and monitoring.
- c. Commitment of action units to change in education quality.
- d. Commitment of action units to use of education to change poverty levels.
- e. Degree of beneficiary satisfaction with the action unit's rate of expenditure on inputs to deliver education services.

3.4.3.4 Improving technical efficiency

98. Here, with reference to the prioritization in Figure 2.1, the PEER examines the inputs of the sector agencies or activities and their outputs, in order to do the following: (i) measure the competence with which inputs are converted to outputs; and (ii) see if gains in the value of outputs or savings of inputs can be achieved by improving technology and managerial efficiency from current or previous levels to new levels consistent with new priorities.
99. Table 3-12 sets up a simple scheme for easy reference. It emphasizes that efficiency must not only be documented but also analysed. To assist with improving technical efficiency, the PEER Team must receive from the government, in particular the Ministry of Finance and the Ministry of Planning, a clear commitment to pursue avenues for increasing technical efficiency even if some underemployed or inappropriately employed labour will be displaced to the private sector or to more efficient employment in the public sector.
100. Improvement of technical efficiency requires the PEER Team to ensure that up to date capital assets and competent individuals are engaged in the public service. Such individuals will have to be attracted through merit-based recruitment, adequate performance-based compensation, and merit-based promotion system.

Table 3-10: Analysis aimed at improving technical efficiency of education expenditures							
Activity or expenditure purpose	Number of skilled workers	Value of capital assets	Current outputs	Approximated technical efficiency level	Desired technical efficiency	Action to achieve new priorities	Gain from action
\$180 million Pre-primary and primary education	2100 Master's level teachers hired; 100 PhDs hired; 1000 teacher with A-levels and no formal teacher training certification	\$80 million of assets provided	25000 students graduated (end of year); maximum potential measured as eligible cohort size of 40000 if full budget utilized	Output/input ratio divided by maximum output/input ratio = 0.625	Targeted output/input ratio divided by maximum output/input ratio of 0.95	Adjust size and structure of allocation; upgrade school management; sharply reduce the number of untrained teachers without Master's Degree or better; increase the numbers with Master's or better. Upgrade capital assets by adding \$60 million of ICT technology	Increase in output/input ratio divided by maximum output/input ratio to 0.97; 3% saved on all resources if best practice adopted; gains from better students throughout life; social rate of return from investment expected to be 60%, well above rates for all other investments
\$26 million for school feeding	200 untrained staff; 2 nutritionists; support employees	\$8 million of assets in program	10000 meals prepared and distributed; all budget spent maximum potential 18000 meals distributed; well below cohort size	Output/input ratio divided by maximum output/input ratio = 0.56	Targeted output/input ratio divided by maximum output/input ratio of 0.95	Adjust food quality; cut program size; increase advertisement; cut expenditure to \$20 million; reduce number of untrained staff; modernize equipment. Distribute vouchers worth \$2 million to means-tested poor	Increase in efficiency to 0.98; save \$20 million for reallocation to other programs

101. Among others, the following additional inputs should be considered when measuring efficiency:

- a. Transport, distance travelled to school and mode of transport
- b. Average class size
- c. The number of tertiary-trained staff
- d. The number teaching staff involved in research and publication per student
- e. Average salary of teaching staff
- f. The number of support staff
- g. Average salary of support staff
- h. Value and quality of school assets

102. The following outputs should be considered when measuring efficiency:

- a. Value (\$) of education supplied
- b. Number of students graduated
- c. Participation in School Meals Programs

- d. Cohort repetition rates and dropout rates
 - e. Effective cohort survival rates and completion rates
 - f. Functional literacy of graduates, regarding both reading and numeracy
 - g. Perception of general education quality / Household satisfaction with education quality
103. Quantitative measurement of technical efficiency can be done, as described in **Annex 7**, with additional details made available using data collected with the help of **Annex 8**. The method chosen depends on the data available. The main methods described are: (i) the non-parametric data envelope analysis (DEA), which relies mainly on linear programming or the differential calculus; and (ii) the parametric method of stochastic frontier analysis, which is a statistical method that estimates model parameters with known precision.
104. DEA methods are very flexible and can accommodate a wide range of information about inputs and outputs or outcomes. For the decision-making units in education, inputs can include items such as the number of staff, the amount of square feet of floor space, and the expenditure on library facilities. Outputs can include items such as the number of students taught, the number of students achieving set exit standards, or even the surplus funds generated by the school canteen.
105. **Annex 7** clarifies that measurement of efficiency also yields estimates of potential for savings as a by-product.
- 3.4.3.5 Improving scale inefficiency**
106. Here, the PEER examines the scale of the sector agencies or activities to see if gains in the value of outputs can be achieved by increasing the overall scale of employment of both inputs in some combination, consistent with the new priorities. Table 3-13 sets out a simple scheme for easy reference.
107. To assist with improving scale efficiency, the PEER Team must receive from the government, in particular the Ministry of Finance and the Ministry of Planning, a clear commitment to pursue avenues for increasing scale efficiencies even if some institutions and agencies have to be merged and even if some of the output must be exported.
108. Improvement of scale efficiency requires the PEER Team to ensure that growth of output is relatively faster than growth of employment of the overall value of capital assets and the work effort of competent individuals, while the capital assets are growing the fastest of all.

Table 3-11: Analysis aimed at improving scale efficiency							
Activity or expenditure purpose	Value of capital input 1	Value of labour input	Current outputs	Scale efficiency level	Desired scale efficiency	Action to achieve new gains	Gain from action
\$180 million pre-primary and primary education	Number of trained teachers hired; number of support staff hired	Value of ICT-infused assets provided	Number of students graduated	Output/input ratio constant as value of inputs increased at a fixed rate	Output/input ratio growing as value of inputs increased at a given rate	Adjust input allocation; both inputs increased but capital assets increased faster than labour	Output/input ratio growing faster than inputs as overall value of both inputs increased at given rate but with capital assets increasing faster than labour
\$26 million School feeding	Number of employees in program	Value of assets in program	Number of meals produced and distributed at subsidized price	Output/input ratio constant as value of inputs increased at a fixed rate	Output/input ratio growing as value of inputs increased at a given rate	Adjust input allocation; with capital assets increased significantly faster than labour, for example with reduced numbers of workers and better training of retained workers	Output/input ratio growing faster than inputs as overall value of both inputs increased at given rate but with capital assets increasing faster than labour

109. Numerical measurement of scale inefficiency is normally done in conjunction with the main methods described in **Annex 7**, supported by data collected with a questionnaire developed from **Annex 8**. Estimates can be generated from both the data envelope analysis and the stochastic frontier model.

3.4.3.6 Improving Effectiveness

110. Each aspect of the effectiveness analysis is conducted for every selected category of expenditure under the COFOG classifications, and every selected agency under each class. In each case, analysis is done of the utilisation of education allocations to improve cost effectiveness and development effectiveness. Often, because of the lack of data, the analysis of effectiveness must be qualitative.

3.4.3.7 Improving cost effectiveness

111. Improvement of effectiveness involves reallocations to improve the outcomes generated from the outlays. Table 3-14 contains a simple scheme for the required analysis.

112. A cost-effectiveness test is a numerical measure of effectiveness computed from an input standpoint. That is, it measures numerically the extent to which input use is minimized while a given output target also delivers targeted benefits or outcomes. Its broad measure is the benefit-cost ratio. However, if numerical indications of the desired outcomes are available along with numerical measures of inputs, then the DEA methods described in Annex 7 can be used in analysing the effectiveness of resource use.

113. Good examples of measurable outcomes in education are: (i) the number teaching staff involved in research and publication; and (ii) number of students using student loans or other financing for tertiary education.

114. Cost-effectiveness is best applied when benefits are difficult to value or when objectives and outcomes have already been well-defined. It is primarily a technical measure that suffers from political influence. Therefore, the PEER Team must receive from the government, in particular the Ministry of Finance, a clear commitment to accountability and the pursuit of

avenues for increasing measurable cost effectiveness even if some political objectives cannot be met or might have to be changed.

115. Pursuit of cost effectiveness requires managerial autonomy to appraise the work of action unit with spending authority, including specific projects, and responsibility to implement the government's defined expenditure programmes subject to clearly defined accountability for performance.

Table 3-12: Analysis aimed at improving cost-effectiveness

Activity or expenditure purpose	Size of allocation used up	Current outputs	Current outcomes	Desired outcomes	Action to achieve new priorities	Gain from action
\$10 million Pre-primary and primary education	All \$ spent	25000 students graduating	20 graduates per \$10000 of expenditure fully certified and prepared for labour market; 5 students per \$10000 not fully certified for market	Targeted benefit/cost ratio of 41 students per \$10000 of expenditure not prepared for labour market.	Improve teacher quality; upgrade ICT assets for students and teachers; increase competency orientation and problem-solving methods; centralize and standardize training using ICT; reduce use of classroom.	Increase in benefit/cost ratio by 21 students per \$10000; better informed workers ready for life and labour market ; estimated gain above minimum wage - \$105 per worker; immediate return of 22% on investment; lifetime return of 42% on investment
\$6 million School feeding	All \$ spent	10000 meals produced and distributed	10000 students adequately nourished and attending classes; or 1 student per \$600 spent.	Targeted benefit/cost ratio of 1 student per \$300 spent	Adjust food quality and market benefits in rural communities; reduce program size and distribute vouchers to poor students using means test	Increase in benefit/cost ratio of 1 student nourished per \$300 spent. 3000 poor students identified and nourished

116. The following indicators should be considered when measuring the benefits gained. They should be analysed by age group, gender and location, school type, and welfare status (decile of consumption/income):

- a. School Attendance and Education Level
- b. Distance travelled to school and mode of transport
- c. Reasons for Not Attending School
- d. Student Access to Required Books
- e. Nutrition status of students
- f. Cohort repetition rates and dropout rates
- g. Effective cohort survival rates and completion rates
- h. Functional illiteracy in the labour market, regarding both reading and numeracy
- i. Mean Expenditure (\$) on education
- j. Student use of student loans or other financing for tertiary education
- k. Public grants received for tertiary education
- l. Conditional bursaries received for tertiary education
- m. Mean years of schooling
- n. Perception of general education status
- o. Satisfaction with household education Status

- p. Average class size
 - q. The number of tertiary staff per student
 - r. The number teaching staff involved in research and publication
 - s. Average salary of teaching staff
117. Additional indicators to be used in assessing cost effectiveness are:
- a. Timelines for delivering outcome target.
 - b. Capacities of action units for planning, budgeting, implementation and monitoring.
 - c. Commitment of action units to improve education quality.
 - d. Commitment of action units to use of education to reduce poverty and inequality.

3.4.3.8 *Improving development effectiveness*

118. Development effectiveness applies when the partner government gives the highest priority to increasing export competitiveness and growing exports per dollar of imports or to other cross-cutting internationally-agreed development goals. Its most basic measure is 1 plus the difference of output per dollar of imports and exports per dollar of imports. Table 3-15 contains a simple scheme for the required analysis.
119. Improvement of development effectiveness from outlays involves reallocations to improve export-competitiveness, even when pursuing some internationally-agreed development goal. Development-effectiveness requires the PEER Team to appraise all expenditure programmes for their orientation to achievement of increased export competitiveness, taking into account the dependence of all economic and social outcomes on education outputs and outcomes.
120. Pursuit of development effectiveness requires managerial autonomy to use contribution to export-competitiveness to appraise the work of action unit with spending authority, including specific projects and agencies receiving government funding, and responsibility to implement the government's defined export growth program.

Table 3-13: Analysis aimed at improving development-effectiveness							
Activity or expenditure purpose	Size of allocation	Current outputs	Current exports	Current Development effectiveness	Target Development Effectiveness	Action to increase development effectiveness	Gain from action
Hospital Services (Hospital activities)	\$10 million spent on imported inputs to deliver services	Valuation of services to all tertiary students at the same rates as charged to foreign students using services	Revenues from services sold to foreign students using university system	$1 + \frac{\text{value of all service} - \text{exports}}{\text{imports}}$ $= 1 + 3.3 - 2.4 = 1.9$	Increase development effectiveness to 2.4 during year, while increasing <i>tertiary exports</i>	Increase quality of professors and hence quality of knowledge and skills delivered by university system; increase foreign marketing of universities in tourism origin markets	Increase of development effectiveness to $1 + 4 - 2.8 = 2.2$; increase of foreign exchange earnings by \$20 million; increased value and quality of service to local market.
R&D in tertiary education system	\$20 million spent on imported inputs	Number of graduate students publishing research papers in international journals	Actual rate of growth of referencing of local authors.	Actual growth of local intellectual property rights-based exports from university as a ratio to total exports	Increased development effectiveness over previous year	Increase allocation to support international collaboration by local university researchers.	Increase in intellectual property rights exports by university researchers; increased impact on export competitiveness in other sectors, generating development effectiveness of 2.7

121. Additional indicators to be used in assessing development effectiveness are:

- a. Timelines for delivering development outcome.
- b. Capacities of action units to plan, budget, implement and monitor
- c. Commitment of action units to improve education quality
- d. Commitment of action units to use of education to reduce poverty and inequality

122. The PEER Team must be realistic about how long it will take to implement each policy and how long it will take thereafter for the full impact of the policy measure to be felt in the sector and then throughout the economy. It makes a great deal of difference whether an expenditure policy instrument can attain its goals in the budget year, in the medium term, or in the long run.

123. If a policy will only be effective in the long run, the PEER Team must consider the likelihood that many other policy interventions will be needed before success is achieved, because other exogenous factors will also intervene to change the conditions and trajectories of the economy and the education sector.

124. The PEER Team will have to consider two distinct time lags due to exogenous forces. The first is the lag between the emerging need for a fresh policy intervention as reflected in the initial conditions and the changing economic path *and* the time when the policymaker recognizes that need. The second is the lag between the time of recognition and the time when the policy intervention is initiated. Administrative delays and the need for legislative

action (such as the budget expenditure and tax legislation) can be important causes of such time lags.

125. The PEER Team must also consider the endogenous lags, which are lags that depend on the way the economy works and on how the export-competing sectors adjust. If education is an export-competing sector, as in the case of the education sector in Antigua and Barbuda, the PEER Team must take careful note of how long it takes to change its course. A related question is, how long does it take for the policy intervention to work its way through the economy in general *and* through the education sector in particular, before its full impact is realized in terms of changes in the export rate and export competitiveness? This will require forecast of the overall trajectory followed by the education sector *and* the economy under the influence of the policy.

3.4.4 Analysis of necessary conditions for achieving PEER goals

126. In addition to conducting the search for improvements in economy, efficiency and effectiveness, the PEER Team should analyse the extent to which certain conditions are being met for conducting the PEER and for achieving PEER goals in general. These are the conditions of transparency, accountability, consensus-oriented, comprehensiveness, fairness and equity, predictability and consistency, and market-enhancing. These analyses also provide qualitative data for an in-depth analysis of economy and fiscal discipline to replace the analysis of efficiency and effectiveness when accounting data are not available.

127. In this regard, it is worth repeating that the PEER should take account of all resources windows that would affect education expenditure. The PEER Team should be aware that education is an example of a sector for which public expenditure is normally undertaken by many ministries. The PEER Team should seek information from all relevant ministries.

3.4.4.1 Transparency

128. For the successful conduct of the PEER, and for achievement of the PEER goals, all internal budget analysis and all audited financial data should be available to the PEER Team in an understandable format and on a timely basis. If this standard is met, it will also be a good measure of the general transparency of spending procedures. The best approach is to assess whether the accounting procedures follow either or both of the following:

- a. The IFRS.
- b. The IMF's 1998 code of Good Practices on Fiscal Transparency.

3.4.5 Accountability

129. The Ministry of Education and other ministries that spend on education are normally required to follow the government's rules and mechanisms for holding public accounting officers liable for their actions. **Annex 1** provides some clarification. The PEER Team should analyse whether this mechanism routinely provides for:

- a. Specification of the procedures for spending public funds.

- b. Identification of the accounting officer or other person who must be held accountable for each allocation and expenditure.
- c. Detailed specification of what the accounting officer or other person is accountable for.
- d. Specification of the senior officer to whom the accounting officer is accountable.
- e. Specification of the format of reporting and accounting in this process, along with all supporting documents and signatures needed when accounting.
- f. Specification of document filing procedures aimed at ensuring that accurate records are routinely available for examination.

3.4.5.1 Consensus-orientation

130. A budget is consensus-oriented when it is prepared through a harmonized dialogue mechanism that provides all stakeholders an opportunity to influence it. The PEER Team should analyse the budget dialogue mechanism to determine whether it facilitates dialogue that strengthens all review, planning and budgeting processes, making them steady, continuous, and sustainable, rather than fractured, uneven or merely designed to meet formal legal requirements without much concern with substance.
131. The PEER should apply the standard that a consensus-oriented budget process features one or more of the following elements:
- a. A commitment to open dialogue with each stakeholder institution.
 - b. A proper forum (physical and virtual) for timely stakeholder participation in collecting and analysing information (facts and opinions) in the early stages of the budget process.
 - c. A formal process for facilitating participation.
 - d. Clear rules of participation.
 - e. A calendar/schedule for the dialogue, with:
 - i. Stakeholders to be met.
 - ii. Meeting date.
 - iii. Meeting time.
 - iv. Meeting locations and directions to locations.
 - v. Meeting topics.
 - vi. Meeting agenda.
 - f. An adequate process and timeline for arrival at final agreements and decisions when a joint policy process is in place.

3.4.5.2 Comprehensiveness

132. The PEER Team should analyse whether the expenditure is comprehensive, in the sense that the budget provides a full and complete picture of all of the following:
- a. Sources of revenues by ministries, districts, local governments, autonomous and semi-autonomous agencies and any other government controlled agency or program/activity.
 - b. Categories of expenditures by ministries, districts, local governments, autonomous and semi-autonomous agencies and any other government controlled agency.

- c. The role of user fees, profits, grants, and other non-tax revenue.

3.4.5.3 Fairness and equity

133. Public expenditure should be fair and equitable. In particular, it should not be discriminatory or regressive. Accordingly, the PEER Team should analyse the education budget for any conflict between equity and the goals of economy, efficiency and effectiveness. If any conflict is observed, the PEER should propose specific measures to address the problem or draw the conflicts to the attention of government. A rule of thumb is that proposed measures should favour the poor and vulnerable, such as through school vouchers, school feeding programs, and other devices.

3.4.5.4 Predictability and consistency

134. Sound budgets are consistent and predictable. Predictability support expenditure prioritisation and implementation. It also helps to signal government's intentions to stakeholders and in assists the private sector with its own strategic planning and investment programming.

3.4.5.5 Market-enhancing

135. In general, public expenditure should cater adequately for market failure and should also minimize market distortions. Accordingly, the PEER Team should analyse the education budget for evidence of key forms of market failure that are not addressed by the spending program.

136. For example, the construction of pre-school and primary school facilities in certain districts or the failure to regulate the quality of teachers in these schools are important sources of market failure that should be analysed. Importantly, public expenditure should be confined to those activities for which the private sector is not available to support socially efficient objectives. Government expenditure should also ensure fair pricing, fair competition and fair trade. Market distortions on all these fronts can affect the quality of the decisions to reallocate funds from current uses to better uses.

3.4.6 Key data challenges to be addressed

137. By its nature, a PEER usually requires reliable and highly disaggregated data for analysis and comparisons of agencies and activities, classified as indicated above. It also requires data that can be used for comparison with other countries.

138. Ideally, within the COFOG codes, the PEER should track the education and other sector allocations and the related expenditure at least by the Heads of expenditure. However, it may be necessary to follow details to the Subheads, Items, and Sub-Items. The PEER should report the level and share of each in the total, and whether it is increasing, decreasing, or

unchanging. In that regard, the PEER Team should analyse the data challenges set out in the following Table 3-16.

139. It is important to emphasize here that, in the absence of data for numerical measures of efficiency and effectiveness, in-depth analysis of economy and of the data challenges are good substitutes. A system that is not managed with economy and is uninformed by good data will also tend to be inefficient and ineffective.

Table 3-14: Data challenges to be addressed and resolved in a PEER		
Data Challenge	The Problems	The Solution
Contradictory data	Key skilled personnel may leave an organisation or department and may not be available to the PEER.	Triangulation with other sources and use of other datasets.
	Different reports from the same institution or program provide different and inconsistent data on the same subject	Use the interview process to get the facts or get clarification of the inconsistencies.
Ongoing reforms	Partner governments are always undertaking public sector reforms projects. These often lead to changes in policy, laws, and changes in institutional or program responsibilities, mandates, activities, and budgets.	Detailed study and monitoring of all previous and ongoing reforms. Identification of all issues arising. Identification of the leaders of the reforms and interviews with them on all changes relevant to the PEER. This may require special interview instruments.
Changing and mergers of budget codes; different codes for different ministries	As indicated in Annex 1, the budget in all partner countries is specified in terms Heads, Subheads, Items, and Sub-Items. These might change over time, often by merging or by discontinuation. Since education spending is done in many ministries, this problem multiplies accordingly.	Read <i>concurrently</i> the code and title for each relevant Head, Subhead, Item, and Sub-Item starting from 3 years ago. Follow the code to the present year of the PEER. If any change, seek clarification from the Ministry of Finance.
Inter-country comparisons	The PEER may need to compare performance ratio across countries. This is especially relevant to internationally agreed development goals. Differences in relative prices, rate of development, state of infrastructure, market failure, and the comparative roles of the market usually make it difficult to compare ratios meaningfully.	Do not base expenditure assessments on international comparisons alone. Use internally computed ratios as well, following the methods described in the methodology.
Off-budget spending	<ul style="list-style-type: none"> Some expenditure on education is payment by external (non-government) interests to contractors who provide service or goods to the government without passing through the national accounting system. Some education expenditure takes place out of extra-budgetary funds. Some expenditure on education come from earmarked funds. 	Report all instances in the PEER and document the understanding formed of the influence of the funds on the assessment of the optimality of savings and reprioritization.
Inconsistencies in classifications used in annual sector action plans	Budgets are developed from annual action work plans of departments and sector ministries. The activities of these departments and sectors are not similarly classified and detailed across sectors.	At start of PEER, use the COFOG as basis for a cross sector classification matching exercise. Also use the ISIC classifications. Read <i>concurrently</i> the code and title for each relevant Head, Subhead, Item, and Sub-Item in each sector starting from 3 years ago. Follow the code to the present year of the PEER. If any doubt, seek clarification from the Ministry of Finance. Use a Public Expenditure Tracking Survey as described below.

3.5 ANALYSING FUNDING SOURCES AND FUNDING MODALITIES FOR EDUCATION

3.5.1 Forecasting the revenues for public expenditure

140. Before the government can decide how and where to spend money, it must first determine what sources will be available to spend in the coming year.

141. In a PEER, it is important to know the general sources, amounts, and conditions because they have a bearing on what can be appropriately allocated and used for education.

Government revenues comprise domestic revenues and revenues from external sources, including grants and loans.

142. The government policy on all its loans from the markets and governments should be documented, noting that much of the policy is shaped by monetary policy concerns. In particular, it should be stated whether loans will be used for recurrent purposes or only for capital projects that will contribute to competitiveness and long term growth. Forecasts should be done to indicate the levels, share and rate of growth of the revenue classes.

3.5.2 Forecasting domestic revenues

143. Forecasts of domestic revenues should be done under the headings in Box 3.4 (also see Annex 4).

3.5.3 Forecasting external revenues

144. Forecasts should also be done of external revenues, in terms of level, share and rate of growth.

3.5.4 Addressing external grants

145. External grants are sums of money given by donor countries and other International Development Institutions. They carry no *quid pro quo* and requirement requirements. The amount involved must be forecasted. An important source, some funnelled through non-government agencies, is the Economic Partnership Agreement (EPA) with the European Union (EU).

3.5.5 Forecasting external loans

146. External loans carry repayment obligations and debt implications. Loans can be obtained from the foreign private market or from international development agencies. The amount involved must be forecasted.

3.5.6 Funding modalities in partner countries

147. The partner countries gain access to international funding under several modalities.

- a. General budgetary support, for example under the EPA agreement.
- b. Special supports to the various sector budgets.
- c. Special projects.
- d. Separate funding under the EPA and other international funding arrangements.

BOX 3-4: REVENUES TO BE FORECASTED

Tax revenues

- i. indirect taxes from goods and services
- ii. income taxes (PAYE taxes).

Non tax revenues

- i. trade licenses
- ii. driving permits,
- iii. court fees,
- iv. traffic fees,
- v. passports,
- vi. consular fees
- vii. school fees
- viii. sale of property
- ix. profits from government-owned businesses

Other sources of revenue.

There are non-tax revenues which are earmarked for use by the agencies that produce and collect them. These include:

- i. Fees from concessions to produce and sell products or services, for example fees from use of play grounds, and interest from student loan programs, fees from use of tourism parks and museums, housing agencies.
- ii. Districts and local government collect and retain some revenue.
- iii. Domestic financing by borrowing from banks and non-bank institutions, and special financing arrangements.
- iv. Drawdowns from deposits in the Central Bank.

3.5.7 Analysis to be done by source of funding

- a. The trends in revenue by funding source, and as a percentage of GDP.
- b. The trends in the share of revenue by funding source.
- c. The overall trends in all internally generated revenue. This has a bearing on reducing dependency on external aid.
- d. The trends and amounts of extra-budgetary funds.
- e. The trends and amounts generated by districts.
- f. The form in which the development partners chose to use their aid, that is, among general budget support, sector basket funding, and stand-alone projects.
- g. Predictability of funding by source.
- h. National and global issues likely to positively or negatively affect funding in future.

3.5.8 Analysing the Institutional Arrangements of Education Expenditures

148. In addition to the analysis of the level and composition of public expenditure allocations, it is also necessary to analyse the institutional arrangements that shape allocation and implementation of education policy. This analysis is necessary because the institutional relationships among the main decision-makers strongly influence the allocations as well as implementation of the expenditure program.
149. The PEER must determine: (i) if the institutional processes and incentives for performance are adequate; (ii) if changes in the relationships would improve the allocations and execution on a sustainable basis; and (iii) if to propose institutional reforms accordingly.
150. The PEER should determine whether the effects of any of the following public expenditure management problems are present to cause socially undesirable outcomes:
- a. The tragedy of the commons – which means it is practically impossible to enforce ownership rights and hence control over the use of a product or resource in accordance with the economy-wide expenditure framework. This happens, for example, when government cannot enforce intellectual property rights.
 - b. Information asymmetries and high transactions costs – which tend to cause incomplete definition of the relationship between the expenditures of government and the wishes of citizens and non-government organisations. These problems can only be resolved in a joint decision-making framework characterized by harmonized mechanisms for participation.
 - c. Information asymmetry and incentive incompatibility within the government structure – which can limit success in making the allocation and use of budget funds socially acceptable. For example, the Minister of Education might be politically weak in the Cabinet, or might have a problematic relationship with the Minister of Finance.
 - d. Perverse incentives – which can be created if external agencies or large private political donors can direct funds to NGOs and other groups to undertake activities in the education sector that benefit government but are not included in the national budget.

151. The PEER should determine whether institutional reforms are necessary to resolve these problems and improve expenditure allocations. These issues are best addressed by primary data collection by the PEER Team. Inputs into a questionnaire for this purpose are included in **Annex 8**.

3.6 PRESENTING RECOMMENDATIONS

152. Recommendations should generally be presented based on the integrated scoring of all relevant Heads and Subheads of expenditure within the COFOG. These scores take into account adjustments for transparency, accountability, consensus-oriented, comprehensiveness, fairness and equity, predictability and consistency, and market-enhancing.

153. Consider Subheads of budget allocations aimed at “increasing the supply of infrastructure from 38% to 70% of need in 3 years in specific districts where key exporting firms operate”. Table 3-17 illustrates how the integrated scoring should be represented.

Table 3-15: Integrated measure of Economy, Efficiency and Effectiveness

		Allocation Code or Project				
		0013	0202	0003	0004	0505
Project Description		Infrastructure construction, District 1	Classroom construction, District 2	Infrastructure construction, District 3	Classroom construction, District 4	Classroom construction, District 5
1	Budget	10	20	30	40	50
2	Actual expenditure	8.5	17.8	28	32	48
3	Variance	1.5	2.2	2	8	2
4	% variance	15%	11%	7%	20%	4%
5	Economy of inputs purchased:					
6	Measures of the percentage of budget used	85%	89%	93%	80%	96%
7	Efficiency of inputs purchased					
8	Extent to which specification followed - number of planned work items completed vs number of items planned; or percentage of standards of delivery achieved	80%	70%	85%	90%	95%
9	Extent to which output delivered on time; measured as the % of planned time of delivery	50%	60%	70%	80%	90%
10	Actual output as percentage of potential output	80%	78%	95%	97%	75%
11	Efficiency Score (8+9+10)/2	70%	69%	83%	89%	87%
12	Effectiveness of inputs purchased					
13	Does the infrastructure solve the problem being addressed?	95%	96%	86%	97%	100%
14	Is the best education being provided?	100%	100%	100%	90%	90%
15	What fraction of the underemployed have used the asset as springboard to move into fulltime paid employment?	70%	75%	80%	90%	80%
16	Use rate of infrastructure built?	85%	90%	87%	95%	100%
17	Impact on achievement of targeted growth of effective consumption capacity over 3 years?	75%	65%	16%	12%	90%
18	Effectiveness Score (13+14+15+16+17)/5	85%	85%	74%	77%	92%
19	Overall Score (6+10+16)/3	80%	81%	83%	82%	92%

154. The scores should be followed by a concluding statement about the implications for reprioritizing the expenditures and generating savings in line with government strategy. Similar tables should be constructed for all other key budget objectives, again often best expressed in terms of some percentage of need or demand. For example, the other economic development imperatives might translate to the following objectives:

- a. Increase the supply of human capital from 58% to 88% of need within 5 years.
- b. Improve business climate from an index of 58% to an index of 80% within 3 years.
- c. Improve technical efficiency of exporters from 75% to 95% over 5 years.
- d. Improve research and development capacity for growth of scale efficiency and export competitiveness among exporters 10% of need to 25% of need by 2020.

155. Once integrated scores have been presented for all Heads and/or Subheads, the overall recommendations can be assembled as illustrated in Table 3-18. Information should be presented on the target groups, the extent of coverage planned, the integrated scores, the proposed actions and the amount of savings achieved for the upcoming budget year.

COFOG Categories	Target Group of Poor or Vulnerable	Planned Coverage	Integrated Score on Economy, Efficiency, Effectiveness	Proposed action, taking into account good governance indicators	Savings (\$ million)
Allocations for Pre-primary and primary education					
Early Childhood Development Centres	Children under 5	55%	75	-10	3
Pre-primary Schools	Ages 3-6 years	100%	65	Re-evaluate; 5% increase	-2
Primary Schools	Age 5-11 years	100%	85	no change	0
Extra lessons	All children from disadvantaged and rural communities	100%	65	25% increase	-4
Special care of dependent children	Dependents of the elderly	100%	68	-50%	5
Social and education research	All school system	100%	78	-5%	14
Allocations Secondary education					
Vocational training	All students	100%	83	10% increase	5
On-the-job skills training	Youth of working age without a job but possessing suitable academic qualifications	100%	42	Eliminate	40
Special scholarship programme for entrepreneurs	Students aiming to become entrepreneurs in selected export industries	100%	65	Re-evaluate; reduce 60%	44
Post-secondary non-tertiary education	All secondary school students	55%	90	40% increase	22
Total					207
Target Savings					300
% of Target Savings Achieved					69%

3.7 STRUCTURE OF THE PEER REPORT

156. In general, the PEER Report should have the following structure:

Executive Summary

Introduction

Defining the boundaries of public education expenditure

Context of the PEER

Policy and regulatory framework for

- a. The whole public sector
 - b. The education sector
- Institutional arrangements of public spending
- a. The main actors
 - b. The relationships among the main actors
- Recent reforms in the
- a. Public sector generally
 - b. Education sector
- Development assistance through EPA and other arrangements
- a. Volume
 - b. Sources
 - c. Instruments
- Public expenditure in Country
- a. All expenditures
 - b. All education expenditure
 - 1. Ministry of Education
 - 2. All other Ministries
- Lessons from internal budget analysis and audits

The public education expenditure review

Overall estimate of public education expenditure, Ministry of Education:

- a. Expenditure by all key subsectors (COFOG/ISIC)
- b. Expenditure by selected agencies, identified within COFOG/ISIC subsectors.
- c. Sources of funding:
 - 1. Domestic resources
 - 2. International resources
 - 3. Expenditure analysis by sectoral area:
- d. Trends, share, rate of growth for each broad source of funding

Contribution of the education resources to national revenues during the study period (2013 – 2015).

The utilisation of education allocations relative to specific objectives and potential savings from improving:

- a. Economy
- b. Efficiency
- c. Effectiveness

Case study 1: Fiscal decentralisation for education

Case study 2: Institutional capacity for education sector management and budgeting

Major lessons of the PEER

Recommendations of the PEER

Conclusions and summary

References

Annexes

Standard detailed tables showing

- a. Budget,
- b. Actual and committed expenditure
- c. Revenue
- d. Notes on how various estimates were arrived at, including definitions, assumptions, and data sources

Standard tables from institutional survey data

COFOG subsector summaries (maximum 5 pages each) focusing on specific issues relevant to the education subsector)

Summary on issues related to education expenditures at decentralized level

List of persons interviewed

4 CONDUCTING A PUBLIC HEALTH EXPENDITURE (PHER)

157. This chapter shows how to conduct a public health expenditure review (PHER). The issues covered are the following:

1. Determining what is to be done and why for a PHER
2. Preparing to carry out the PHER
3. Defining the limits of a PHER
4. Framework for analysing public expenditure on health
5. Finding relevant data and information for a PHER
6. Analysing funding sources and modalities for health
7. Framework for analysing the institutional arrangements of health expenditure
8. Complementary data collection tools
9. How to write the PHER report

4.1 DETERMINING WHAT IS TO BE DONE AND WHY

158. The first step in conducting a PHER is to know what it is, why it should be done, and how it fits into budgeting of recurrent and development programs.

4.1.1 What is a PHER

159. Public health expenditures can be defined as expenditures by public institutions to purchase inputs to be used to produce health outputs and outcomes. Box 4.1 describes healthcare as a production process.

160. The role of the expenditures is to implement the government's health policy. Regular analysis of public health expenditures contributes to fulfilling this role and the PHER is one tool for that purpose.

The health care sector is defined as a socio-economic sector that produces additional health for its patients, which is to say, purchasers and users of healthcare services, including businesses making provisions for staff and its agencies.

The inputs are doctors, nurses, allied professionals and support staff; assets such as hospital buildings, nursing homes, related plants, medical equipment and other facilities, and a host of intermediate inputs.

The health outputs generate outcomes such as patient satisfaction and comforts. They can be defined in quality-adjusted terms such as length of life and mortality, the prevalence and prevention of diseases and illness, and minimization of suffering and impairment in the event of illness.

Production is organized and managed by a network of social institutions, private physicians and allied practitioners, NGOs, and other private providers including health insurance companies, and government, in particular the Ministry of Health, local government and other government agencies providing regulatory and justice services.

4.1.2 Main issues to be addressed in a PHER

161. The main issues to be addressed in a PHER are: (i) the size, growth and share of the allocations under the various classes of expenditure; and (ii) the use and management of the allocations to produce their outputs and outcomes.

162. The main elements of a PHER are set out in Box 4.2. Items 1 to 4 in the Box relate to analysis of allocations in comparison with those required by the medium-term strategic framework of government. Items 5 and 6 relate to analysis of the management of the allocations.

4.1.2.1 Analysis of Allocations

163. Here, the PHER should do the following analyses of allocations:
- a. Analyse the allocation of expenditures to the health sector, healthcare activities and programs.
 - b. Measure the cost of healthcare policy priorities and compare with the spending window made available by the Ministry of Finance.
 - c. Identify low-priority healthcare activities and programmes that could be cut to make room for healthcare programs with a higher priority or reallocated to other sectors.
 - d. Identify the scope for increasing the resources available to the health sector. This is an aspect of health sector revenue forecasting.
 - e. Identify possible policy inconsistencies in budget allocation. This is normally done by:
 - i. Comparison of allocations with international practice.
 - ii. Analysis of allocations across the locations or administrative districts of the country.
 - iii. Analysis of trends in allocations over time, in terms of their shares, levels and growth.

4.1.2.2 Analysis of the management of expenditures in healthcare programmes

164. Analysis of the management of the health sector allocations involves analysis of the following:
- a. The rationale for the activities and programs of the sector
 - b. The integration of capital and recurrent expenditures, with specific reference to the comparative rates of growth of these components.
 - c. The degree of economy of the expenditures, with specific attention to the institutional matters that arise and the quality of the procurement process used to spend the funds allocated.
 - d. The efficiency of healthcare activities and institutions.
 - e. The effectiveness of healthcare programs and institutions.
 - f. Problems encountered (e.g. data quality, non-cooperative departments).

4.1.3 Why the PHER is done – goals and objectives

165. The general goal of the PHER is to provide information that guide government about how to make healthcare expenditure more economical, efficient or effective in its current use or redirect the expenditure to better uses.

The main elements of a PHER are as follows:

1. Overview of allocations and trends in public revenues from all sources, domestic revenues and foreign sources.
 1. Trends in allocations and forecasts of allocations
 2. Trends in revenues from all sources, and forecasts of revenues
2. Overview of all other expenditure by civil society
 1. Private
 - i. Firms
 - ii. Households
 2. NGOs
3. Analysis of trends in priority given to health expenditure in total budget.
4. Analysis of trends in priority given to budget classified by purpose or activity within the health sector budget.
5. For each class, and related objectives, analysis of the following aspects of the expenditures
 1. Economy
 - i. Outline the differences in actual disbursements and expenditures versus allocations.
 - ii. Link the differences to policy objectives.
 - iii. Evaluate performance by comparison with regional and international standard of 10% variance, or less.
 2. Efficiency
 - i. Analyse the input mix
 1. Recurrent vs capital
 2. Capital versus labour and social protection
 - a. Salary versus non-salary
 3. Management overheads versus cost of actual service delivery
 - ii. Analyse the output mix
 - iii. Relate the two – output/input/efficiency
 - iv. Compare with international best practice if information available
 3. Effectiveness
 - i. Compare current and projected benefit-costs, if improvement is possible.
 - ii. Compare with regional and international standards if possible.
6. Identification and highlighting of areas for savings from improvement in
 1. Economy
 - i. Compare current performance and projected performance, if improvement is possible.
 2. Efficiency
 - i. Compare current and projected unit output costs, if improvement is possible.
 3. Effectiveness
 - i. Compare current and projected benefit-costs, if improvement is possible.
 - ii. Compare with regional and international standards if possible.
7. Evaluation of autonomous and semi-autonomous government agencies on the same basis as above.

166. Based on the Scoping Studies, these goals should be tied to the following specific objectives of the PHER:

1. To establish baseline data and a framework for analysing healthcare expenditure.
2. To analyse how healthcare expenditure conformed to budgets and the medium-term strategies of government in the context of balance of payments and budget deficits.
3. To evaluate the economy, efficiency and effectiveness of healthcare expenditure, and any related potential for savings.
4. To assess how to position future healthcare expenditure in the context of the growing demand for policy reforms by international partners.
5. To monitor the allocation expenditure to deliver needed healthcare services to the poor and vulnerable.
6. To address the availability of revenues to meet the resource requirements of the health sector.

4.1.4 How the PHER fits

167. As clarified in **Annex 1**, the PHER is a counterpart of the internal budget analysis and audits done by the Ministry of Health and its allied institutions. It should be done before the next year's budget preparation begins. If done at another time, the findings should be disseminated as soon as they become available.

4.1.5 Delivering the goals and objectives

168. To deliver the goals and objectives of the PHER, the PHER Team must have some basic understanding of:

- a. The details of the type of analysis to be done.
- b. How the analysis will inform the authorities in the Health Ministry, the Ministry of Finance, and other stakeholders to make appropriate decisions on how to redirect expenditure or make its current use more optimal.

4.1.6 The type of analysis to be done in the PHER and the guidance provided

169. The PHER team should provide answers to the following questions about government's revenues and expenditures:

a. Revenues: How much money does the government have to spend? Where does it come from? How much of it is generated by the country's tax base? How much of it comes from external funds?

b. Expenditures: What has the government spent its resources on previously? What sort of public services have been provided with the previous budgets? Which sectors have good service provision and which sectors need improvement? Who are the main beneficiaries of government spending? For example, is it the rich or the poor; women or men; rural or urban areas? Are the benefits spread equitably? Do the beneficiaries have equal access to services? Are there disadvantaged groups that need special attention? Have the services provided resulted in improved living conditions including poverty reduction?

BOX 4-3: PRIORITISING HEALTH AND MARKET FAILURE

When identifying low-priority activities and analysing the management of public education funds, the impact of market failure must be considered.

Market failure is pervasive in the health sectors of the partner economies. There are necessary investments that will not be undertaken by the private sector for various reasons:

- i. Some public health outputs are part of the commons.
- ii. Some healthcare investments exceed the capacity of the private firms.
- iii. Some health investments exceed the capacity of the governments themselves, and may require international cooperation. Management of epidemics through PAHO is a good example.

They are nevertheless necessary priority investments because of their externalities, hence their impact, on the performance of the activities and agencies of the health sector and the wider economy.

170. The answers will assist the government in determining the potential, if any, for increasing the government's financing envelope through taxes, local and foreign borrowing, and foreign grants/gifts.
171. The answers will be derived partly from revenue and expenditure forecasting. **Annex 3** presents a set of methods that can be used for revenue and expenditure forecasting. The main methods considered include: (i) qualitative forecasting and judgement forecasting; (ii) moving average methods, including ARIMA; (iii) exponential smoothing and Holt-Winters methods; (iv) single equation regression forecasting; and (v) macroeconomic and GDP-based forecasting. Microsimulation models are summarized for completeness.
172. The forecasts will also inform the government about the adequacy of the current planning and budgeting framework and process. Specifically, they will indicate whether:
- a. The revenues are closely linked to its set of priorities and whether the planning priorities are reflected in the budget?
 - b. The public service has the capacity to utilize the budgets allocated.
 - c. Capacity-building should be initiated.
 - d. Some public expenditures should be shifted to other government priorities or to the private sector.

4.2 PREPARING TO CARRY OUT THE PHER

173. A successful PHER requires good planning. In preparing to carry out a PHER, the first step is preparation of terms of reference (ToR) or scope of work for the PHER Team that will do the review. The second step is to recruit a PHER Team with suitable qualifications to execute the ToR. **Annex 4** provides an annotated outline of a ToR that can be adapted for the PHER Team, since the elements are illustrative. The level of detail in the final ToR is related to the depth of the sector PHER.
174. The introduction of a PHER in each country should be promoted by a sensitization initiative to generate a wide understanding of the processes and the responsibilities it brings. This can be done through appropriately timed and located workshops.

4.2.1 Defining the Limits by Classifying the Activities and Programs of Health

175. In defining the boundaries of the PHER, the PHER Team should identify the specific health expenditures to which the assignment refers. The allocations must be grouped conveniently for this purpose. The United Nations Classification of the Functions of Government (COFOG) provides the main system on which the partner countries rely when grouping and defining health expenditure for a PHER (**Annex 5**). COFOG classifies expenditure by purpose of the transactions undertaken, whether the expenditure is final consumption expenditure, intermediate consumption, gross capital formation, and capital and current transfers by general government. ISIC classifications (**Annex 6**) must be used when analysing activities.

4.2.1.1 COFOG Classifications for Health

176. The main classifications of health transactions are:
- a. Medical Products, Appliances and Equipment
 - b. Outpatient Services
 - c. Hospital Services
 - d. Public Health Services
 - e. R&D Health
 - f. Health, n.e.c., i.e., not classified under a-e above.

4.3 THE FRAMEWORK FOR ANALYSING PUBLIC EXPENDITURE ON HEALTH

177. According to the Scoping Studies, all of the partner governments want to use the PHER as a tool to improve public expenditure management. Their main focus are the following three areas: (i) macro-economic fiscal discipline; (ii) priority setting, that is, ensuring that resources are allocated and used to deliver the priorities of the government; and (iii) economic, efficient, and effective use of the resources.

4.3.1 Macroeconomic fiscal discipline

178. Given the existence of budget and external deficits documented in Chapter 2, the partner governments must control total expenditure. The controls must be designed to prevent growth in the deficits as a share of GDP, and related growth in the share of tax revenues and expenditure in GDP. Consequently, the PHER must review ways to control each of the following aggregates: (i) total revenue; (ii) total spending; (iii) the deficit (or borrowing requirement); and (iv) the public debt.

179. The flip side of this obligation to identify ways to control revenues, expenditures, deficits and debt is the obligation to identify new priorities that will lead to use of foreign exchange with maximal efficiency. In particular, this means growing apparent consumption per dollar of imports as fast as possible, whatever the state of the budget.

180. To assist government in allocating resources efficiently and in using the allocations economically, efficiently and effectively, the PHER must look at the strategic and long term plans to identify what government wants to accomplish and look back to examine the results of past actions.

4.3.2 Searching for Opportunities to Improve Economy, Efficiency, and Effectiveness

181. Within the COFOG, the search begins with ‘infrastructural expenditures’ that generate goods and services for the commons and can only be addressed adequately by government. The main class in the COFOG is public health and preventive services. They must be accorded the highest priority, since their neglect will have the greatest impact on the largest number of persons, especially the poor.

182. For example, the foundations of the health status of a population are rooted in the prevention of disease, at the heart of which is the immunization of children and other persons at risk and the guarantee of sound nutrition for both groups.

183. Next in order of priority are allocations to increase basic financial access that establishes broad foundations for healthcare. These include funding to support development of health insurance schemes with possible cost-sharing, and with waivers that target the poor as well as grants, loans and subsidies to support applied health research and experimental development by research institutes and universities.

184. Table 4-1 illustrates how the COFOG allocations should be documented for use in the PHER. Looking back, the planned expenditure for the strategy should be matched to the actual expenditures of the past as part of the interpretation of what was achieved, thereby making the current strategy the standard of assessment of the past. Table 4-2 complements this perspective with information on the expected coverage for both poor and non-poor.

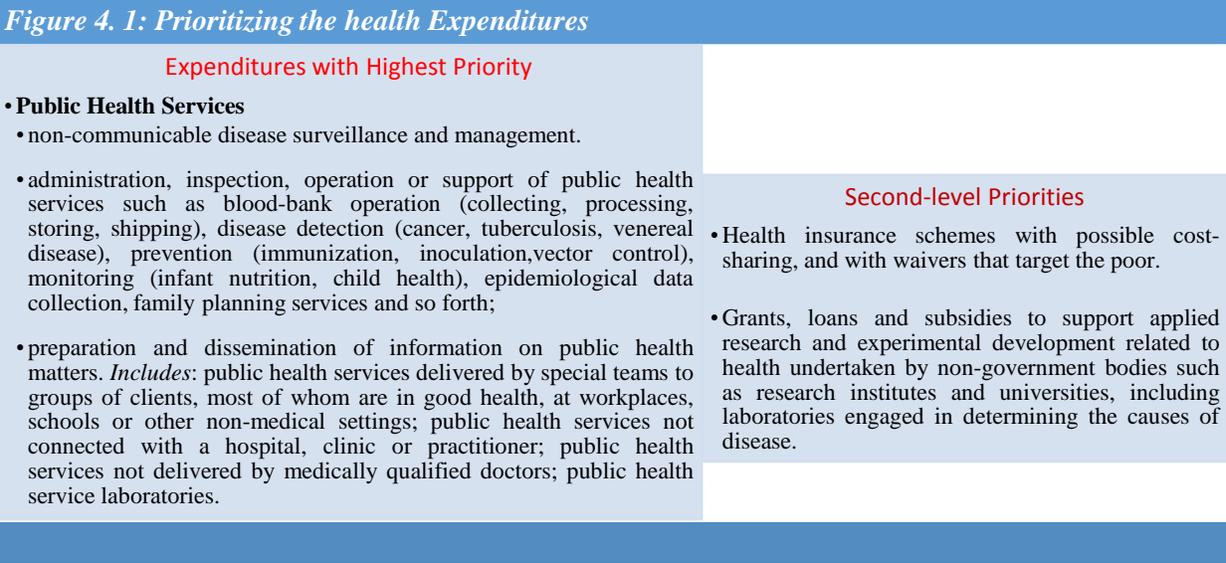
Table 4-1: Programs to Address Health Challenges and Risks

Program	Planned Expenditure 2014	Actual Expenditure 2013	Adjustment
Increased Coverage / Interaction with Facilities			
Improved Quality of Healthcare			
Maternal and Child Nutrition			
Maternal and Child Health			
Family Planning and Reproductive Health			
General Poverty Reduction			
Free Access to Health Services			

Table 4-2: Coverage of Health Programs to Address Health Risks of Country

Category	Coverage			% Change 2012-2013	% Change 2013 -2014
	2012	2013	2014		
Poorest	100	200	300	100%	50%
Poor	145	246	356	70%	45%
Non-poor	165	266	378	61%	42%
% of Population covered	20	30	40	50%	33%

185. In general, these priorities reflect attempts to address market failure. Figure 4.1 provides examples of the prioritization.



186. The results of past expenditure are evident in a variety of records to be documented by the PHER Team. For example, basic health policy must address the protection of the unborn and infants and should be monitored for the review years. Successful implementation of sound policy results in well-nourished children (Table 4-3) and low mortality rates (Table 4-4) throughout the country and over time. It also tends to minimize and respond adequately to the challenges of the physically and mentally challenged. Table 4-5 illustrates how this variable should be analysed to gauge the scale and targets of the obligations of the health system.

Table 4-3: Undernutrition among children (<5 years) (Height for Age) various years, by location (%)

Year	District	District	...	District
2010	29	15		17
2012	21	12		10
2014	15	10		7

Table 4-4: Maternal, Infant and Child Mortality rates, selected years

Category	2012	2013	2014
Maternal, per 1000 live births	50	40	30
Neonatal (<28 days), per 1000 live births	6	5	4
Postnatal (28 to 12 months), per 1000 live births	5	4	3
Infant (<12 months), per 1000 live births	5	4	2
Child (<5 years), per 1000 live births	12	8	7

Table 4-5: Prevalence of Disability, by age group (%)

Age Group	Female	Male	Total
6-9	2	3	5
10-11	3	3	6
12-16	2	3	5
17-19	2	3	5
20-24	2	3	5
25-29	2	3	5
30-54	21	31	52
55-59	22	33	55
60-74	24	34	58
75-79	26	34	60

A sound health strategy, adequately implemented, also inspires belief in the quality of the system and confidence in the public to use the facilities provided. Furthermore, the facilities must be accessible to the users. Table 4-6 to Table 4-8 illustrate how the PHER should look back at some of the outcomes of past policies, from a quality and access standpoint. The rate of utilization of facilities, the reasons for not using them, and the distance of residence from available facilities are all linked factors that should be considered in evaluating past performance. **Annex 9** clarifies how poverty should be interpreted for this purpose.

Table 4-6: Comparative Utilization of Healthcare Facilities

Type of Facility	Extreme Poor	Poor	Non-Poor	All (average)
Public	45	47	49	47
Primary	35	35	35	35
Tertiary	10	10	10	10
Private Professional	45	45	45	45
Doctors' Offices	30	30	30	30
Tertiary Care	15	15	15	15
Private Traditional / Self Medication	10	8	6	8
	100	100	100	

Table 4-7: Reasons for ill not seeking healthcare, by welfare status (% of persons not seeking)

Reasons	Extreme Poor	Poor	Non-poor	Urban	Rural
Economic	9	6	5	6	8
Poor quality	9	6	5	6	8
Lack of medicine	9	6	5	6	8
Distance of residence from nearest facility	9	6	5	6	8
Illness not serious	29	26	25	26	28
Self-medication	35	36	35	15	28
Other	9	6	5	6	8

Distance	District 1	District 2	...	District N
<1 Mile	60	50		40
1 to 5 miles	15	10		10
Between 5 and 10 miles	10	30		40
>10 miles	15	10		10

4.3.2.1 Improving efficiency

187. The search for ways to improve efficiency involves two steps. The first step is to assess whether resources are allocated to the ministries, agencies, and activities in accordance with the strategic objectives of government. The second step is to assess whether, once allocated, the resources are used with maximal technical efficiency and promotes scale efficiency if necessary, and to adjust the use accordingly.

188. Each aspect of the efficiency analysis is conducted for every key class selected under the COFOG, and for all selected agencies under each class. In each case, analysis is done of the utilisation of allocations to improve allocative efficiency, technical efficiency, and scale efficiency

4.3.2.1.1 Improving allocative efficiency

189. Here, the PHER Team examines the allocations of the sectors, sector activities or agencies to see if gains in the value of outputs can be achieved by shifting resources from current or previous priorities to new priorities.

190. To assist with improving allocative efficiency, the PHER Team must receive from the government, in particular the Ministry of Finance and the Ministry of Planning, the new priorities and expectations of output that the PHER must use when examining the past allocations. The broad allocations as well as the details are needed for comparison of actual allocations to the strategic framework. If no specified strategic framework is available, the PHER Team should utilize data from comparable countries.

191. Table 4-9 illustrates some of the comparative analysis that can be done at the aggregate level. Broad allocations should either be in line with the strategic framework of government or the best standards of comparable countries. Outcomes should also be in line with the expectations of the government’s strategy and the PHER Team should also consider these when looking back at past achievements. Household expenditure on the healthcare system should also be in line with the strategic plans and projections of government and should be documented for that purpose. Table 4-10 suggests that a good way to proceed is to consider expenditure by each consumption class in the society.

	Antigua and Barbuda	Barbados	Belize	St Kitts & Nevis
Expenditure % GDP	5	4	3	5
Government % of GDP	5	5	7	9
Private % of GDP	7	5	7	9
Social Security % of GDP	25	24	23	12
Private (Pre-paid) Insurance % of GDP	2	4	5	6
Per Capita Health Expenditure	\$122	\$132	\$142	\$152

Category	Consumption Status (Quintiles)				
	Lowest	2	3	4	5
Medicine	84	81	77	78	79
Medical Consultations / Doctor's Visits	12	11	15	9	8
Laboratory Tests	2	2	5	3	4
Hospitalization	0	0	0	2	3
Private Health Insurance	0	0	0	6	3
Other	2	6	3	2	3
All	100	100	100	100	100

192. Then, at the level of the Subheads of expenditures, the PHER Team must assess the actual outputs of the current allocations and compare them with the new target outputs and the projected outputs of the allocations to see if gains in output can be generated and the value of the gains from a shift of the resources. The value of the gains should be measured and ranked in financial terms. Table 4.11 sets up a simple scheme for the required analysis. It emphasizes that the gap between the actual allocations and the strategic requirements must be analysed, not merely identified. Comparison of the gains shows that net savings can come from reallocation of resources to maternal health.

Allocation	Actual or projected output	Past priorities	Match	New priorities	Projected increase in output for new priorities	Action to achieve new priorities	Expected gain from action
\$6 million allocated to vector control	5% reduction in the population of insect vectors	10% reduction in the population of insect vectors	Gap of 25% above the requirements of the strategic framework; gap of 50% in expected outcomes	Allocations adjusted to achieve 15% reduction in the population of insect vectors	200% increase in the rate of reduction of population of insect vectors	Improve procurement; faster purchase of vector control chemicals	12% increase in the rate of reduction of insect vector population; \$2 million dollars saved in hospital expenses for treatment of Dengue
\$10 million allocated to improving maternal health	10000 participating pregnant and lactating women	9988 participating pregnant and lactating women	Allocation in line with expenditure framework; no significant output gap	Allocations adjusted to achieve 20000 participating pregnant and lactating women	100% increase in number of participating pregnant and lactating women	20% growth in program expenditure to improve community-based information and communication program targeting all women	15000 participating pregnant and lactating women; savings of \$40 million from reduced demand for treatment of malnourished and sick children at hospitals and primary care centres.

193. Once the analysis of allocative efficiency is complete, the PHER Team must turn to the analysis of the utilization of the resources, aimed at improving economy, general productive efficiency, and effectiveness. Productive efficiency refers to technical efficiency and scale efficiency. **Annex 7** presents a set of methods that can be used to measure the economy, efficiency and effectiveness of public expenditures in the partner countries, with identification of potential savings as a by-product.

194. The methods include in-depth analysis of economy as a substitute for the analysis of efficiency and effectiveness when financial accounting data are not available, supported by data collected with a questionnaire developed from **Annex 8**.

4.3.2.2 Improving economy

195. Here, with prioritization guided by Figure 2.1, the PHER Team examines the allocations of the sector activities and agencies to see if funds allocated are used in accordance with the priorities set out in the budget, following all relevant procurement procedures.

196. To assist with improving the economy of expenditures, the PHER Team must receive from the government, in particular the Ministry of Finance and the Ministry of Planning, the new priorities and expectations of output that the PHER must use when examining the past allocations.

197. Then, the PHER Team must assess the actual outputs of the current allocations and compare them with the new target outputs and the projected outputs of the allocations to see if gains in output can be generated and the value of the gains from a shift of resources. Table 4-12 sets up a simple scheme for easy reference.

Table 4-12: Analysis aimed at improving economy of health expenditures

Allocation	Actual amount of allocations spent	Past priorities	Performance gap	New priorities	Projected increase in output for new priorities	Action to achieve new priorities	Expected gain from action
\$10 million allocated to vector control	85% of allocation spent	10% reduction in the population of insect vectors	Gap of 15%; below international standard performance of 10% (above or below)	15% reduction in the population of insect vectors	200% increase in the rate of reduction of population of insect vectors	Improve procurement; faster purchase of vector control chemicals	Reduction of expenditure gap to 12% of budgeted expenditure; \$2 million dollars saved in hospital expenses for treatment of Dengue
\$20 million allocated to improving maternal health	105% of allocation spent; required virement of funds	9988 participating pregnant and lactating women	No significant Gap; 5% above target; good by international standards.	20000 participating pregnant and lactating women	100% increase in number of participating pregnant and lactating women	20% growth in program expenditure to improve community-based information and communication program targeting all women	100% of allocations spent; about 15000 participating pregnant and lactating women; savings of \$40 million from reduced demand for treatment of malnourished and sick children at hospitals and primary care centres.

198. Additional performance (gap) indicators to be used in assessing the economy of budget implementation are the following:
- a. Timeliness in meeting budget target
 - b. Capacities of the action units (agencies or programs/projects) for planning, budgeting, implementation and monitoring.
 - c. Commitment of action units to change in the quality of healthcare.
 - d. Commitment of action units to use of healthcare to change poverty levels.
 - e. Degree of beneficiary satisfaction with the action unit's rate of expenditure on inputs to deliver health services.

4.3.2.3 Improving technical efficiency

199. Here, with reference to the prioritization in Figure 2.1, the PHER examines the inputs of the sector agencies or activities and their outputs, in order to: (i) measure the competence with which inputs are converted to outputs; and (ii) see if gains in the value of outputs can be achieved by improving technology and managerial efficiency from current or previous levels to new levels consistent with new priorities.

200. Table 4-13 sets up a simple scheme for easy reference. To assist with improving technical efficiency, the PHER Team must receive from the government, in particular the Ministry of Finance, a clear commitment to pursue avenues for increasing technical efficiency even if some underemployed or inappropriately employed labour will be displaced to the private sector or to more efficient employment in the public sector.

201. Improvement of technical efficiency requires the PHER Team to ensure that up to date capital assets and competent individuals are engaged in the public service. Such individuals will have to be attracted through merit-based recruitment, adequate performance-based compensation, and merit-based promotion system.

Table 4-13: Analysis aimed at improving technical efficiency of health expenditures

Activity or expenditure purpose	Value of input 1	Value of input 2	Current output	Technical efficiency level	Desired technical efficiency	Action to achieve new priorities	Gain from action
\$10 million allocated to vector control	25 trained public health inspectors and 15 vector control staff in action unit	\$20 million of assets provided in transport facilities, masks, and the like; \$10 million of chemicals	5% reduction in vector population; compared to maximum possible of 20% reduction; assuming use of all budget	5%/20% or technical efficiency of 0.25.	Targeted 0.75 or higher	Adjust allocation; upgrade management; increase number of vector control specialists from 20 to 25; reduce number of trained public health inspectors to 15	Increase rate of reduction of vector population to 17%; Increase technical efficiency ratio from 0.25 to 0.85; save \$5 million on the salaries of trained public health inspectors
\$20 million allocated to improving maternal health	Number of trained medical professional hired for program	Value of assets devoted to program	9988 participating pregnant and lactating women; compared to maximum of 12000 possible with allocation	9988/12000 or 0.83	Targeted 0.95 or higher	Upgrade the quality of training for nurses; advertisement to promote benefits of visiting community clinics; slightly reduce frequency of visits by medical doctors to stay within budget.	Number of participating women increased to 11787; Increase in technical efficiency to 0.98; savings of \$20 million on the cost of caring for malnourished and sickly children in community clinics and central hospital.

202. Among others, the following inputs should be considered when measuring technical efficiency in health:
- a. Transport, by distance travelled to clinics and mode of transport
 - b. The number of tertiary-trained nursing staff
 - c. The number medical doctors involved in research and publication per 1000 population
 - d. Average salary of medical doctors; of nursing staff
 - e. The number of support staff and allied medical professionals
 - f. Average salary of support staff; allied medical professionals
 - g. Index of quality of assets in clinics and hospitals
203. Among others, the following outputs should be considered when measuring efficiency:
- a. Immunization Coverage of Children 6-59 Months and Birth Registration, by type of immunization
 - b. Prevalence of Self-Reported Chronic Illness, by Type of Illness
 - c. Prevalence of Certain Lifestyles among Young Adults (Smoking, etc), by Lifestyle disease.
 - d. Prevalence of Disabilities, by type of disability
 - e. Prevalence of Injury in Reference Period (say 3 weeks), by duration of the injury and severity of injury
 - f. Infant (under 1 year) mortality rate
 - g. Child (under 5) mortality rate
 - h. Maternal mortality rate
 - i. Malnutrition among Children 0–59 Months
 - j. Malnutrition in population Above Age 59 Months
 - k. Use of Public/Private Sector Services by injured or sick during reference period, by type of service used (public vs private); preference for service used, and distance of residence from healthcare facilities
 - l. Purchase of medication and hospitalization during reference period, by prescription status of the medicine (over the counter vs prescription)
204. Quantitative measurement of technical efficiency can be done, as described in **Annex 7**, supported by data collected with **Annex 8**. The method chosen depends on the data available. The main methods described are: (i) the non-parametric DEA, which relies mainly on linear programming or the differential calculus; and (ii) the parametric method of stochastic frontier analysis, which is a statistical method that estimates model parameters with known precision. In some contrast to the parametric methods, the DEA methods are very flexible and can accommodate a wide range of information about inputs and outputs or outcomes. For the decision-making units in healthcare, inputs can include items such as the number of nurses, the number of specialist doctors, the amount of square feet of space used to undertake activities, and the expenditure on services that are outsourced. Outputs can include items such as the number of patients served, the number of patients cured of specific ailments, patient satisfaction, or even the number of research papers published by medical interns.

4.3.2.4 Improving scale inefficiency

205. Here, the PHER examines the scale of the sector agencies or activities to see if gains in the value of outputs can be achieved by increasing the overall scale of employment of both inputs in some combination, consistent with the new priorities. Table 4-14 sets out a simple scheme for easy reference.

206. To assist with improving scale efficiency, the PHER Team must receive from the government, in particular the Ministry of Finance and the Ministry of Planning, a clear commitment to pursue avenues for increasing scale efficiencies even if some institutions and agencies have to be merged and even if some of the output must be exported.

207. Improvement of scale efficiency requires the PHER Team to ensure that growth of output is relatively faster than growth of employment of the overall value of capital assets and the work effort of competent individuals, while the capital assets are growing the fastest of all.

Table 4-14: Analysis aimed at improving scale efficiency

Activity or expenditure purpose	Value of labour input	Value of capital input	Current outputs	Scale efficiency level	Desired scale efficiency	Action to achieve new gains	Gain from action
\$ allocated to vector control	25 trained public health inspectors and 15 vector control staff in action unit	\$20 million of assets provided in transport facilities, masks, and the like	5% reduction in vector population; compared to maximum possible of 20% reduction; assuming use of all budget	Output/input ratio constant as value of inputs increased at a fixed rate	Output/input ratio growing as value of inputs increased at a given rate	Adjust input allocation; both inputs increased but capital assets increased faster than labour	Output/input ratio growing faster than inputs as overall value of both inputs increased at given rate but with capital assets increasing faster than labour
\$ allocated to improving maternal health	Number of trained medical professional hired for program	Value of assets devoted to program	9988 participating pregnant and lactating women; compared to maximum of 12000 possible with allocation	Output/input ratio constant as value of inputs increased at a fixed rate	Output/input ratio growing as value of inputs increased at a given rate	Adjust input allocation; both inputs increased but capital assets increased faster than labour	Output/input ratio growing faster than inputs as overall value of both inputs increased at given rate but with capital assets increasing faster than labour

208. Measurement of scale inefficiency is normally done in conjunction with the main methods of measurement of technical efficiency described in **Annex 7**. Estimates can be generated from both DEA and the stochastic frontier analysis.

4.3.3 Improving Effectiveness

209. Effectiveness analysis is done for each key purpose under the COFOG classifications, and for selected agencies under each class. In each case, analysis is done of the utilisation of health allocations to improve cost effectiveness and development effectiveness, which should focus mainly on the ratio of apparent consumption to gross imports. Sometimes, the analysis must be qualitative because of the lack of data on which to base numerical measures.

4.3.3.1 Improving cost effectiveness

210. In the analysis of cost-effectiveness, the concern is to improve the use of resources to deliver a given benefit. A numerical cost-effectiveness test is a numerical measure of effectiveness computed from an input standpoint. That is, it measures numerically the extent to which input use is minimized while a given output target also delivers targeted benefits or outcomes. Its broad measure is the benefit-cost ratio. However, if numerical indications of the desired outcomes are available along with numerical measures of inputs, then the DEA methods described in Annex 7 can be used in analysing the effectiveness of resource use.

211. Good examples of measurable outcomes in health are: (i) prevalence of self-reported chronic illness; (ii) Malnutrition among children 0–59 Months; and (iii) use of public health clinics by injured or sick during reference period.

212. Cost-effectiveness test is best applied when benefits are difficult to value or when objectives and outcomes have already been well-defined. It is primarily a technical measure that can be influenced politically. Therefore, the PHER Team must receive from the government, in particular the Ministry of Finance, a clear commitment to accountability and the pursuit of avenues for increasing cost-effectiveness even if some political objectives cannot be met or might have to be changed.

213. Pursuit of cost effectiveness requires managerial autonomy to appraise the work of action units with spending authority. It also requires responsibility to implement the government’s defined expenditure programmes, subject to accountability for performance. Table 4-15 provides a scheme that can be used to analyse cost-effectiveness. It emphasizes the importance of providing qualitative analysis to support numerical reporting.

Activity or expenditure purpose	Size of allocation used up	Current output	Current outcomes	Desired outcomes	Action to achieve new priorities	Gain from action
\$10 million allocated to vector control	All \$ spent	5% reduction in vector population	Reduction in the number of cases of dengue from 10000 to 6000	Reduction in the number of cases of dengue from 10000 to 2000, or 8 cases per \$10,000 spent	Adjust use of allocation; upgrade assets and quality of vector control staff and management	Reduction in the number of cases of dengue from 10000 to 3000, or 7 cases per \$10,000 spent; estimated savings of \$15 million from lowering the number of cases treated in public hospitals
\$20 million allocated to improving maternal health	All \$ spent	9988 participating pregnant and lactating women	Improved health status of 9000 unborn	Improved health for 9 unborn per \$10,000 spent on program	Adjust use of allocation; upgrade assets and quality of nursing staff and management in community clinics	Improved health status for 12 unborn per \$10,000 spent on program; estimated savings of \$12 million from lowering the number of children aged 1-59 months with various health challenges.

214. The following indicators should be considered when measuring the benefits gained. They should be analysed by age group, gender and location, school type, and welfare status (decile of consumption/income):
- a. Immunization Coverage of Children 6-59 Months and Birth Registration, by type of immunization
 - b. Prevalence of Self-Reported Chronic Illness, by Type of Illness
 - c. Prevalence of Certain Lifestyles among Young Adults (Smoking, etc.), by Lifestyle disease.
 - d. Prevalence of Disabilities, by type of disability
 - e. Prevalence of Injury in Reference Period (say 3 weeks), by duration of the injury and severity of injury
 - f. Infant (under 1 year) mortality rate
 - g. Child (under 5) mortality rate
 - h. Maternal mortality rate
 - i. Malnutrition among Children 0–59 Months
 - j. Malnutrition in population Above Age 59 Months
 - k. Use of Public/Private Sector Services by injured or sick during reference period, by type of service used (public vs private); preference for service used, and distance of residence from healthcare facilities
 - l. Purchase of medication and hospitalization during reference period, by prescription status of the medicine (over the counter vs prescription)
215. Additional indicators to be used in assessing cost effectiveness are:
- a. Timelines for delivering outcome target.
 - b. Capacities of action units for planning, budgeting, implementation and monitoring
 - c. Commitment of action units to improve healthcare quality
 - d. Commitment of action units to use of healthcare to reduce poverty and inequality

4.3.3.2 Improving development effectiveness

216. Development effectiveness applies when, for a given health activity, the partner government gives the highest priority to increasing export competitiveness and growing exports or to other cross-cutting internationally-agreed development goals. Regarding exports, the most basic measure is the difference between the value of output per dollar of imports and the value of exports per dollar of imports. Table 4-16 contains a simple scheme for the required analysis of each allocation.
217. Improvement of development effectiveness from outlays involves reallocations to improve export-competitiveness, even when pursuing some internationally-agreed development goal. Development-effectiveness requires the PHER Team to appraise all expenditure programmes for their orientation to achievement of increased export competitiveness, taking into account the dependence of all economic and social outcomes on health outputs and outcomes.

218. Pursuit of development effectiveness requires managerial autonomy to use contribution to export-competitiveness to appraise the work of action unit with spending authority, including specific projects and agencies receiving government funding, and responsibility to implement the government’s defined export growth program.

Table 4-16: Analysis aimed at improving development-effectiveness

Activity or expenditure purpose	Size of allocation	Current outputs	Current exports	Current Development effectiveness	Target Development Effectiveness	Action to increase development effectiveness	Gain from action
Hospital Services (Hospital activities)	\$10 million spent on imported inputs to deliver services	Valuation of services to all patients using hospital services at the same rates as charged to foreign patients using services	Revenues from services sold to foreign patients using hospital services	$1 + \frac{\text{value of all services exports}}{\text{imports}} - \frac{\text{imports}}{\text{imports}} = 1 + 3.3 - 2.4 = 1.9$	Increase development effectiveness to 2.4 during year, while increasing $\frac{\text{health exports}}{\text{imports}}$	Increase quality of health care professionals and hence quality of services delivered by health sector; increase foreign marketing of health services in tourism origin markets	Increase of development effectiveness to $1 + 4 - 2.8 = 2.2$; increase of foreign exchange earnings by \$20 million; increased value and quality of service to local market.
R&D health	\$20 million spent	Number of medical students publishing research papers in international journals	Actual rate of growth of referencing of local medical authors.	Actual growth of local intellectual property rights-based exports from health sector as a ratio to total exports	Increased development effectiveness over previous year	Increase allocation to support international collaboration by local health sector researchers.	Increase in intellectual property rights exports by health sector researchers; impact on export competitiveness in other sectors. Development effectiveness index of 2.7

219. Additional indicators to be used in assessing development effectiveness are:
- Timelines for delivering development outcome.
 - Capacities of action units to plan, budget, implement and monitor
 - Commitment of action units to improve healthcare quality
 - Commitment of action units to use of healthcare to reduce poverty and inequality

220. The PHER Team must be realistic about how long it will take to implement each policy and how long it will take thereafter for the full impact of the policy measure to be felt in the health sector and then in the other sectors of the economy that combine to deliver the desired improvements. It makes a great deal of difference whether an expenditure policy instrument can attain its goals in the budget year, in the medium term or in the long run.

221. If a policy will only be effective in the long run, the PHER Team must consider the likelihood that many other policy interventions will be needed before success is achieved, because other exogenous factors will also intervene to change the conditions and trajectories of the economy and the health sector.

222. The PHER Team and stakeholders will have to consider two distinct time lags due to exogenous forces. The first is the lag between the emerging need for a fresh policy intervention as reflected in the initial conditions and the changing economic path *and* the time when the policymaker recognizes that need. The second is the lag between the time of recognition and the time when the policy intervention is initiated. Administrative delays and the need for legislative action (such as the budget expenditure and tax legislation) can be important causes of such time lags.

223. The PHER Team must also consider the endogenous lags, which are lags that depend on the way the economy works and the capacity of the export-competing units in the health sector to adjust their business practices. If health is an export-competing sector, as is emerging in the health sector of Barbados, then the PHER Team must take careful note of how long it takes to change its course. A related question is, how long does it take for the policy intervention to work its way through the economy in general *and* through the health sector in particular, before its full impact is realized in terms of changes in the export rate and export competitiveness? This will require forecast of the overall trajectory followed by the health sector *and* the economy under the influence of the policy.

4.4 ANALYSIS OF NECESSARY CONDITIONS FOR ACHIEVING PHER GOALS

224. In addition to conducting the search for improvements in economy, efficiency and effectiveness, the PHER Team should analyse the extent to which budgeted public expenditure is transparent, accountable, consensus-oriented, comprehensive, fair and equitable, predictable and consistent, and market-enhancing. In this assessment, the PHER should take account of all resources windows that would affect health expenditure.

4.4.1 Transparency

225. For the successful conduct of the PHER, and for achievement of the PHER goals, all internal budget analysis and all audited financial data should be available to the PHER Team in an understandable format and on a timely basis. If this standard is met, it will also be a good measure of the general transparency of spending procedures. The best approach is to assess whether the accounting procedures follow either or both of the following:

- a. The IFRS.
- b. The IMFs 1998 code of Good Practices on Fiscal Transparency.

4.4.2 Accountability

226. The Ministry of Health is normally required to follow the government's rules and mechanisms for holding public accounting officers liable for their actions. **Annex 1** provides some clarification. The PEER Team should analyse whether this mechanism routinely provides for:

- a. Specification of the procedures for spending public funds.
- b. Identification of the accounting officer or other person who must be held accountable for each allocation and expenditure.

- c. Detailed specification of what the accounting officer or other person is accountable for.
- d. Specification of the senior officer to whom the accounting officer is accountable.
- e. Specification of the format of reporting and accounting in this process, along with all supporting documents and signatures needed when accounting.
- f. Specification of document filing procedures aimed at ensuring that accurate records are routinely available for examination.

4.4.3 Consensus-orientation

227. A budget is consensus-oriented when it is prepared through a harmonized dialogue mechanism that provides all stakeholders an opportunity to influence it. It emphasizes joint decision-making among stakeholders rather than mere consultations, albeit under the leadership of government.
228. The PHER Team should analyse the budget dialogue mechanism to determine whether it facilitates dialogue that strengthens all review, planning and budgeting processes, making them steady, continuous, and sustainable, rather than fractured and uneven.
229. The PHER should apply the standard that a consensus-oriented budget process features one or more of the following elements:
- a. An established system of public information-sharing and communication.
 - b. A commitment to open dialogue with each stakeholder institution.
 - c. A proper forum (physical and virtual) for timely stakeholder participation in collecting and analysing information (facts and opinions) in the early stages of the budget process.
 - d. A formal process for facilitating participation.
 - e. Clear rules of participation.
 - f. A calendar/schedule for the dialogue, with:
 - i. Stakeholders to be met.
 - ii. Meeting date.
 - iii. Meeting time.
 - iv. Meeting locations and directions to locations.
 - v. Meeting topics.
 - vi. Meeting agenda.
 - g. An adequate process and timeline for arrival at final agreements and decisions when a joint policy process is in place.
230. Joint decision-making does not mean that other stakeholders take away the intermediate responsibility of the government to make decisions. Rather, it means that stakeholders must have clear and specific opportunity, and take ultimate responsibility, to make constructive inputs into decisions that concern them. Government must feel a binding obligation to take on board the views of others. Published records will be the main and most important outputs from the process.

231. A consensus-oriented budget is especially valuable because, apart from providing government a forum for consensual leadership, it also provides government and the stakeholders with extensive information not normally available through statistical methods or administrative procedures. This strengthens the capacity of the PER Team to use in-depth analysis of the economy of resource information to substitute for evidence-based analysis of efficiency and effectiveness in the absence of adequate quantitative data.

4.4.4 Comprehensiveness

232. The PEER Team should analyse whether the expenditure is comprehensive, in the sense that the budget provides a full and complete picture of all of the following:

- a. Sources of revenues by ministries, districts, local governments, autonomous and semi-autonomous agencies and any other government controlled agency or program/activity.
- b. Categories of expenditures by ministries, districts, local governments, autonomous and semi-autonomous agencies and any other government controlled agency.
- c. The role of user fees, profits, grants, and other non-tax revenue.

Box 4-4: Data Sources for the PHER

Early reading

Within the first 3 days of the assignment, the PHER Team should obtain and read all of the following, if available:

- 📄 Budget presentation statements
- 📄 Budget analyses
- 📄 Internal audit reports
- 📄 Auditor General reports on the quality of financial reporting, accounting
- 📄 The national planning frameworks,
- 📄 Reports related to internationally-agreed development goals
- 📄 Annual budget documents and reports, such as
 - The review of the economy
 - Review of fiscal measures
 - Macroeconomic framework
 - Macro-economic outlook;
 - Planning and Budgeting Guidelines provided by government
- 📄 Ministry of Finance reviews of the economy
- 📄 Laws guiding expenditure of public funds.
- 📄 Relevant project execution reports.

Other secondary data

- 📄 GDP by sector
- 📄 Data from household living standards surveys
- 📄 Agricultural census and survey reports
- 📄 Data on commitments and disbursements of donor funds.
- 📄 Reports on execution of the development budget.
- 📄 Ministry of Finance data on budgets and budget execution
- 📄 Data used in preparing the medium term and long term plans
- 📄 Data collected on budget execution, particularly data from agencies of the health sector:
 - Ministry
 - Departments
 - Hospitals
 - Community primary care centres
- 📄 Details of sector policies
- 📄 Applicable laws related to education, including laws on mandatory school attendance.
- 📄 Revenue collection by category.
- 📄 International data available on:
 - UNSD websites
 - IMF websites
 - World Bank websites
 - IADB websites

Data on external funding

- 📄 Data on funding sources should be obtained from the Ministry of Finance.
- 📄 The OECD has a website documenting its external funding, including EU funding, and the EU has its own website. The IMF, the World Bank, and the IADB are also sources of this type of data. The Article IV reports are rich sources.

4.4.5 Fairness and equity

233. Public expenditure should be fair and equitable. In particular, it should not be discriminatory or regressive. Accordingly, the PHER Team should analyse the health budget for any conflict between equity and the goals of economy, efficiency and effectiveness. If any conflict is observed, the PHER should propose specific measures to address the problem or draw the conflicts to the attention of government. Proposed measures should favour the poor and vulnerable.

4.4.6 Predictability and consistency

234. Sound budgets are consistent and predictable. Predictability support expenditure prioritisation and implementation. It also helps to signal government's intentions to stakeholders and it assists the private sector with its own strategic planning and investment programming.

4.4.7 Market-enhancing

235. In general, public expenditure should cater adequately for market failure and should also minimize market distortions. Accordingly, the PHER Team should analyse the health budget for evidence of key forms of market failure that are not addressed by the spending program. For example, the construction of primary healthcare facilities in certain districts or the failure to regulate the quality of doctors in these districts are important sources of market failure that should be analysed.

236. Importantly, public expenditure should be confined to those activities for which the private investment is not available to support socially efficient objectives. Government expenditure should also ensure fair pricing, fair competition and fair trade. Market distortions on all these fronts can affect the quality of the decisions to reallocate funds from current uses to better uses.

4.4.8 Key data challenges to be addressed

237. By its nature, a PHER usually requires reliable and highly disaggregated data for analysis and comparisons of agencies and activities, classified as indicated above. It also requires data that can be used for comparison with other countries (See Box 4-4).

238. Ideally, within the COFOG codes, the PHER should track the health and other sector allocations and the related expenditure at least by the Heads of expenditure. However, it may be necessary to follow details to the Subheads, Items, and Sub-Items. The PHER should determine the level and share of each in the total, and whether it is increasing, decreasing, or unchanging.

239. The PHER Team should be prepared to address the following data challenges, as set out in the following Table 4-17, with strategies to address them. When data are not available, analysis of data challenges can be used with in-depth analysis of the economy of expenditure as an alternative to numerical analysis of efficiency and effectiveness.

Table 4-17: Data challenges to be addressed and resolved in a PHER

Data Challenge	The Problems	The Solution
Contradictory data	Key skilled personnel may leave an organisation or department and may not be available to the PHER.	Triangulation with other sources and use of other datasets.
	Different reports from the same institution or program provide different and inconsistent data on the same subject	Use the interview process to get the facts or get clarification of the inconsistencies.
Ongoing reforms	Partner governments are always undertaking public sector reforms projects. These often lead to changes in policy, laws, and changes in institutional or program responsibilities, mandates, activities, and budgets.	Detailed study and monitoring of all previous and ongoing reforms. Identification of all issues arising. Identification of the leaders of the reforms and interviews with them on all changes relevant to the PHER. This may require special interview instruments.
Changing and mergers of budget codes; different codes for different ministries	As indicated in Annex 1, the budget in all partner countries is specified in terms Heads, Subheads, Items, and Sub-Items. These might change over time, often by merging or by discontinuation.	Read <i>concurrently</i> the code and title for each relevant Head, Subhead, Item, and Sub-Item starting from 3 years ago. Follow the code to the present year of the PHER. If any change, seek clarification from the Ministry of Finance.
Inter-country comparisons	The PHER may need to compare performance ratio across countries. This is especially relevant to internationally agreed development goals. Differences in relative prices, rate of development, state of infrastructure, market failure, and the comparative roles of the market usually make it difficult to compare ratios meaningfully.	Do not base expenditure assessments on international comparisons alone. Use internally computed ratios as well, following the methods described in the methodology.
Off-budget spending	<ul style="list-style-type: none"> Some expenditure on health is payment by external (non-government) interests to contractors who provide service or goods to the government without passing through the national accounting system. Some health expenditure takes place out of extra-budgetary funds. Some expenditure on health come from earmarked funds. 	Report all instances in the PHER and document the understanding formed of the influence of the funds on the assessment of the optimality of savings and reprioritization.
Inconsistencies in classifications used in annual sector action plans	Budgets are developed from annual action work plans of departments and sector ministries. The activities of these departments and sectors are not similarly classified and detailed across sectors.	At start of the PHER, use the COFOG as basis for a cross sector classification matching exercise. Also use the ISIC classifications. Read <i>concurrently</i> the code and title for each relevant Head, Subhead, Item, and Sub-Item in each sector starting from 3 years ago. Follow the code to the present year of the PHER. If any doubt, seek clarification from the Ministry of Finance. Use a Public Expenditure Tracking Survey as described below.

4.5 ANALYSING FUNDING SOURCES AND FUNDING MODALITIES FOR HEALTH

4.5.1 Forecasting the revenues for public expenditure

240. Before the government can decide how and where to spend money, it must first determine what sources will be available to spend in the coming year. In a PHER, it is important to know the general sources, amounts, and conditions because they have a bearing on what can be appropriately allocated and used for health. Government revenues comprise domestic revenues and revenues from external sources, including grants and loans.

241. The government policy on all its loans from the markets and governments should be documented, even though much of the policy is shaped by monetary policy concerns. In

particular, it should be stated whether loans will be used for recurrent purposes or only for capital projects that will contribute to competitiveness and long term growth.

242. Forecasts should be done to indicate the levels, share and rate of growth of the revenue classes.

4.5.2 Forecasting domestic revenues

243. Forecasts of domestic revenues should be done under the headings in Box 4.5. (Annex 3).

4.5.3 Forecasting external revenues

244. Forecasts should also be done of external revenues, in terms of level, share and rate of growth.

4.5.4 Addressing External grants

245. External grants are sums of money given by donor countries and other International Development Institutions. They carry no quid pro quo and requirement requirements. The amount involved must be forecasted. An important source, some funnelled through non-government agencies, is the Economic Partnership Agreement with the EU.

4.5.5 Forecasting External loans

246. External loans carry repayment obligations and debt implications. Loans can be obtained from the foreign private market or from international development agencies. The amount involved must be forecasted.

4.5.6 Funding modalities in partner countries

247. The partner countries gain access to international funding under several modalities.

- General budgetary support, for example under the EPA agreement.
- Special supports to the various sector budgets.
- Special projects
- Separate funding under the EPA

4.5.7 Analysis to be done by source of funding

- The trends in revenue by funding source, and as a percentage of GDP.
- The trends in the share of revenue by funding source.
- The overall trends in all internally generated revenue.
- The trends and amounts of extra-budgetary funds.

Box 4-5: Revenues to be forecasted

Tax revenues

- indirect taxes from goods and services
- income taxes (PAYE taxes)

Non tax revenues

- trade licenses,
- driving permits,
- court fees,
- traffic fees,
- passports,
- consular fees
- school fees
- hospital fees
- sale of property
- profits from government-owned businesses

Other sources of revenue.

There are non-tax revenues which are earmarked for use by the agencies that produce and collect them. These include:

- Fees from concessions to produce and sell products or services, for example fees from use of pharmaceutical windows, interest from student loan programs, fees from use of tourism parks and museums, housing agencies.
- Districts and local government collect and retain some revenue.
- Domestic financing by borrowing from banks and non-bank institutions, and special financing arrangements.
- Drawdowns from deposits in the Central Bank.

- e. The trends and amounts generated by districts.
- f. The form in which the development partners chose to use their aid, that is, among general budget support, sector basket funding, and stand-alone projects.
- g. Predictability of funding by source.
- h. National and global issues likely to positively or negatively affect funding in future.

4.6 ANALYSING THE INSTITUTIONAL ARRANGEMENTS OF HEALTH EXPENDITURES

248. In addition to the analysis of the level and composition of public expenditure allocations, it is also necessary to analyse the institutional arrangements that shape allocation and implementation of health policy. This analysis is necessary because the institutional relationships among the main decision-makers strongly influence the allocations as well as implementation of the expenditure program.
249. The PHER must determine if the institutional processes and incentives for performance are adequate, if changes in the relationships would improve the allocations and execution on a sustainable basis, and if to propose institutional reforms accordingly.
250. The PHER should also determine whether the effects of any of the following public expenditure management problems are present to cause socially undesirable outcomes:
- a. The tragedy of the commons – which means it is practically impossible to enforce ownership rights and hence control over the use of a product or resource in accordance with the economy-wide expenditure framework. This happens, for example, when government cannot enforce intellectual property rights.
 - b. Information asymmetries and high transactions costs – which tend to cause incomplete definition of the relationship between the expenditures of government and the wishes of citizens and non-government organisations. These problems can only be resolved in a joint decision-making framework characterized by harmonized mechanisms for participation.
 - c. Information asymmetry and incentive incompatibility within the government structure – which can limit success in making the allocation and use of budget funds socially acceptable. For example, the Minister of Health might be politically weak in the Cabinet.
 - d. Perverse incentives – which can be created if external agencies or special private political donors can direct funds to NGOs and other groups to undertake activities in the health sector that benefit government but are not included in the national budget.
251. The PHER should determine whether institutional reforms are necessary to resolve these problems and improve expenditure allocations. These issues are best addressed by primary data collection by the PHER Team. Inputs into a questionnaire for this purpose are provided in **Annex 8**.

4.7 PRESENTING RECOMMENDATIONS

252. Recommendations should generally be presented based on the integrated scoring of all relevant Heads and Subheads of expenditure within the COFOG. These scores take into account adjustments for transparency, accountability, consensus-oriented, comprehensiveness, fairness and equity, predictability and consistency, and market-enhancing.

253. Consider Subheads of budget allocations aimed at “increasing the supply of infrastructure from 38% to 70% of need in 3 years in specific districts where key exporting firms operate”. Table 4-18 illustrates how the integrated scoring should be represented.

Table 4-18: Integrated measure of Economy, Efficiency and Effectiveness

		Allocation Code or Project				
		0013	0202	0003	0004	0505
Project Description		Infrastructure construction, District 1	Classroom construction, District 2	Infrastructure construction, District 3	Classroom construction, District 4	Classroom construction, District 5
1	Budget	10	20	30	40	50
2	Actual expenditure	8.5	17.8	28	32	48
3	Variance	1.5	2.2	2	8	2
4	% variance	15%	11%	7%	20%	4%
5	Economy of inputs purchased:					
6	Measures of the percentage of budget used	85%	89%	93%	80%	96%
7	Efficiency of inputs purchased					
8	Extent to which specification followed - number of planned work items completed vs number of items planned; or percentage of standards of delivery achieved	80%	70%	85%	90%	95%
9	Extent to which output delivered on time; measured as the % of planned time of delivery	50%	60%	70%	80%	90%
10	Actual output as percentage of potential output	80%	78%	95%	97%	75%
11	Efficiency Score (8+9+10)/2	70%	69%	83%	89%	87%
12	Effectiveness of inputs purchased					
13	Does the infrastructure solve the problem being addressed?	95%	96%	86%	97%	100%
14	Is the best education being provided?	100%	100%	100%	90%	90%
15	What fraction of the underemployed have used the asset as springboard to move into fulltime paid employment?	70%	75%	80%	90%	80%
16	Use rate of infrastructure built?	85%	90%	87%	95%	100%
17	Impact on achievement of targeted growth of effective consumption capacity over 3 years?	75%	65%	16%	12%	90%
18	Effectiveness Score (13+14+15+16+17)/5	85%	85%	74%	77%	92%
19	Overall Score (6+10+16)/3	80%	81%	83%	82%	92%

254. The scores should be followed by a concluding statement about the implications for reprioritizing the expenditures and generating savings in line with government strategy. Similar tables should be constructed for all other key budget objectives, again often best expressed in terms of some percentage of need or demand. For example, the other economic development imperatives might translate to the following objectives:

- a. Increase the supply of human capital from 58% to 88% of need within 5 years.
- b. Improve business climate from an index of 58% to an index of 80% within 3 years.
- c. Improve technical efficiency of exporters from 75% to 95% over 5 years.

- d. Improve research and development capacity for growth of scale efficiency and export competitiveness among exporters 10% of need to 25% of need by 2020.
- e. Increase access to external financing from 28% of business needs to 50% of business needs over the next 3 years.

255. Once integrated scores have been presented for all Heads and/or Subheads, the overall recommendations can be assembled as illustrated in Table 4-19. Information should be presented on the target groups, the extent of coverage planned, the integrated scores, the proposed actions and the amount of savings achieved for the upcoming budget year.

Table 4-19: Recommendations on Reprioritization of Health Allocations

COFOG Categories	Target Group of Poor or Vulnerable	Planned Coverage	Integrated Score on Economy, Efficiency, Effectiveness	Proposed action	Savings (\$ million)
Allocations for Medical Products, Appliances and Equipment	All citizens	55%	75	-10	3
Outpatient services for the Disabled	Disabled of any age	100%	65	Re-evaluate; 5% increase	-2
Special outpatient services for the elderly	Age group 70 and over	100%	85	no change	0
General Hospital Services	Citizens, all ages	100%	65	25% increase	-4
Public Health Services	Citizens and the tourism sector	100%	68	-50%	5
Victims of accidents and emergency; trauma	Victims of accidents and natural hazards	100%	73	-40%	10
High transport costs and ambulatory care in key communities	Poor and vulnerable by specific means test	80%	75	-45%	58
Health research and development	All Medical Schools	100%	78	-5%	14
Allocations to Provide Social Springboards through Health Sector Training					
Vocational training	Able-bodied poor and vulnerable	100%	83	10% increase	5
On-the-job skills training	Youth of working age without a job but possessing suitable academic qualifications	100%	42	Eliminate	40
Scholarships to medical schools	Graduates in top 10% GPA	100%	65	Re-evaluate; reduce 60%	44
Total					207
Target Savings					300
% of Target Savings Achieved					69%

4.8 STRUCTURE OF THE PHER REPORT

256. In general, the PHER Report should have the following structure:

Executive Summary

Introduction

Defining the boundaries of public health expenditure

Context of the PHER

Policy and regulatory framework for

- a. The public sector generally
- b. The health sector

Institutional arrangements of public spending

- a. The main actors
- b. The relationships among the main actors

Recent reforms in the

- a. Public sector generally
- b. Health sector

Development assistance through EPA and other arrangements

- a. Volume
- b. Sources
- c. Instruments

Public expenditure in Country

- a. All expenditures
- b. All health expenditure
 - 1. Ministry of Health
 - 2. All other Ministries

Lessons from internal budget analysis and audits

The public health expenditure review

Overall estimate of public health expenditure, Ministry of Health:

- a. Expenditure by all key subsectors (COFOG/ISIC)
- b. Expenditure by selected agencies, identified within COFOG/ISIC subsectors.
- c. Sources of funding:
 - 1. Domestic resources
 - 2. International resources
 - 3. Expenditure analysis by sectoral area:
- d. Trends, Share, Rate of growth for each broad source of funding

Contribution of the health resources to national revenues during the study period (2013 – 2015).

The utilisation of health allocations and potential savings from improvements in:

- a. Economy
- b. Efficiency,
- c. Effectiveness

Case study 1: Fiscal decentralisation for health

Case study 2: Institutional capacity for health sector management and budgeting

Major lessons of the PHER

Recommendations of the PHER

Conclusions and summary

References

Annexes

Standard detailed tables showing

- a. Budget,

- b. Actual and committed expenditure
- c. Revenue
- d. Notes on how various estimates were arrived at, including definitions, assumptions and data sources

Standard tables from institutional survey data

COFOG subsector summaries (maximum 5 pages each) focusing on specific issues relevant to the health subsector)

Summary on issues related to health expenditures at decentralized level

List of persons interviewed

5 CONDUCTING A PUBLIC AGRICULTURE EXPENDITURE (PAER)

257. This chapter shows how to conduct a public agriculture expenditure review (PAER). The issues covered are the following:

1. Determining what is to be done and why for a public agriculture expenditure review (PAER)
2. Preparing to carry out the PAER
3. Defining the limits of a PAER
4. Framework for analysing public expenditure on agriculture
5. Finding relevant data and information for a PAER
6. Analysing funding sources and modalities for agriculture
7. Framework for analysing the institutional arrangements of agriculture expenditure
8. Complementary data collection tools
9. How to write the PAER report

5.1 DETERMINING WHAT IS TO BE DONE AND WHY

258. The first step in conducting a PAER is to know what it is, why it should be done, and how it fits into budgeting of recurrent and development programs.

5.1.1 What is a PAER

259. Public agriculture expenditures can be defined as expenditures by public institutions to purchase inputs to be used to undertake activities aimed directly at producing agricultural outputs. Box 5.1 describes agriculture as a production process.

260. The role of the public expenditures is to implement the government's agriculture policy. Regular analysis of public agriculture expenditures contributes to fulfilling this role and the PAER is one tool that supports such regular analysis.

Box 5-1: Agriculture as Production Process

The agricultural sector is defined as an economic sector that produces new value in the form of a variety of crops and livestock, fisheries, forestry. The outputs might be further refined in quality-adjusted terms related to shelf life, effects of diseases, use of chemical fertilizers, pesticide, and weedicides, use of antibiotics, genetic modification, and other such factors. Its outputs can be measured in terms of (i) value-added, defined as sales minus intermediate costs; (ii) the sum of the incomes (wages and profits) created, or (iii) the total final demand for the products, in the form of government and household consumption demand, investment, and exports.

The inputs are labour, adjusted for the skills to use knowledge and technology, capital such as farm buildings, equipment and machinery, and a variety of intermediate inputs. Most of the capital and much of the intermediates are imported inputs.

Production is organised by a network of institutions, establishments, and persons with resources acting to deliver the output of the sector to market: central and local government providing regulatory and justice services, with collaboration with international institutions such as the FAO and IICA.

Demand for agricultural sector outputs comes from both local and foreign final consumers as well as firms purchasing intermediate inputs for final processing.

5.1.2 Main issues to be addressed in a PAER

261. The main issues to be addressed in a PAER are: (i) the size, growth and share of the allocations, and (ii) the use and management of the allocations to produce their outputs and outcomes.

262. The main elements of a PAER are set out in Box 5.2. Items 1 to 4 in the Box relate to analysis of allocations. Items 5 and 6 relate to analysis of the management of the allocations.

5.1.2.1 Analysis of Allocations

263. Here, the PAER should do the following analyses of allocations:

- a. Analyse the allocation of expenditures to the agriculture sector, agriculture activities and programs.
- b. Measure the cost of agriculture policy priorities and compare with the spending window made available by the Ministry of Finance.
- c. Identify low-priority agriculture activities and programmes that could be cut to make room for agriculture programs with a higher priority or reallocated to other sectors.
- d. Identify the scope for increasing the resources available to the agricultural sector. This is an aspect of agricultural sector revenue forecasting.
- e. Identify possible policy inconsistencies in budget allocation. This is normally done by:
 - a. Comparison of allocations with international practice.
 - b. Analysis of allocations across the locations or administrative districts of the country.
 - c. Analysis of trends in allocations over time, in terms of their shares, levels and growth.

The main elements of a PAER are as follows:

1. Overview of allocations and trends in public revenues from all sources, domestic revenues and foreign sources.
 1. Trends in allocations and forecasts of allocations
 2. Trends in revenues from all sources, and forecasts of revenues
2. Overview of all other expenditure by civil society
 1. Private
 - i. Firms
 - ii. Households
 2. NGOs
3. Analysis of trends in priority given to agriculture expenditure in total budget.
4. Analysis of trends in priority given to budget classified by purpose or activity within the agriculture sector budget.
5. For each class, and each related objective, analysis of the following aspects of the expenditures
 1. Economy
 - i. Outline the differences in actual disbursements and expenditures versus allocations.
 - ii. Link the differences to policy objectives.
 - iii. Evaluate performance by comparison with regional and international standard of 10% variance, or less.
 2. Efficiency
 - i. Analyse the input mix
 1. Recurrent vs capital
 2. Capital versus labour and social protection
 - a. Salary versus non-salary
 3. Management overheads versus cost of actual service delivery
 - ii. Analyse the output mix
 - iii. Relate the two – output/input/efficiency
 - iv. Compare with international best practice if information available
 3. Effectiveness
 - i. Compare current and projected benefit-costs, if improvement is possible.
 - ii. Compare with regional and international standards if possible.
6. Identification and highlighting of areas for savings from improvement in
 1. Economy
 - i. Compare current performance and projected performance, if improvement is possible.
 2. Efficiency
 - i. Compare current and projected unit output costs, if improvement is possible.
 3. Effectiveness
 - i. Compare current and projected benefit-costs, if improvement is possible.
 - ii. Compare with regional and international standards if possible.
7. Evaluation of autonomous and semi-autonomous government agencies on the same basis as above.

5.1.2.2 Analysis of the management of expenditures in agriculture programmes

264. Analysis of the management of the agricultural sector allocations involves analysis of the following:

- a. The rationale for the activities and programs of the sector
- b. The integration of capital and recurrent expenditures, with specific reference to the comparative rates of growth of these components.
- c. The degree of economy of the expenditures, with specific attention to the institutional matters that arise and the quality of the procurement process used to spend the funds allocated.
- d. The efficiency of agriculture activities and institutions.
- e. The effectiveness of agriculture programs and institutions.
- f. Problems encountered (e.g. data quality, non-cooperative departments).

5.1.3 Why the PAER is done – goals and objectives

265. The general goal of the PAER should be to provide information that guide government about how to make agriculture-related expenditure more economical, efficient or effective in its current use or redirect the expenditure to alternative uses to make it economical, efficient and effective. The information provided should take into account that agriculture is one of the productive sectors of the economy (Box 5-3). It may be export-competing, as in the case of Belize.

BOX 5-3: AGRICULTURAL PRIORITIES AND MARKET FAILURE

When identifying low-priority activities and analysing the management of public education funds, the impact of market failure must be considered.

Market failure is pervasive in the agriculture sectors of the partner economies. There are necessary investments that will not be undertaken by the private sector for various reasons:

- i. Some public agriculture outputs are part of the commons.
- ii. Some agriculture investments exceed the capacity of the private firms.
- iii. Some agriculture investments exceed the capacity of the governments themselves, and may require international cooperation. Management of epidemics through PAHO is a good example.

They are nevertheless necessary priority investments because of their externalities, hence their impact, on the performance of the activities and agencies of the agriculture sector and the wider economy.

266. Based on the Scoping Studies, these goals should be tied to the following specific objectives of the PAER:

1. To establish baseline data and a framework for analysing agriculture expenditure.
2. To analyse how agriculture expenditure conformed to budgets and the medium-term strategies of government in the context of balance of payments and budget deficits.
3. To evaluate the economy, efficiency and effectiveness of agriculture expenditure, and measure the potential for savings.
4. To assess how to position future agriculture expenditure in the context of the growing demand for policy reforms by international partners.
5. To monitor the allocation expenditure to deliver needed agriculture services to the poor and vulnerable.
6. To address the availability of revenues to meet the resource requirements of the agriculture sector.

5.1.4 How the PAER fits

267. As clarified in Chapter 2 and **Annex 1**, the PAER is an input into the strategic planning and budgeting of government, and is a counterpart of the internal budget analysis and audits done by the Ministry of Agriculture and its allied institutions. It should therefore be done before the next year's budget preparation begins. If it is done at another time, then the findings should be disseminated as soon as is practical to support the budget process.

5.1.5 Delivering the goals and objectives

268. To deliver the goals and objectives of the PAER, the PAER Team must have some basic understanding of:

- a. The details of the type of analysis to be done.
- b. How the analysis will inform the authorities in the Agriculture Ministry, the Ministry of Finance, and other stakeholders to make appropriate decisions on how to redirect expenditure or make its current use more optimal.

5.1.6 The type of analysis to be done in the PAER and the guidance provided

269. The PAER team should provide answers to the following questions about government's revenues and expenditures:

- a. **Revenues:** How much money does the government have to spend and how does it plan to spend it? Where does it come from? How much of it is generated by the country's tax base? How much of it comes from external funds?
- b. **Expenditures:** What has the government spent its resources on previously and how does it plan to spend it in the future? What sort of public services have been provided with the previous budgets and what will be the strategic focus in the future? Which sectors have good service provision and which sectors need improvement? Who are the main beneficiaries of government spending? For example, is it the rich or the poor; women or men; rural or urban areas? Are the benefits spread equitably? Do the beneficiaries have equal access to services? Are there disadvantaged groups that need special attention? Have the services provided resulted in improved living conditions including poverty reduction?

270. The answers will assist the government in determining the potential, if any, for increasing the government's financing envelope through taxes, local and foreign borrowing, and foreign grants/gifts.

271. The answers will be derived partly from revenue and expenditure forecasting. **Annex 3** presents a set of methods that can be used for revenue and expenditure forecasting. The main methods considered include: (i) qualitative forecasting and judgement forecasting; (ii) moving average methods, including ARIMA; (iii) exponential smoothing and Holt-Winters methods; (iv) single equation regression forecasting; and (v) macroeconometric and GDP-based forecasting. Microsimulation models are summarized for completeness.

272. The forecasts will also inform the government about the adequacy of the current planning and budgeting framework and process. Specifically, they will indicate:
- a. Whether the revenues and expenditures are closely linked to its set of priorities, and in particular whether the planning priorities are reflected in the budget?
 - b. Whether the public service has the capacity to utilize the budgets allocated.
 - c. Capacity-building that should be initiated, if any.
 - d. Some of the public expenditures that should be shifted to other government priorities or to the private sector.

5.2 PREPARING TO CARRY OUT THE PAER

273. In preparing to carry out the PAER, the required first step is preparation of terms of reference (ToR) or scope of work for the PAER Team that will be charged with the review. The second step is to recruit a PAER Team with suitable qualifications. **Annex 4** provides an annotated approach to preparation of a ToR that can be adapted for the PAER Team, since the elements are illustrative. The level of detail in the final ToR is related to the depth of the sector PAER.
274. The introduction of a PAER in each country should be promoted by a sensitization initiative to generate a wide understanding of the processes and the responsibilities it brings. This can be done through appropriately timed and located workshops.
275. These workshops should emphasize that the decision to intervene in an area of expenditure, and the savings, other benefits, and costs of the intervention, will be based on adequate and credible analysis that carefully identifies the long-term developmental impact of the interventions in processes, programs or agencies, including the likely impediments to delivery of their desired outputs and outcomes.
276. The sensitization process should inform all stakeholders of their roles in the information sharing and communication processes needed to support the exercise. Important among these stakeholders are the internal budget analysts and audit staff that normally reviews government agriculture expenditure.
277. It is imperative that all stakeholders clearly understand the wider process as well as their own specific roles. This will ensure not only that everyone can perform the tasks asked of them but also that they buy into and own the wider process and its underlying rationale. Wider ownership of the PAER can only be assured through a correspondingly wide understanding of roles and responsibilities.

5.3 DEFINING THE LIMITS BY CLASSIFYING THE ACTIVITIES AND PROGRAMS OF AGRICULTURE

278. In defining the boundaries of the PAER, the PAER Team should identify the allocation classes to which the assignment refers. The United Nations Classification of the Functions of Government (COFOG) provides the main system on which the partner countries rely when grouping and defining agriculture expenditure for a PAER (**Annex 5**). COFOG classifies expenditure by purpose of the transactions undertaken, whether the expenditure is final consumption expenditure, intermediate consumption, gross capital formation, and capital and current transfers by general government.

5.3.1 COFOG Classifications for Agriculture

279. The main classifications of agriculture transactions, including fisheries and forestry, are:

Agriculture

1. Administration of agricultural affairs and services; conservation, reclamation or expansion of arable land; agrarian reform and land settlement; supervision and regulation of the agricultural industry.
2. Construction or operation of flood control, irrigation and drainage systems, including grants, loans or subsidies for such works.
3. Operation or support of programs or schemes to stabilize or improve farm prices and farm incomes.
4. Operation or support of extension services or veterinary services to farmers, pest control services, crop inspection services and crop grading services.
5. Production and dissemination of general information, technical documentation and statistics on agricultural affairs and services.
6. Compensation, grants, loans or subsidies to farmers in connection with agricultural activities, including payments for restricting or encouraging output of a particular crop or for allowing land to remain uncultivated.

Forestry

7. Administration of forestry affairs and services; conservation, extension and rationalized exploitation of forest reserves; supervision and regulation of forest operations and issuance of tree-felling licenses.
8. Operation or support of reforestation work, pest and disease control, forest fire-fighting and fire prevention services and extension services to forest operators.
9. Production and dissemination of general information, technical documentation and statistics on forestry affairs and services.
10. Grants, loans or subsidies to support commercial forest activities, forest crops and timber.

Fishing and hunting

11. Administration of fishing and hunting affairs and services; protection, propagation and rationalized exploitation of fish and wildlife stocks; supervision and regulation of freshwater fishing, coastal fishing, ocean fishing, fish farming, wildlife hunting and issuance of fishing and hunting licenses;
12. Operation or support of fish hatcheries, extension services, stocking or culling activities, etc.

13. Production and dissemination of general information, technical documentation and statistics on fishing and hunting affairs and services.
14. Grants, loans or subsidies to support commercial fishing and hunting activities, including the construction or operation of fish hatcheries.

5.4 THE FRAMEWORK FOR ANALYSING PUBLIC EXPENDITURE ON AGRICULTURE

280. According to the Scoping Studies, all of the partner governments want to use the PAER as a tool to improve public expenditure management. Their main focus are the following three areas: (i) macro-economic fiscal discipline, which scales the exercise to which the sectors contribute; (ii) priority setting, that is, ensuring that resources are allocated and used to deliver the priorities of the government; and (iii) economic, efficient, and effective use of the resources.

5.4.1 Macroeconomic fiscal discipline

281. Given the coexistence of budget and external deficits documented in Chapter 2, the partner governments must control total expenditure. The controls must be designed to prevent growth in the deficits as a share of GDP, and related growth in the share of tax revenues and expenditure in GDP. Consequently, the PAER must review ways to control each of the following aggregates:

- a. Total revenue.
- b. Total spending.
- c. The deficit (or borrowing requirement).
- d. The public debt.

282. To assist government, the PAER must examine the strategic plans to identify how government wants to develop the economy and society, look back to examine the results of past actions, look ahead to determine the trajectories of the past actions, and then determine what the agricultural sector can contribute. This requires comparison with the trajectories defined by the strategic plans. In the specific country cases at hand, the comparisons should produce savings that reduce the deficit on a scale sufficient to bring the external deficits into balance. The sector PERs contribute to this total.

283. The PAER identifies the contribution of agriculture. One type of contribution comes from allocative efficiency - the gains achieved by bringing the trajectory of agricultural spending in line with the strategic of government. The other type comes from finding allocations in agriculture that perform poorly in terms of their economy, efficiency and effectiveness. These are then adjusted to deliver budgetary savings.

284. The flip side of the obligation to identify ways to control revenues, expenditures, deficits and debt is the obligation to identify new priorities that will lead to use of foreign exchange with maximal efficiency and effectiveness.

285. Regarding effectiveness, since the external deficits arise from the fact that the partner economies import in order to export, this means growing apparent consumption per dollar of imports as fast as possible. In looking ahead, the PAER must seek contributions from agriculture to increase the growth of agricultural exports per dollar of imports as a contribution to overall export growth at the maximum possible rate, and then to grow output per dollar of imports even faster.

5.4.2 Searching for Opportunities to Improve Economy, Efficiency, and Effectiveness

286. Within the COFOG, the search begins with ‘infrastructural expenditures’ that generate goods and services for the commons and can only be addressed adequately by government. The main classes in the COFOG concern public agricultural research, extension services, education, and rural infrastructure. They would be found in various Heads and Subheads under the following classes:

- a. Conservation, agrarian reform and land settlement.
- b. Operation or support of reforestation work, pest and disease control, forest fire-fighting and fire prevention services and extension services to forest operators
- c. Construction or operation of access roads and other infrastructure, flood control, irrigation and drainage systems.
- d. Operation or support of extension services or veterinary services to farmers, pest control services, crop inspection services and crop grading services.
- e. Production and dissemination of general information, technical documentation and statistics on agricultural affairs and services.

287. In some cases, these activities might be undertaken by a Ministry other than agriculture, such as the Ministry responsible for works and infrastructure. Wherever they are found, they must be accorded the highest priority, since their neglect will have the greatest impact on the largest number of farmers and the wider public, especially the poor in rural areas who rely on agriculture for basic subsistence.

288. Accordingly, an important assignment to be undertaken by the PAER Team is to detail the allocations as in Table 5-1, but covering all Heads and Subheads of expenditure. The scale of the programs should be documented, along with the responsible ministries and the key target groups.

COFOG and Related Classifications of Programs	Actual Expenditure, 2013 (\$ million)	Planned Expenditure, 2014 (\$ million)	Adjustment	Responsible Ministry	Proposed Coverage
Conservation, agrarian reform and land settlement	200	250	25%	Agriculture	Small Farmers
Operation or support of reforestation work, pest and disease control, forest fire-fighting and fire prevention services and extension services to forest operators	300	350	17%	National Security	All Farms
Construction or operation of access roads and other infrastructure, flood control, irrigation and drainage systems.	350	300	-14%	Works	Small Famers
Operation or support of extension services or veterinary services to farmers, pest control services, crop inspection services and crop grading services.	400	250	-38%	Agriculture	All Farms
Production and dissemination of general information, technical documentation and statistics on agricultural affairs and services.	200	250	25%	Education	All Farms
Targeting of General Poverty Reduction Among Farmers	200	250	25%	Social Protection	Poor and Vulnerable Farming Households
Growth of Agricultural Exports	200	250	25%	Agriculture	Exporters

289. To gauge the scale of necessary economic intervention to ensure adequate infrastructure, certain key data from the performance of past policies must be examined. Apart from labour and skill, land is the foundation of agriculture and policy to ensure adequate access and tenure to farmers is perhaps the most fundamental infrastructure policy of all. Moreover, viable agriculture requires minimum farm size, shaped by the farming technology in use. Table 5-2 illustrates the type of analysis that is needed to assess past policies with regard to land access.

Farm Size (Acres)	Number of farmers	% of Farmers	Acreage Owned		% of Acreage	% Cultivated	
0-5	3000	52%	6000	2.0	13%	5600	93%
6-9	2400	41%	18000	7.5	39%	17000	94%
10-50	400	6.9%	12000	30.0	26%	5000	42%
50+	20	0.3%	10000	500.0	22%	1000	10%
All	5820	100%	46000	7.9	100%	28600	62%

290. Ultimately, land is transformed into capital through a variety of investments in its improvement for economic use. An important form of publicly supplied capital is road access to farmland. Table 5-3 demonstrates how data from farmers can inform understanding of the demand for access roads to support successful agriculture. Table 5-4 illustrates the required analysis of the adequacy of investment in irrigation facilities for agriculture. Successful agriculture depends on the overall amount of capital per worker used. Table 5-5 provides some indicators that can inform the analysis of the overall potential of the business model employed by farmers. The most important form of capital is knowledge and the skills to use technology. Analysis of past policies on this variable can be achieved by analysing the type of data presented in Table 5-6. In general, low capital-labour ratios and low capital per farmer tend to imply inadequate agri-business models.

Farm Size (Acres)	Number of farmers	% of Farmers	Poor	Average	Good	Excellent	No Opinion
0-5	3000	52%	1000	800	200	600	400
6-9	2400	41%	600	600	100	500	600
10-50	400	6.9%	50	225	80	30	15
50+	20	0.3%	10	3	5	1	1
All	5820	100%	1660	1628	385	1131	1016

Farm Size (Acres)	Number of farmers	% of Farmers	No. with Irrigation System	% with Irrigation System	% of Acreage	Acres Irrigated	% Irrigated	Irrigated Land Per Farmer
0-5	3000	52%	500	17%	6000.00	2000	33%	0.67
6-9	2400	41%	200	8%	18000.00	3000	17%	1.25
10-50	400	6.9%	20	5%	12000.00	4000	33%	10.00
50+	20	0.3%	10	50%	10000.00	1000	10%	50.00
All	5820	100%	730	13%	46000.00	10000	22%	1.72

Farm Size (Acres)	Number of farmers	% of Farmers	Value of Capital and Tools	Capital Per Farmer	% of Capital	Acres Irrigated	Capital/Irrigated Land Ratio
0-5	3000	52%	25000	8.33	0.10	2000	12.50
6-9	2400	41%	50000	20.83	0.20	3000	16.67
10-50	400	6.9%	80000	200.00	0.31	4000	20.00
50+	20	0.3%	100000	5000.00	0.39	1000	100.00
All	5820	100%	255000	43.81	1.00	10000	25.50

Farm Size (Acres)	Number of farmers	% of Farmers	Number of Farmers Seeking Post-Secondary Training or Extension Services	% of Farmers seeking Post-Secondary Training or Extension Services	Number of Farmers receiving Post-Secondary Training or Extension Services	% of Farmers Receiving Post-Secondary Training or Extension Services	% of Applicants Receiving Post-Secondary Training or Extension Services
0-5	3000	52%	300	10%	200.00	6.7%	67%
6-9	2400	41%	200	8%	100.00	4.2%	50%
10-50	400	6.9%	50	13%	25.00	6.3%	50%
50+	20	0.3%	10	50%	5.00	25.0%	50%
All	5820	100%	560	10%	330.00	5.7%	59%

291. Next in importance to expenditures on infrastructure are expenditures to increase basic financial access to farmers and provide price protection that establish broad foundations for agriculture. In the COFOG, these would be found under headings in classes such as:

- a. Grants, loans or subsidies for drainage, infrastructure and similar works.
- b. Operation or support of programs or schemes to stabilize or improve farm prices and farm incomes.
- c. Compensation, grants, loans or subsidies in connection with agricultural activities, including payments for restricting or encouraging output.

292. These include subsidized funding through agricultural development banks with supporting collateralization programs, and with waivers and subsidies to support applied agriculture research and experimental development by research institutes and universities.

293. In looking back, the PAER Team should analyse data such as in Table 5-7, which describes access to credit by farms of various sizes.

Table 5-7: Comparison of Access to Credit by Farms of Various Sizes

Farm Size (Acres)	Number of farmers	% of Farmers	Number of Farmers seeking Credit	% of Farmers seeking Credit	Number of Farmers receiving credit	% of Farmers receiving credit	% of Applicants Receiving credit
0-5	3000	52%	300	10%	200.00	6.7%	67%
6-9	2400	41%	200	8%	100.00	4.2%	50%
10-50	400	6.9%	50	13%	25.00	6.3%	50%
50+	20	0.3%	10	50%	5.00	25.0%	50%
All	5820	100%	560	10%	330.00	5.7%	59%

294. In general, the analysis undertaken should be designed to ensure that priorities reflect attempts to address market failure.

5.4.2.1 Improving efficiency

295. The search for ways to improve efficiency involves two steps. The first step is to assess whether resources are allocated to the ministries, agencies, and activities in accordance with the strategic objectives of government. The second step is to assess whether, once allocated, the resources are used with maximal technical efficiency and promotes scale efficiency if necessary, and to adjust the use accordingly.

296. Each aspect of the efficiency analysis is conducted for every class identified under the COFOG and for all selected agencies under each class. In each case, analysis is done of the utilisation of allocations to improve allocative efficiency, technical efficiency, and scale efficiency.

5.4.2.2 Improving allocative efficiency

297. Here, the PAER Team compares the allocations of the sectors, sector activities or agencies to the allocations implied by government strategy, to see if (i) they are closely aligned, and (ii) if gains in the value of outputs can be achieved by shifting resources from current or previous priorities to new priorities.

298. To assist with improving allocative efficiency, the PAER Team must receive from the government, in particular the Ministry of Finance and the Ministry of Planning, the new priorities and expectations of output that the PAER must use when examining the past allocations.

299. Then, the PAER Team must assess the actual and projected outputs of the past and current allocations and compare them with the strategic allocations and their new projected outputs and targets of the allocations to see if gains in output can be generated and the value of the gains from a shift of the resources. The value of the gains should be measured and ranked in financial terms. Table 5.8 sets up a simple scheme for the required analysis that can be extended to all agriculture allocations selected by the Ministry of Finance. The table emphasizes that gaps between the allocations and the strategy must not only be identified but also analysed.

300. Comparison of the gains shows that most net savings and the greatest impact on exports come from reallocation of resources to flood control. Thus, allocations correctly favour flood control. It implies that \$40 million budgeted compensation for flood damage is now saved and can be reallocated to another purpose. Similar comparisons can be made for Heads of expenditure across all sectors. Reallocations in this direction moves to budget towards a consistent package and away from an amalgam of requests that have been granted.

Allocation	Actual output	Past priorities	Match	New priorities	Projected increase in output for new priorities	Proposed action to achieve new priorities (next budget)	Expected gain from action
\$6 million allocated to pest control	5% reduction in the pest population	10% reduction in the pest population	Gap of 20% between actual and strategic allocations; gap of 50% between actual and strategic outputs	15% reduction in the pest population	200% increase in the rate of reduction of pest population	50% reduction in allocations; Improve procurement; faster purchase of pest control chemicals and biological agents	12% increase in the rate of reduction of pest population; Net savings of \$2 million dollars in compensation to farmers for crop losses due to pest infestation; minimal contribution to exports because of use of chemicals.
\$10 million allocated to improving flood control	100 kilometres of embankments constructed	98 kilometres of embankments constructed	No significant gaps; priorities achieved likely to be achieved	200 kilometres of embankments constructed	100% increase in flood protection embankments constructed.	20% growth in program expenditure to improve technology and quality/strength of embankments	150 kilometres of reinforced flood control system; implied net savings of \$40 million from budgeted compensation to farmers for annual flood damage; implied 10% growth in exports of agricultural output per dollar of imports used; 12% growth in agricultural output per dollar of imports used.

301. Once the analysis of allocative efficiency is complete, and it is clear what reallocations of expenditure might yield the highest savings, the PAER Team must turn to the analysis of the utilization of the resources within the agricultural sector. The question posed to each purpose is whether it is possible to improve its economy, general productive efficiency, and effectiveness. Productive efficiency refers to technical efficiency and scale efficiency.

302. **Annex 7** presents a set of methods that can be used to measure the economy, efficiency and effectiveness of public agriculture expenditures in the partner countries. The methods presented are very powerful if firm-level data are available from farmers.

5.4.3 Improving economy

303. Here, with prioritization guided by Figure 2.1, the PAER Team examines the allocations of the agricultural sector, purposes and agencies, to see if funds allocated are fully utilized and are used in accordance with the priorities set out in the budget, following all relevant procurement procedures.

304. To assist with improving the economy of expenditures, the PAER Team must receive from the government, in particular the Ministry of Finance and the Ministry of Planning, the new priorities and expectations of output that the PAER must use when examining the past allocations.

305. Then, the PAER Team must assess the actual outputs of the current allocations and compare them with the new target outputs and the projected outputs of the allocations to see if gains in output can be generated and the value of the gains from a shift of resources. Table 5-9 sets up a simple scheme for easy reference. It emphasises the need for analysis to accompany numerical measures.

Table 5-9: Analysis aimed at improving economy in agriculture expenditures

Allocation	Actual amount of allocations spent	Past priorities	Performance gap	New priorities	Projected increase in output for new priorities	Action to achieve new priorities	Expected gain from action
\$10 million allocated to pest control	85% of allocation spent	10% reduction in the pest population	Gap of 15%; below international standard performance of 10%	15% reduction in the pest population	200% increase in the rate of reduction of pest population	Improve procurement; faster purchase of pest control chemicals	Reduction of expenditure gap to 12% of budgeted expenditure; \$2.5 million dollars saved in compensation to farmers for crop losses due to pest infestation.
\$20 million allocated to improving flood control	105% of allocation spent; required virement of funds	98 kilometres of embankments constructed	No significant Gap; 5% above target; good by international standards.	200 kilometres of embankments constructed	100% increase in flood protection embankments constructed.	20% growth in program expenditure to improve technology and quality/strength of embankments	100% of allocations spent; 150 kilometres of reinforced flood control system; implied net savings of \$40 million from compensation to farmers for annual flood damage; implied 10% growth in exports of agricultural output per dollar of imports used; 12% growth in agricultural output per dollar of imports used.

306. Additional performance (gap) indicators to be used in assessing the economy of budget implementation are the following:
- a. Timeliness in meeting budget target
 - b. Capacities of the action units (agencies or programs/projects) for planning, budgeting, implementation and monitoring.
 - c. Commitment of action units to change in the productivity of agriculture.
 - d. Commitment of action units to use of agriculture, including land redistribution, to change poverty levels.
 - e. Degree of beneficiary satisfaction with the action unit's rate of expenditure on inputs to deliver support services for agriculture.

5.4.4 Improving technical efficiency

307. Here, with reference to the prioritization in Figure 2.1, the PAER examines the inputs of the sector agencies or activities and their outputs, in order to: (i) measure the competence with which inputs are converted to outputs; (ii) see if gains in the value of outputs can be achieved by improving technology and managerial efficiency from current or previous levels to new levels consistent with the new priorities.
308. Table 5-10 sets up a simple scheme for easy reference. To assist with improving technical efficiency, the PAER Team must receive from the government, in particular the Ministry of Finance and the Ministry of Planning, a clear commitment to pursue avenues for increasing technical efficiency even if some underemployed labour will be displaced to more efficient employment.
309. Improvement of technical efficiency requires the PAER Team to ensure that up to date capital assets and competent individuals are engaged in the public service. Such individuals will have to be attracted through merit-based recruitment, adequate performance-based compensation, and merit-based promotion system.
310. The example shows that the improvement of technical efficiency of the public expenditure to 0.99 also yields increased resource productivity from just under 1 kilometre of flood control per \$200,000 of expenditure to 1.2 kilometres per \$200,000. This also means that additional funds to produce the necessary 200 kilometres of flood control systems, with maximal efficiency maintained, will yield growing savings of crop compensation of \$2 per dollar of flood control allocation. Such an estimate can be used to compare with other agriculture programs selected for comparison by the Ministry of Finance.
311. Quantitative measurement of the impact of government's expenditure on the technical efficiency of each farm can and should be done, as described in **Annex 7**. This requires use of the ISIC classifications (**Annex 6**), since the farms are evaluated from an activity standpoint. It is likely that primary data will have to be collected for this purpose.

312. The method chosen for the calculations depends on the data available. The main methods described are: (i) non-parametric data envelope analysis, which relies mainly on linear programming or the differential calculus; and (ii) the parametric method of stochastic frontier analysis, which is a statistical method that estimates model parameters with known precision.

313. DEA methods are very flexible and can accommodate a wide range of information about inputs and outputs or outcomes. Since agriculture is normally a competitive industry that sells its outputs in commercial markets, inputs of farms can normally be classified conventionally as labour (often measured as hours worked by unskilled workers), number of skilled workers or workers with specialized training in agriculture, and the amount of hectares of land. The outputs of farms can be listed as the various types of products sold or used for own consumption, and the amount of profits generated.

314. In the case of administrative units in agriculture, the floor space, workers, and number of professionals can be counted among the inputs.

315. Outputs can include items such as the number of farmers served, the number of acreage of land reclaimed, or the level of satisfaction of farmers with the services delivered.

Table 5-10: Analysis aimed at improving technical efficiency							
Activity or expenditure purpose	Value of labour/s kills	Value of capital	Current output rate in pest control	Technical efficiency level contributed	Desired technical efficiency contributed	Action to achieve new priorities	Gain from action
\$10 million allocated to pest control	25 trained extension officers ; 10 pest control officers	\$20 million of assets provided in transport facilities, masks, and the like; \$6 million of chemicals; all inputs imported	5% reduction in pest population; compared to maximum possible of 20% reduction; assuming use of all budget	5%/20% or technical efficiency of 0.25.	Targeted 0.75 or higher	Adjust allocation; upgrade management; increase number of pest control specialists from 10 to 25; reduce number of trained extension officers to 10	Increase rate of reduction of pest population to 17%; Increase technical efficiency ratio from 0.25 to 0.85; save \$5 million on the salaries of trained public extension officers; improvement of technical efficiency of farms to 0.9
\$20 million allocated to improving flood control	2 trained agricultural engineers hired for program	\$15 million of machinery and equipment purchased	98 kilometres of retaining walls and drainage constructed; compared to possible maximum of 120 kilometres; all resources fully utilized.	98/120 or 0.82 efficiency index	Targeted 0.95 or higher	Upgrade the quality of training for agricultural engineers; add 2 construction technologists	119 kilometres constructed for \$20 million funds allocated; Increase in technical efficiency to 0.99; implied net savings of \$48 million from compensation to farmers for annual flood damage; implied 10% growth in exports of agricultural output per dollar of imports used; 12% growth in agricultural output per dollar of imports used.

316. Among others, the following indicators should also be considered when measuring technical efficiency:
- a. Timeliness in meeting budget target
 - b. Capacities of the action units (agencies or programs/projects) for planning, budgeting, implementation and monitoring.
 - c. Commitment of action units to change in the productivity of resource use in agriculture.
 - d. Commitment of action units to use of agriculture, including land redistribution, to change poverty levels.
 - e. Degree of beneficiary satisfaction with the action unit's rate of expenditure on inputs to deliver support services and infrastructure for agriculture.

5.4.5 Improving scale inefficiency

317. Here, the PAER examines the scale of the sector agencies or activities to see if increasing the value of inputs of capital and labour, employed in suitable technical combinations, can generate faster growth in the value of outputs, consistent with the new priorities. Table 5-11 sets out a simple scheme for easy reference. The example is designed to show that funds are better spent providing financing options with technical support, with scale efficiency gains of 1.11 as compared to 1.09. All support programs can be compared in a similar way if data are available.
318. To assist with improving scale efficiency, the PAER Team must receive from the government, in particular the Ministry of Finance and the Ministry of Planning, a clear commitment to pursue avenues for increasing scale efficiencies of farms even if some government institutions and agencies have to be merged or privatised, and even if some of the farm output must be exported.
319. Improvement of scale efficiency requires the PAER Team to ensure that growth of output is relatively faster than growth of employment of the overall value of capital assets and the work effort of adequately trained problem-solving employees in agriculture, while the capital assets are growing the fastest of all.

Table 5-11: Analysis aimed at improving scale efficiency

Activity or expenditure purpose	Value of labour input	Value of capital input	Current average technical efficiency of farms	Scale efficiency level	Desired scale efficiency	Action to achieve new gains	Gain from action
\$ allocated to infrastructure development and agricultural research	25 trained public agricultural engineers; 20 new extension officers with at least Bachelor's degrees	\$20 million of assets provided machinery and equipment	0.75	Current measure of scale efficiency factor of 1.03; approximating a constant rate of growth of output as the scale of employment of each input grows at a given rate	Output/input ratio growing as value of inputs increased at a given rate, with average scale efficiency index of 1.13	Privatise some government-owned farms; use allocation to support increase of both labour and capital inputs with quality improvements; but with capital assets increasing faster than labour	Output/input ratio growing faster than inputs as overall value of both inputs increased at given rate but with capital assets increasing faster than labour; increase of scale efficiency to 1.09.
\$ allocated to improving financing options in agriculture, with technical support	Average size of farm employment - 6 employees	Average value of assets of farm \$20,000	0.75	Current measure of scale efficiency factor of 1.03; approximating a constant rate of growth of output as the scale of employment of each input grows at a given rate	Output/input ratio growing as value of inputs increased at a given rate, with average scale efficiency index of 1.13	Increase access to subsidized farm credit to fund private development of farm infrastructure; grants; subsidies at concessional rates; increased technical support from extension officers; targeted support for foreign market development	Output/input ratio growing faster than inputs as overall value of both inputs increased at given rate but with capital assets increasing faster than labour; increase of scale efficiency to 1.11

320. Measurement of the scale efficiency effects of government allocations, on average and for each farm, is normally done in conjunction with the main methods of measurement of technical efficiency described in **Annex 7**. Estimates can be generated with either DEA or stochastic frontier analysis, depending on the data available. Without good data, the PAER Team must use in-depth analysis of the economy of expenditure, supported by data collected with a questionnaire developed from **Annex 8**.

5.4.6 Improving Effectiveness

321. Effectiveness analysis is done for each selected class of expenditure identified under the COFOG and all selected agencies under each class. In each case, analysis is done of the utilisation of agriculture allocations to improve cost effectiveness and development effectiveness, which should focus mainly on the ratio of apparent consumption capacity to gross imports.

5.4.6.1 Improving cost effectiveness

322. Improvement of cost-effectiveness involves reallocations to improve the outcomes generated from the outlays. In particular, a numerical cost-effectiveness test is a numerical measure of effectiveness computed from an input standpoint. That is, it measures numerically

the extent to which input use is minimized while a given output target also delivers targeted benefits or outcomes.

323. The broad measure used in the public sector is the benefit-cost ratio. However, if numerical indications of the desired outcomes are available along with numerical measures of inputs, then the DEA methods described in Annex 7 can be used in analysing the cost-effectiveness of resource use.
324. Good examples of measurable outcomes in agriculture are: (i) number of extension officers per farmer; (ii) number of small farms applying for and receiving credit.
325. Table 5-12 contains a simple scheme for the required analysis. It emphasizes that the numerical measures must be accompanied by appropriate interpretation. The example shows that flood control is more cost-effective than pest control, so allocations should favour that activity.
326. Cost-effectiveness testing is best applied when benefits are difficult to value or when objectives and outcomes have already been well-defined. It is primarily a technical measure that can be influenced politically. Therefore, the PAER Team must receive from the government, in particular the Ministry of Finance, a clear commitment to accountability and the pursuit of avenues for increasing cost-effectiveness even if some political objectives cannot be met or might have to be changed.
327. Pursuit of cost effectiveness requires managerial autonomy to appraise the work of action units with spending authority. It also requires responsibility to implement the government's defined expenditure programmes, subject to accountability for performance.

Table 5-12: Analysis aimed at improving cost-effectiveness

Activity or expenditure purpose	Size of allocation used up	Current output	Current outcomes	Desired outcomes	Action to achieve new priorities	Gain from action (Benefit/cost)
\$10 million allocated to pest control	All \$ spent	5% reduction in pest population	2% increase in the output of farms in pest-infested areas.	20% increase in the output of farms in pest-infested areas.	Adjust use of allocation; upgrade assets and quality of pest control staff and management	\$3 of increased farm sales per dollar of pest control
\$20 million allocated to improving flood control	All \$ spent	98 kilometres of retaining walls and drainage constructed	\$2 of increased farm sales per dollar of allocations	\$8 of improved farm sales per dollar of flood control	Upgrade the quality of training for agricultural engineers; add 2 construction technologists	\$6 of increased farm sales per dollar of flood control

328. The following indicators should be considered when measuring the benefits gained. They should be analysed by age group, gender and location, school type, and welfare status (decile of consumption/income):
- a. Timeliness in meeting budget target

- b. Capacities of the action units (agencies or programs/projects) for planning, costing, budgeting, implementation and monitoring (see **Annex 7** for notes on costing).
- c. Commitment of action units to change in the productivity of resource use in agriculture.
- d. Commitment of action units to use of agriculture, including land redistribution, to change poverty and inequality levels.
- e. Degree of beneficiary satisfaction with the action unit's rate of expenditure on inputs to deliver support services and infrastructure for agriculture.

5.4.6.2 Improving development effectiveness

329. Development effectiveness applies when, for a given agriculture activity, the partner government gives the highest priority to increasing export competitiveness and growing exports or to other cross-cutting internationally-agreed development goals. Regarding exports, the most basic measure is the difference between the value of output per dollar of imports and the value of exports per dollar of imports.

330. Table 5-13 contains a simple scheme for the required analysis of each allocation. The example is designed to show that R&D in agriculture has a higher level of development effectiveness than does expansion of extension services in agriculture. All other selected expenditures can be evaluated in a similar way.

331. Improvement of development effectiveness involves allocations to improve export per dollar of imports, even when pursuing other internationally-agreed development goal. Development-effectiveness requires the PAER Team to appraise all expenditure programmes for their orientation to achievement of this goal, taking into account the dependence of all economic and social outcomes on agriculture outputs and outcomes.

332. Pursuit of development effectiveness requires managerial autonomy to use contribution to export per dollar of imports to appraise the work of action units with spending authority, including specific projects and agencies receiving government funding. Both COFOG and ISIC classifications are used when measuring development effectiveness.

Table 5-13: Analysis aimed at improving development-effectiveness

Activity or expenditure purpose	Size of allocation to agricultural activity (ISIC)	Current outputs from agricultural activity (ISIC)	Current exports from agricultural activity (ISIC)	Current Development effectiveness	Target Development Effectiveness	Action to increase development effectiveness	Gain from action
Extension services (COFOG)	\$ million spent on imported inputs to deliver services and on agricultural imports for final use	Agricultural output of \$ millions;	\$ millions of exports	$1 + \frac{\text{value of all services} - \text{imports}}{\text{exports}}$ $= 1 + 3.3 - 2.4 = 1.9$	Increase development effectiveness to 2.4 during year, while increasing $\frac{\text{exports}}{\text{imports}}$	Increase quality of agriculture professionals and inputs used by agricultural sector; increase foreign marketing of agriculture sector outputs in tourism origin markets	Increase of development effectiveness to $1 + 4 - 2.8 = 2.2$; increase of foreign exchange earnings by \$20 million; increased value and quality of service to local market.
R&D agriculture	\$20 million spent	Number of medical students publishing research papers in international journals	Actual rate of growth of referencing of local medical authors.	Actual growth of local intellectual property rights-based exports from agriculture sector as a ratio to total exports; overall effectiveness of 2.3	Increased development effectiveness over previous year	Increase allocation to support international collaboration by local agriculture sector researchers.	Increase in intellectual property rights exports by agriculture sector researchers; impact on export competitiveness in other sectors; overall development effectiveness of 2.7.

333. Additional indicators to be used in assessing development effectiveness are:

- a. Timeliness in meeting budget target
- b. Capacities of the action units (agencies or programs/projects) for planning, budgeting, implementation and monitoring.
- c. Commitment of action units to change in the productivity of resource use in agriculture.
- d. Commitment of action units to use of agriculture, including land redistribution, to change poverty and inequality levels.
- e. Degree of beneficiary satisfaction with the action unit's rate of expenditure on inputs to deliver support services and infrastructure for agriculture.

334. The PAER Team must be realistic about how long it will take to implement each policy and how long it will take thereafter for the full impact of the policy measure to be felt in the agriculture sector and then in the other sectors of the economy. It makes a difference whether an expenditure policy instrument can attain its goals in the budget year, in the medium term or in the long run.

335. If a policy will only be effective in the long run, the PAER Team must consider the likelihood that many other policy interventions will be needed before success is achieved, because other exogenous factors will also intervene to change the conditions and trajectories of the economy and the agriculture sector.

336. The PAER Team and stakeholders will have to consider two distinct time lags due to exogenous forces. The first is the lag between the emerging need for a fresh policy intervention as reflected in the initial conditions and the changing economic path *and* the time when the policymaker recognizes that need. The second is the lag between the time of recognition and the time when the policy intervention is initiated. Administrative delays and the need for legislative action (such as the budget expenditure and tax legislation) can cause such time lags.

337. The PAER Team must also consider the endogenous lags, which are lags that depend on the way the economy works and the capacity of the export-competing units in the agriculture sector to adjust their business practices.

5.5 ANALYSIS OF NECESSARY CONDITIONS FOR ACHIEVING PAER GOALS

338. In addition to conducting the search for improvements in economy, efficiency and effectiveness, the PAER Team should analyse the extent to which budgeted public expenditure is transparent, accountable, consensus-oriented, comprehensive, fair and equitable, predictable and consistent, and market-enhancing. In this assessment, the PAER should take account of all resources windows that would affect agriculture expenditure.

5.5.1 Transparency

339. For the successful conduct of the PAER, and for achievement of the PAER goals, all internal budget analysis and all audited financial data should be available to the PAER Team in an understandable format and on a timely basis. The best approach is to assess whether the accounting procedures follow either or both of the following:

- a. The IFRS.
- b. The IMF's 1998 code of Good Practices on Fiscal Transparency.

5.5.2 Accountability

340. The Ministry of Agriculture is normally required to follow the government's rules and mechanisms for holding public accounting officers liable for their actions. **Annex 1** provides some clarification. The PAER Team should analyse whether this mechanism routinely provides for:

- a. Specification of the procedures for spending public funds.
- b. Identification of the accounting officer or other person who must be held accountable for each allocation and expenditure.
- c. Detailed specification of what the accounting officer or other person is accountable for.
- d. Specification of the senior officer to whom the accounting officer is accountable.
- e. Specification of the format of reporting and accounting in this process, along with all supporting documents and signatures needed when accounting.
- f. Specification of document filing procedures aimed at ensuring that accurate records are routinely available for examination.

5.5.3 Consensus-orientation

341. A budget is consensus-oriented when it is prepared through a harmonized dialogue mechanism that provides all stakeholders an opportunity to influence it. The PAER Team should analyse the budget dialogue mechanism to determine whether it features one or more of the following elements:
- a. A commitment to open dialogue with each stakeholder institution.
 - b. A proper forum (physical and virtual) for timely stakeholder participation in collecting and analysing information (facts and opinions) in the early stages of the budget process.
 - c. A formal process for facilitating participation.
 - d. Clear rules of participation.
 - e. A calendar/schedule for the dialogue, with:
 - i. Stakeholders to be met.
 - ii. Meeting date.
 - iii. Meeting time.
 - iv. Meeting locations and directions to locations.
 - v. Meeting topics.
 - vi. Meeting agenda.
 - f. An adequate process and timeline for arrival at final agreements and decisions when a joint policy process is in place.

5.5.4 Comprehensiveness

342. The PAER Team should analyse whether the expenditure is comprehensive, in the sense that the budget provides a full and complete picture of all of the following:
- a. Sources of revenues by ministries, districts, local governments, autonomous and semi-autonomous agencies and any other government controlled agency or program/activity.
 - b. Categories of expenditures by ministries, districts, local governments, autonomous and semi-autonomous agencies and any other government controlled agency.
 - c. The role of user fees, profits, grants, and other non-tax revenue.

5.5.5 Fairness and equity

343. Public expenditure should be fair and equitable. In particular, it should not be discriminatory or regressive. Accordingly, the PAER Team should analyse the agriculture budget for any conflict between equity and the goals of economy, efficiency and effectiveness. If any conflict is observed, the PAER should propose specific measures to address the problem or draw the conflicts to the attention of government. Proposed measures should favour the poor and vulnerable.

5.5.6 Predictability and consistency

344. Sound budgets are consistent and predictable. Predictability support expenditure prioritisation and implementation. It also helps to signal government's intentions to stakeholders and it assists the private sector with its own strategic planning and investment programming.

5.5.7 Market-enhancing capacity

345. In general, public expenditure should cater adequately for market failure and should also minimize market distortions. Accordingly, the PAER Team should analyse the agriculture budget for evidence of key forms of market failure that are not addressed by the spending program. For example, the construction of agricultural access roads in certain districts or the failure to regulate the use of agricultural chemicals in these districts are important sources of market failure that should be analysed.
346. Importantly, public expenditure should be confined to those activities which the private sector is not likely to engage in to satisfy socially efficient objectives. Government expenditure should also ensure fair pricing, fair competition and fair trade. Market distortions on all these fronts can affect the quality of the decisions to reallocate funds from current uses to better uses.

5.6 KEY DATA CHALLENGES TO BE ADDRESSED

347. By its nature, a PAER usually requires reliable and highly disaggregated data for analysis and comparisons of agencies and activities, classified as indicated above. It also requires data that can be used for comparison with other countries.
348. Ideally, within the COFOG codes, the PAER should track the agriculture and other sector allocations and the related expenditure at least by the Heads of expenditure. However, it may be necessary to follow details to the Subheads, Items, and Sub-Items. The PAER should determine the level and share of each in the total, and whether it is increasing, decreasing, or unchanging.
349. The PAER Team should address the following data challenges, as set out in the following Table 5-14, with strategies to address them. The analysis is often needed as part of the in-depth analysis of the economy of expenditures, which is a substitute for efficiency and effectiveness analysis when sufficiency financial data are not available.

Data Challenge	The Problems	The Solution
Contradictory data	Key skilled personnel may leave an organisation or department and may not be available to the PAER.	Triangulation with other sources and use of other datasets.
	Different reports from the same institution or program provide different and inconsistent data on the same subject	Use the interview process to get the facts or get clarification of the inconsistencies.
Ongoing reforms	Partner governments are always undertaking public sector reforms projects. These often lead to changes in policy, laws, and changes in institutional or program responsibilities, mandates, activities, and budgets.	Detailed study and monitoring of all previous and ongoing reforms. Identification of all issues arising. Identification of the leaders of the reforms and interviews with them on all changes relevant to the PAER. This may require special interview instruments.
Changing and mergers of budget codes; different codes for different ministries	As indicated in Annex 1, the budget in all partner countries is specified in terms Heads, Subheads, Items, and Sub-Items. These might change over time, often by merging or by discontinuation.	Read <i>concurrently</i> the code and title for each relevant Head, Subhead, Item, and Sub-Item starting from 3 years ago. Follow the code to the present year of the PAER. If any change, seek clarification from the Ministry of Finance.
Inter-country comparisons	The PAER may need to compare performance ratio across countries. This is especially relevant to internationally agreed development goals. Differences in relative prices, rate of development, state of infrastructure, market failure, and the comparative roles of the market usually make it difficult to compare ratios meaningfully.	Do not base expenditure assessments on international comparisons alone. Use internally computed ratios as well, following the methods described in the methodology.
Off-budget spending	<ul style="list-style-type: none"> Some expenditure on agriculture is payment by external (non-government) interests to contractors who provide service or goods to the government without passing through the national accounting system. Some agriculture expenditure takes place out of extra-budgetary funds. Some expenditure on agriculture come from earmarked funds. 	Report all instances in the PAER and document the understanding formed of the influence of the funds on the assessment of the optimality of savings and reprioritization.
Inconsistencies in classifications used in annual sector action plans	Budgets are developed from annual action work plans of departments and sector ministries. The activities of these departments and sectors are not similarly classified and detailed across sectors.	At start of the PAER, use the COFOG as basis for a cross sector classification matching exercise. Also use the ISIC classifications. Read <i>concurrently</i> the code and title for each relevant Head, Subhead, Item, and Sub-Item in each sector starting from 3 years ago. Follow the code to the present year of the PAER. If any doubt, seek clarification from the Ministry of Finance. Use a Public Expenditure Tracking Survey as described below.

5.7 ANALYSING FUNDING SOURCES AND FUNDING MODALITIES FOR AGRICULTURE

5.7.1 Forecasting the revenues for public expenditure

350. Before the government can decide how and where to spend money, it must first determine what sources will be available to spend in the coming year. In a PAER, it is important to know the general sources, amounts, and conditions because they have a bearing on what can be appropriately allocated and used for agriculture. Government revenues comprise domestic revenues and revenues from external sources, including grants and loans.

351. The government policy on all its loans from the markets and governments should be documented, even though much of the policy is shaped by monetary policy concerns. In particular, it should be stated whether loans will be used for recurrent purposes or only for capital projects that will contribute to competitiveness and long term growth. Forecasts should be done to indicate the levels, share and rate of growth of the revenue classes.

5.7.2 Forecasting domestic revenues

352. Forecasts of domestic revenues should be done under the headings in Box 5.5. (**Annex 3**).

5.7.3 Forecasting external revenues

353. Forecasts should also be done of external revenues, in terms of level, share and rate of growth.

5.7.4 Addressing External grants

354. External grants are sums of money given by donor countries and other International Development Institutions. They carry no quid pro quo and requirement requirements. The amount involved must be forecasted. An important source, some funnelled through non-government agencies, is the Economic Partnership Agreement with the EU.

5.7.5 Forecasting External loans

355. External loans carry repayment obligations and debt implications. Loans can be obtained from the foreign private market or from international development agencies. The amount involved must be forecasted.

5.7.6 Funding modalities in partner countries

356. The partner countries gain access to international funding under several modalities.

- a. General budgetary support, for example under the EPA agreement.
- b. Special supports to the various sector budgets.
- c. Special projects
- d. Separate funding under the EPA

5.7.7 Analysis to be done by source of funding

- a. The trends in revenue by funding source, and as a percentage of GDP.
- b. The trends in the share of revenue by funding source.
- c. The overall trends in all internally generated revenue.
- d. The trends and amounts of extra-budgetary funds.
- e. The trends and amounts generated by districts.
- f. The form in which the development partners chose to use their aid, that is, among general budget support, sector basket funding, and stand-alone projects.
- g. Predictability of funding by source.
- h. National and global issues likely to positively or negatively affect funding in future.

5.8 ANALYSING THE INSTITUTIONAL ARRANGEMENTS OF AGRICULTURE EXPENDITURES

357. In addition to the analysis of the level and composition of public expenditure allocations, it is also necessary to analyse the institutional arrangements that shape allocation and implementation of agriculture policy. This analysis is necessary because the institutional relationships among the main decision-makers strongly influence the allocations as well as implementation of the expenditure program.

358. The PAER must determine: (i) if the institutional processes and incentives for performance are adequate; (ii) if changes in the relationships would improve the allocations and execution on a sustainable basis; and (iii) if to propose institutional reforms accordingly.

359. The PAER should determine whether the effects of any of the following public expenditure management problems are present to cause socially undesirable outcomes:

- a. The tragedy of the commons – which means it is practically impossible to enforce ownership rights and hence control over the use of a product or resource in accordance with the economy-wide expenditure framework. This happens, for example, when government cannot enforce intellectual property rights.

Box 5.5: Revenues to be forecasted

Tax revenues

- i. indirect taxes from goods and services
- ii. income taxes (PAYE taxes)

Non tax revenues

- i. trade licenses,
- ii. driving permits,
- iii. court fees,
- iv. traffic fees,
- v. passports,
- vi. consular fees
- vii. school fees
- viii. hospital fees
- ix. sale of property
- x. profits from government-owned businesses

Other sources of revenue.

There are non-tax revenues which are earmarked for use by the agencies that produce and collect them. These include:

- i. Fees from concessions to produce and sell products or services, for example fees from use of pharmaceutical windows, interest from student loan programs, fees from use of tourism parks and museums, housing agencies.
- ii. Districts and local government collect and retain some revenue.
- iii. Domestic financing by borrowing from banks and non-bank institutions, and special financing arrangements.
- iv. Drawdowns from deposits in the Central Bank.

- b. Information asymmetries and high transactions costs – which tend to cause incomplete definition of the relationship between the expenditures of government and the wishes of citizens and non-government organisations. These problems can only be resolved in a joint decision-making framework characterized by harmonized mechanisms for participation.
- c. Information asymmetry and incentive incompatibility within the government structure – which can limit success in making the allocation and use of budget funds socially acceptable. For example, the Minister of Agriculture might be politically weak in the Cabinet.
- d. Perverse incentives – which can be created if external agencies or special private political donors can direct funds to NGOs and other groups to undertake activities in the agriculture sector that benefit government but are not included in the national budget.

360. The PAER should determine whether institutional reforms are necessary to resolve these problems and improve expenditure allocations. These issues are best addressed by primary data collection by the PAER Team. Questions that can be used to prepare a questionnaire for this purpose are suggested in **Annex 8**.

5.9 PRESENTING RECOMMENDATIONS

361. Recommendations should generally be presented based on the integrated scoring of all relevant Heads and Subheads of expenditure within the COFOG. These scores should take into account the Team’s judgements about the transparency, accountability, consensus-oriented, comprehensiveness, fairness and equity, predictability and consistency, and market-enhancing characteristic of the public expenditure process.

362. Consider Subheads of budget allocations aimed at “increasing the supply of infrastructure from 38% to 70% of need in 3 years in specific districts where key exporting firms operate”. Table 5-15 illustrates how the integrated scoring should be represented.

		Allocation Code or Project				
		0013	0202	0003	0004	0505
Project Description		Infrastructure construction, District 1	Classroom construction, District 2	Infrastructure construction, District 3	Classroom construction, District 4	Classroom construction, District 5
1	Budget	10	20	30	40	50
2	Actual expenditure	8.5	17.8	28	32	48
3	Variance	1.5	2.2	2	8	2
4	% variance	15%	11%	7%	20%	4%
5	Economy of inputs purchased:					
6	Measures of the percentage of budget used	85%	89%	93%	80%	96%
7	Efficiency of inputs purchased					
8	Extent to which specification followed - number of planned work items completed vs number of items planned; or percentage of standards of delivery achieved	80%	70%	85%	90%	95%
9	Extent to which output delivered on time;	50%	60%	70%	80%	90%

		Allocation Code or Project				
		0013	0202	0003	0004	0505
Project Description		Infrastructure construction, District 1	Classroom construction, District 2	Infrastructure construction, District 3	Classroom construction, District 4	Classroom construction, District 5
	measured as the % of planned time of delivery					
10	Actual output as percentage of potential output	80%	78%	95%	97%	75%
11	Efficiency Score (8+9+10)/2	70%	69%	83%	89%	87%
12	Effectiveness of inputs purchased					
13	Does the infrastructure solve the problem being addressed?	95%	96%	86%	97%	100%
14	Is the best education being provided?	100%	100%	100%	90%	90%
15	What fraction of the underemployed have used the asset as springboard to move into fulltime paid employment?	70%	75%	80%	90%	80%
16	Use rate of infrastructure built?	85%	90%	87%	95%	100%
17	Impact on achievement of targeted growth of effective consumption capacity over 3 years?	75%	65%	16%	12%	90%
18	Effectiveness Score (13+14+15+16+17)/5	85%	85%	74%	77%	92%
19	Overall Score (6+10+16)/3	80%	81%	83%	82%	92%

363. The scores should be followed by a concluding statement about the implications for reprioritizing the expenditures and generating savings in line with government strategy. Similar tables should be constructed for all other key budget objectives, again often best expressed in terms of some percentage of need or demand. For example, the other economic development imperatives might translate to the following objectives:
- Increase the supply of human capital from 58% to 88% of need within 5 years.
 - Improve business climate from an index of 58% to an index of 80% within 3 years.
 - Improve technical efficiency of exporters from 75% to 95% over 5 years.
 - Improve research and development capacity for growth of scale efficiency and export competitiveness among exporters 10% of need to 25% of need by 2020.
 - Increase access to external financing from 28% of business needs to 50% of business needs over the next 3 years.

364. Once integrated scores have been presented for all Heads and/or Subheads, the overall recommendations can be assembled as illustrated in Table 5-16. Information should be presented on the target groups, the extent of coverage planned, the integrated scores, the proposed actions and the amount of savings achieved for the upcoming budget year.

COFOG Categories	Target Group of Poor or Vulnerable	Planned Coverage	Integrated Score on Economy, Efficiency, Effectiveness	Proposed action	Savings (\$ million)
Allocations for administration of agricultural affairs and services					
Conservation, reclamation or expansion of arable land	All agricultural sector	55%	75	-10	3
Agrarian reform and land settlement	Poor and vulnerable; landless farmers	100%	65	Re-evaluate; 5% increase	-2
Supervision and regulation of the agricultural industry.	All farmers	100%	85	no change	0
Construction or operation of flood control, irrigation and drainage systems, including grants, loans or subsidies for such works	Farmers	60%	70	-60%	15
Production and dissemination of general information, technical documentation	Agricultural sector	100%	73	-40%	10
Production and dissemination of general information, technical documentation and statistics on forestry affairs and services.	Poor and vulnerable by specific means test	80%	75	-45%	58
Development of statistics on agriculture, fisheries and forestry	All industry	100%	78	-5%	14
Allocations to Provide economic springboards through agriculture					
Vocational training in agriculture	Able-bodied poor and vulnerable	100%	83	10% increase	5
On-the-job skills training	Youth of working age without a job but possessing suitable academic qualifications for agro-tourism employment	100%	42	Eliminate	40
Operation or support of extension services or veterinary services to farmers, pest control services, crop inspection services and crop grading services.	Entrepreneurs in agriculture and selected agro-export industries; agro-tourism	100%	65	Re-evaluate; reduce 60%	44
Micro finance, compensation, grants, loans or subsidies to farmers in connection with agricultural activities, including payments for restricting or encouraging output of a particular crop or for allowing land to remain uncultivated.	Poor and vulnerable farmers; small farmers	55%	90	40% increase	22
Total					207
Target Savings					300
% of Target Savings Achieved					69%

5.10 STRUCTURE OF THE PAER REPORT

365. In general, the PAER Report should have the following structure:

Executive Summary

Introduction

Defining the boundaries of public agriculture expenditure

Context of the PAER

Policy and regulatory framework for

- a. The public sector generally
- b. The agriculture sector

Institutional arrangements of public spending

- a. The main actors
- b. The relationships among the main actors

Recent reforms in the

- a. Public sector generally
- b. Agriculture sector

Development assistance through EPA and other arrangements

- a. Volume
- b. Sources
- c. Instruments

Public expenditure in Country

- a. All expenditures
- b. All agriculture expenditure
 1. Ministry of Agriculture
 2. All other Ministries

Lessons from internal budget analysis and audits

The public agriculture expenditure review

Overall estimate of public agriculture expenditure, Ministry of Agriculture:

- a. Expenditure by all key subsectors (COFOG/ISIC)
- b. Expenditure by selected agencies, identified within COFOG/ISIC subsectors.
- c. Sources of funding:
 4. Domestic resources
 5. International resources
 6. Expenditure analysis by sectoral area:
- d. Trends, Share, Rate of growth for each broad source of funding

Contribution of the agriculture resources to national revenues during the study period (2013 – 2015).

The utilisation of agriculture allocations and potential savings from improvements in

- a. Economy
- b. Efficiency,
- c. Effectiveness

Case study 1: Fiscal decentralisation for agriculture

Case study 2: Institutional capacity for agriculture sector management and budgeting

Major lessons of the PAER

Recommendations of the PAER

Conclusions and summary

References

Annexes

Standard detailed tables showing

- a. Budget,
- b. Actual and committed expenditure
- c. Revenue
- d. Notes on how various estimates were arrived at, including definitions, assumptions and data sources.

Standard tables from institutional survey data

COFOG subsector summaries (maximum 5 pages each) focusing on specific issues relevant to the agriculture subsector)

Summary on issues related to agriculture expenditures at decentralized level

List of persons interviewed

6 CONDUCTING A SOCIAL PROTECTION EXPENDITURE REVIEW (SPER)

366. This chapter shows how to conduct a social protection expenditure review (SPER). The issues covered are the following:

1. Determining what is to be done and why for a social protection expenditure review (SPER)
2. Preparing to carry out the SPER
3. Defining the limits of a SPER
4. Framework for analysing public expenditure on social protection
5. Finding relevant data and information for a SPER
6. Analysing funding sources and modalities for social protection
7. Framework for analysing the institutional arrangements of social protection expenditure
8. Complementary data collection tools
9. How to write the SPER report

6.1 DETERMINING WHAT IS TO BE DONE AND WHY

367. The first step in conducting a SPER is to know what it is, why it should be done, and how it fits into budgeting of recurrent and development programs.

6.1.1 What is a SPER

368. Social protection expenditures are expenditures by public institutions aimed directly at providing public assistance to the poor and to individuals, households and communities to reduce their risk of being poor. The role of the public expenditures is to implement the government's social protection policy. Regular analysis of social protection expenditures contributes to fulfilling this role. The SPER is one tool that supports such regular analysis. Good examples are Marques (2008)¹⁸ and Wylde, et al. (2012).¹⁹

6.1.2 Main issues to be addressed in a SPER

369. The budget for social protection is developed from annual work plans of action units, departments, and special agencies. However, the expenditures may appear within the allocations of many sectors and ministries, such as Education, Health, and Agriculture. Correspondingly, many of the methods identified in Chapters 3-5 are useful when doing an SPER. Social protection takes an all-inclusive view of expenditures in these and other areas to ensure that the needs of the poor and vulnerable are met. The expenditure classes and responsible ministries will have to be identified by the SPER Team at the start of the exercise.

¹⁸ Marques, J. S. (2008). Nicaragua Social Protection Expenditure Review. Washington D.C.: World Bank.

¹⁹ Wylde, E. Ssewankambo, E, and Baryabanoha, W. (2012). Uganda Social Protection Expenditure Review. Prepared by Development Pathways, for the Ministry of Gender Labour and Social Development, Kampala. Available at <http://www.socialprotection.go.ug>.

370. The main issues to be addressed in a SPER are: (i) the size, growth and share of the allocations under the various classes of expenditure, and (ii) the use and management of the allocations to produce their outputs and outcomes. The main elements of a SPER are set out in Box 6.1. Items 1 to 4 in the Box relate to analysis of allocations. Items 5 and 6 relate to analysis of the management of the allocations.

The main elements of a SPER are as follows:

1. Overview of allocations and trends in public revenues from all sources, domestic revenues and foreign sources.
 1. Trends in allocations and forecasts of allocations
 2. Trends in revenues from all sources, and forecasts of revenues
2. Overview of all other expenditure by civil society
 1. Private
 - i. Firms
 - ii. Households
 2. NGOs
3. Analysis of trends in priority given to social protection expenditure in total budget.
4. Analysis of trends in priority given to budget classified by purpose or activity within the social protection budget.
5. For each class, relative to the specified objectives, analysis of the following aspects of the expenditures
 1. Economy
 - i. Outline the differences in actual disbursements and expenditures versus allocations.
 - ii. Link the differences to policy objectives.
 - iii. Evaluate performance by comparison with regional and international standard of 10% variance, or less.
 2. Efficiency
 - i. Analyse the input mix
 1. Recurrent vs capital
 2. Capital versus labour and social protection
 - a. Salary versus non-salary
 3. Management overheads versus cost of actual service delivery
 - ii. Analyse the output mix
 - iii. Relate the two – output/input/efficiency
 - iv. Compare with international best practice if information available
 3. Effectiveness
 - i. Compare current and projected benefit-costs, if improvement is possible.
 - ii. Compare with regional and international standards if possible.
6. Identification and highlighting of areas for savings from improvement in
 1. Economy
 - i. Compare current performance and projected performance, if improvement is possible.
 2. Efficiency
 - i. Compare current and projected unit output costs, if improvement is possible.
 3. Effectiveness
 - i. Compare current and projected benefit-costs, if improvement is possible.
 - ii. Compare with regional and international standards if possible.
7. Evaluation of autonomous and semi-autonomous government agencies on the same basis as above.

6.1.2.1 Analysis of Allocations

371. Here, the SPER should do the following analyses of allocations:

- a. Analyse the allocation of expenditures for social protection.
- b. Measure the cost of social policy priorities and compare with the spending window made available by the Ministry of Finance.
- c. Identify low-priority activities and programmes that could be cut to make room for programs with a higher priority or reallocated to other sectors.

- d. Identify the scope for increasing the resources available to protect the poor and vulnerable.
- e. Identify possible policy inconsistencies in budget allocation. This is normally done by:
 - a. Comparison of allocations with international practice.
 - b. Analysis of allocations across the locations or administrative districts of the country.
 - c. Analysis of trends in allocations over time, in terms of their shares, levels and growth.

6.1.2.2 Analysis of the management of social protection expenditures

372. Analysis of the management of the allocations to social protection involves analysis of the following:

- a. The rationale for the activities and programs of the sector
- b. The integration of capital and recurrent expenditures, with specific reference to the comparative rates of growth of these components.
- c. The degree of economy of the expenditures, with specific attention to the institutional matters that arise and the quality of the procurement process used to spend the funds allocated.
- d. The efficiency of social protection expenditures.
- e. The effectiveness of social protection expenditures.
- f. Problems encountered (e.g. data quality, non-cooperative departments).

BOX 6-2: MARKET FAILURE AND PRIORITIZING SOCIAL PROTECTION

When identifying low-priority activities and analysing the management of public funds spent on social protection, the impact of market failure must be considered. This is because much of social policy is tied to the creation of opportunities and delivery of services for the poor through education, health and agriculture.

Market failure is pervasive in the all of these sectors. There are necessary investments that will not be undertaken by the private sector for various reasons:

- i. Some public outputs in agriculture, education and healthcare are part of the commons.
- ii. Some investments in agriculture, education, and healthcare exceed the capacity of the private firms.
- iii. Some necessary investments in agriculture, education, and healthcare exceed the capacity of the governments themselves, and may require international cooperation. Management of epidemics through PAHO is a good example. Another is research and development in agriculture.

They are nevertheless necessary priority investments because of their externalities, hence their impact, on the performance of the activities and agencies of these sectors and the wider economy.

6.1.3 Why the SPER is done – goals and objectives

373. The general goal of the SPER should be to provide information that guide government about how to make social protection expenditure more economical, efficient or effective in its current use or redirect the expenditure to better uses (Box 6-2).

374. Based on the Scoping Studies, these goals should be tied to the following specific objectives of the SPER:

- 1. To establish baseline data and a framework for analysing expenditure on social protections.
- 2. To analyse how expenditure on social protection conformed to budgets and the medium-term strategies of government in the context of balance of payments and budget deficits.

3. To evaluate the economy, efficiency and effectiveness of expenditure on social protection.
4. To assess how to position future expenditure on social protection in the context of the growing demand for policy reforms by international partners.
5. To monitor the expenditure to deliver needed social services to the poor and vulnerable.
6. To address the availability of revenues to meet the resource requirements of social protection.

6.1.4 How the SPER fits

375. As clarified in Chapter 2 and Annex 1, the SPER is an element of the strategic planning and budgeting of government, and is a counterpart of the internal budget analysis and audits done by the various ministries responsible for social protection. It should therefore be done before the next year's budget preparation begins. If it is done at another time, then the findings should be disseminated as soon as is practical to support the budget process.

6.1.5 Delivering the goals and objectives

376. To deliver the goals and objectives of the SPER, the SPER Team must have some basic understanding of: (i) the details of the type of analysis to be done; and (ii) how the analysis will inform the authorities in the responsible ministries, the Ministry of Finance, and other stakeholders on how to redirect expenditure or make its current use more optimal.

6.1.6 The type of analysis to be done in the SPER and the guidance provided

377. The SPER team should provide answers to the following questions about government's revenues and expenditures:

- a. **Revenues:** How much money does the government have to spend? Where does it come from? How much of it is generated by the country's tax base? How much of it comes from external funds?
- b. **Expenditures:** On what has the government spent its resources previously and is projected to spend in the future? What sort of public services have been provided with the previous budgets? Which sectors have good service provision and which sectors need improvement? Who are the main beneficiaries of government spending? For example, is it the rich or the poor; women or men; rural or urban areas? Are the benefits spread equitably? Do the beneficiaries have equal access to services? Are there disadvantaged groups that need special attention? Have the services provided resulted in improved living conditions including poverty reduction?

378. The answers will assist the government in determining the potential, if any, for increasing its financing envelope, through: (i) taxes; (ii) borrowing, local and foreign; (iii) foreign grants/gifts. The answers will be derived partly from revenue and expenditure forecasting. **Annex 3** presents a set of methods that can be used for revenue and expenditure forecasting. The main methods considered include: (i) qualitative forecasting and judgement forecasting; (ii) moving average methods, including ARIMA; (iii) exponential smoothing and Holt-Winters methods; (iv) single equation regression forecasting; and (v) macroeconomic and GDP-based forecasting. Microsimulation models are summarized for completeness.

379. The forecasts will also inform the government about the adequacy of the current planning and budgeting framework and process. Specifically, they will indicate whether: (i) the revenues are closely linked to government's priorities, and in particular whether the planning priorities are reflected in the budget; (ii) the public service has the capacity to utilize the budgets allocated; (iii) capacity-building should be initiated anywhere; and (iv) some of the public expenditures that should be shifted to other government priorities or to the private sector.

6.2 PREPARING TO CARRY OUT THE SPER

380. A successful SPER requires good planning. In preparing to carry out a SPER, the first step is preparation of terms of reference (ToR) or scope of work for the SPER Team that will do the review. The second step is to recruit a SPER Team with suitable qualifications to execute the ToR. **Annex 4** provides an annotated outline of a ToR that can be adapted for the SPER Team. The level of detail in the final ToR is related to the depth of the sector SPER.

381. The introduction of a SPER in each country should be promoted by a sensitization initiative designed to generate a wide understanding of the processes and the responsibilities it brings. This can be done through appropriately timed and located workshops.

6.2.1 Identification of the poor and vulnerable and the dimensions of poverty

382. Prioritization in the SPER focuses on finding expenditures that have the greatest impact on lowering poverty and the risk of becoming poor by individuals, households, or communities. Thus, a SPER requires a method of identifying the poor and those at risk. The UNDP's multi-dimensional measure of welfare status and hence poverty is recommended and is detailed in **Annex 9**. The approach is useable with data from random samples, and is applicable in all partner countries. A good source of data for these purposes is the set of Surveys of Living Conditions undertaken by the Caribbean Development Bank in the partner countries of the project. Because the metric is not predominantly financial, it is especially relevant to Belize with its large populations of indigenous people. The welfare dimensions can also be analysed individually.

383. To underscore the multi-dimensional character of poverty and vulnerability, **Annex 9** also includes a list of additional factors to be used to analyse the trends and patterns of poverty and to identify the groups of the population that are at a heightened risk of being or becoming poor.

384. The factors identified are normally the focus of government's efforts at social protection from poverty and its consequences. The indicators relate to consumption, education, health, transport, and housing conditions. Analysis of these dimensions will also provide the SPER Team with additional background information on the effectiveness of past government's expenditure on infrastructure and services.

385. Once each household is characterized using the metric, reports should be generated to assess progress in poverty reduction over time, spatially, and across relevant social groups including all vulnerable groups and special communities, such as the communities of indigenous people. Table 6-1 illustrates one option. Similar tables can be constructed to consider additional vulnerable groups, such as single female-headed households or single male-headed households.

Table 6-1: Trends in Multidimensional Welfare Status, by Consumption Status, Age, Location, and Selected Community

Consumption Status (Quintile of Consumption)	2010			2014		
	Indigent	Poor	Non-Poor	Indigent	Poor	Non-Poor
Lowest	45	90	10	43	89	11
2	12	25	75	11	23	77
3	1	15	85	1	12	88
4	0	1	99	0	1	99
5	0	0	100	0	0	100
Age						
0-5	12	25	75	11	23	77
6-11	1	15	85	1	12	88
12-19	0	1	99	0	1	99
20-34	12	25	75	11	23	77
35-49	1	15	85	1	12	88
50-69	0	1	99	0	1	99
70+	1	15	85	1	12	88
Location of Household						
District1	12	25	75	11	23	77
District2	1	15	85	1	12	88
...						
District N	12	25	75	11	23	77
Urban	1	15	85	1	12	88
Rural	0	1	99	0	1	99
Selected Communities						
Community A	12	25	75	11	23	77
Community B	1	15	85	1	12	88

386. Analysis should be designed to indicate the scale and distribution of social protection needs in the society. Much of the social protection is designed to address problems that are specific to certain poor vulnerable groups in Table 6-1. This must normally be revealed through more in-depth analysis. For example, when poverty is further analysed by age group, it might be found that there is a significant underlying problem of child-labour. Clues to this can be obtained from data such as are presented in Table 6-2 on the distribution of child-labourers and teenage workers by industrial sector. Most are usually found in agriculture. Similarly, the data might reveal a significant problem of teen-age pregnancy in certain key districts (Table 6-3; a high rate of underemployment (Table 6-4); or inadequate pension coverage among the elderly (Table 6-5).

Table 6-2: Child Labour and Teenage Workers (Nos.)

Economic Activity	5-9	10-15	16-19	5-15	5-19
Agriculture, Forestry, Fisheries	1000	1200	1500	2200	3700
Mining	70	80	90	150	240
Manufacturing	100	100	100	200	300
Electricity	0	12	8	12	20
Construction	300	400	500	700	1200
Wholesale and Retail	600	700	800	1300	2100
Transport, Storage, Communications	700	800	900	1500	2400
Finance	0	0	0	0	0
General Government	400	500	800	900	1700
Community Services and Make Work Programs	300	400	500	700	1200
All Child and Teenage Workers	3470	4192	5198	7662	12860
Population of Children and Teenagers	100000	200050	300000	300050	600050

Table 6-3: Distribution of Teenage Pregnancy by District

	District1	District2	...	District N	Urban	Rural
Teenage Mothers	600	800		1000	3000	3500
Number of Teenagers	5000	6000		7000	22000	26000
% Teenage Pregnancy	12%	13%		14%	14%	13%

Table 6-4: Employment and Unemployment of Selected Groups (000's)

Category	2012	2013	2014
Population	50	55	60
Labour Force	25	30	35
Employment			
Full Time Employed	15	18	20
Part time	5	7	9
Unemployed	5	7	9
Underemployed			
Visible Underemployed (<40 hours)	6	8	10
Invisible Underemployed (<=minimum wage)	4	5	6
Unemployed by Age Group			
18-19	6	4	3
20-24	5	4	3
25-29	4	3	2
30-34	4	2	1
35-49	5	4	3
50+	1	2	3

Table 6-5: Pension Status of Population (000's)

Category	2012	2013	2014
Population	50	51	52
Labour Force	25	26	27
LF Participation Rate	50%	51%	52%
Pension and NIS Contributors	15	18	21
Contributors as % of LF	60%	69%	78%
Retirees with Pension (Age 60 and Over)	8	7	8
Retirees with Pension % of Population	16%	14%	15%
Number of Dependents on Pensioners	10	11	12
Pension Dependency Ratio	1.3	1.6	1.5

387. Tables 6-6 to 6-9 illustrate how to monitor the health-related challenges being addressed by the social protection system. In these examples, infants and under-5 children are the focus. The time frame for the review is the past 3 years, although longer periods can be considered if necessary. The data should indicate how these conditions are related to the education and employment/occupation of the head of the household. Additional details on relevant aspects of health and poverty to be analysed are available in Chapter 4 of this report.

	2012	2013	2014
Maternal deaths per 100,000 live births			
Neonatal deaths (less than 28 days after birth) per 1000 live births			
Postnatal deaths (between 28 and 59 months after birth) per 1000 live births			
Under 5 mortality rate			

	District 1	District 2	...	District N
Maternal deaths per 100000 live births				
Neonatal deaths (less than 28 days after birth) per 1000 live births				
Postnatal deaths (between 28 and 59 months after birth) per 1000 live births				
Under 5 mortality rate				

	<6 years of schooling	6 to <11 years of	11 to <13 years of schooling	>13 years of schooling
Maternal deaths per 100000 live births				
Neonatal deaths (less than 28 days after birth) per 1000 live births				
Postnatal deaths (between 28 and 59 months after birth) per 1000 live births				
Under 5 mortality rate				

Category	Undernutrition relative to height among children 0 to 59 months (%)		
	2012	2013	2014
Rural			
Urban			
District 1			
District 2			
...			
District N			
Consumption Status (Quintile of consumption)			
Lowest			
2			
3			
4			
5			
Gender			
Male			
Female			
Age Months			
0-11			
12 to 23			
24 to 35			
36 to 47			
48 to 59			

388. Similar tables should be assembled to consider how children are affected by the availability of education infrastructure and services, the rate of development of the transport sector and housing conditions. In the case of education, Tables 6-10 to 6-12 illustrate how to monitor the effects of past policies on education.

389. Regarding the industrial sectors that perpetuate underdevelopment among the young people, if data are available, tables should be constructed to compare the effects of employment in different industrial sectors. Groups targeted are normally those who should be in school optimizing the use of opportunity to acquire knowledge and the skills to use it in early life. Table 6-13 illustrates. However, a broad picture is also already provided by including data on the location of residence in rural or urban districts, since much of agriculture has historically been located in rural areas. Additional details needed to monitor the effects on poverty of public expenditure on infrastructure and services in agriculture are presented in Chapter 5.

Table 6-10: Recent trends in attendance of early childhood development institutions by children 0 to 5 years

	2012	2013	2014
Attendance of early childhood development institutions (%)	85	88	90
Percentage of institutions with trained early childhood teachers and nurses (%)	5	10	15

Table 6-11: Recent trends in gross enrolment rates of children 3 to 5 years in early childhood education institutions, by location, welfare (poverty) status, gender of head of household (%)

	2012	2013	2014
Location			
Rural	5	10	15
Urban	6	7	9
District 1	7	8	9
District 2	8	9	10
...			
District N	9	11	13
Welfare Status			
Lowest	5	6	7
2	5	7	8
3	6	9	10
4	7	11	12
5	8	13	14
Gender			
Male	7	8	10
Female	11	9	8

Table 6-12: Recent trends in gross enrolment rates of children 11 to 16 years in secondary education institutions, by location, welfare (poverty) status, gender of head of household (%)

	2012	2013	2014
Location			
Rural	5	10	15
Urban	6	7	9
District 1	7	8	9
District 2	8	9	10
...			
District N	9	11	13
Consumption Status (Quintile)			
Lowest	5	6	7
2	5	7	8
3	6	9	10
4	7	11	12
5	8	13	14
Gender			
Male	7	8	10
Female	11	9	8

Table 6-13: Recent trends in shares of employment in industrial sectors of vulnerable age group

Industry	10-15 years	16-22 years	23-30 years
Agriculture, forestry, fishing	14	15	12
Mining	5	4	5
Manufacturing	6	7	9
Construction	12	8	9
Transport, Storage Communications	12	11	10
Wholesale and Retail Trade	14	9	10
Hotels and Restaurants, Tourism	13	12	15
Finance	9	11	13
General Government	15	23	17
All Industries	100	100	100

6.2.2 COFOG Classifications for the SPER

390. Once the groups who are poor and at risk have been identified and broad patterns monitored, the next step in the SPER is to identify and analyse the specific allocations in the budget designed to support them.

391. In section 710 of the COFOG (**Annex 5**), expenditures for social protection include cash payments or gifts in-kind (goods and services) to protect against or support: (i) sickness; (ii) disability; (iii) old age; (iv) loss of parents or other providers; (v) dependent children; (vi) unemployment and similar loss of earnings; (vii) high housing costs; (viii) social exclusion; and (ix) social policy research. Loss of earnings might be produced by the adverse shocks of economic restructuring and are often protected under the concepts of a social safety net.

392. Some cash and in kind payments are also in the form of a social springboard to increase income-generating opportunities, such as vocational training, technical assistance, and micro finance. The SPER Team should determine if there is a significant possibility that the success of the springboards is a likely precondition for economic development.

393. Table 6-14 and Table 6-15 illustrate the required background analysis with some of the COFOG indicators. Only broad categories are indicated in the Table but the SPER must document all the details. Table 6-15 illustrates the documentation of the allocations within the social protection system.

Table 6-14: Social Protection Allocations, Target Populations and Planned Coverage of Cash Transfers

COFOG Categories	Target Group of Poor or Vulnerable	Planned Coverage
Allocations for cash payments or gifts in-kind (goods and services) to protect against or support:		
Sickness	Children; Elderly	55%
Disability	Disabled of any age	100%
Old Age	Age group 70 and over	100%
Loss of parents or other family support	Children; Victims of industrial accidents	100%
Dependent children	Children ages 0 to 14 years	100%
Unemployment and similar loss of earnings	Unemployed	60%
Accidents and fire damage resulting in loss of home or job	Victims of accidents and natural hazards	100%
High housing costs	Poor and vulnerable by specific means test	80%
Social policy research	Poor and vulnerable	100%
Allocations to Provide Social Springboards		
Vocational training	Able-bodied poor and vulnerable	100%
On-the-job skills training	Youth of working age without a job but possessing suitable academic qualifications	100%
Technical assistance	Entrepreneurs in agriculture and selected export industries	100%
Micro finance	Poor and vulnerable	55%

Table 6-15: Distribution of Social Protection Funding, by Age Group, Location, Gender and Unemployment Status

	Allocation (\$000's)	Share of GDP
Age Group		
6-9	500	4.6%
10-11	506	4.7%
12-16	512	4.7%
17-19	518	4.8%
20-24	524	4.9%
25-29	530	4.9%
30-54	536	5.0%
55-59	542	5.0%
60-74	548	5.1%
75-79	554	5.1%
GDP	10796	100.0%
Location of Household		
District1	536	5.0%
District2	542	5.0%
...	548	5.1%
District N	554	5.1%
Urban	536	5.0%

Table 6-15: Distribution of Social Protection Funding, by Age Group, Location, Gender and Unemployment Status

	Allocation (\$000's)	Share of GDP
Rural	542	5.0%
GDP	10796	100.0%
Gender		
Male-Headed Households	542	5.0%
Female-Headed Households	548	5.1%
GDP	10796	100.0%
Welfare Status		
Extreme Poor	542	5.0%
Poor	548	5.1%
GDP	10796	100.0%
Unemployment Status		
Underemployed		
Visible Underemployed (<40 hours)	542	5.0%
Invisible Underemployed (<=minimum wage)	548	5.1%
GDP	10796	100.0%
Unemployed by Age Group		
18-19	542	5.0%
20-24	548	5.1%
25-29	542	5.0%
30-34	548	5.1%
35-49	542	5.0%
50+	548	5.1%
GDP	10796	100.0%

6.3 THE FRAMEWORK FOR ANALYSING PUBLIC EXPENDITURE ON SOCIAL PROTECTION

394. According to the Scoping Studies, all of the partner governments want to use the SPER as a tool to improve public expenditure management. Their main focus are the following three areas: (i) macro-economic fiscal discipline, which scales the exercise to which the sectors contribute; (ii) priority setting, that is, ensuring that resources are allocated and used to deliver the priorities of the government; and (iii) economic, efficient, and effective use of the resources.

6.3.1 Macroeconomic fiscal discipline

395. Given the coexistence of budget and external deficits documented in Chapter 2, the partner governments must control total expenditure. The controls must be designed to prevent growth in the deficits as a share of GDP, and related growth in the share of tax revenues and expenditure in GDP. They must also ensure budgets that are not mere amalgams of requests from sector agencies, but rather are consistent with the government's strategic goals as well as resource conditions. Consequently, the SPER must review ways to control each of the following aggregates:

- a. Total revenue.
- b. Total spending.
- c. The deficit (or borrowing requirement).
- d. The public debt.

396. To assist government, the SPER must examine the planning framework to identify the strategic objectives of government, look back to examine and compare the results of past actions and their projections to the future, and then determine what reforms of social protection can contribute. The controls of expenditure to fit strategy must produce savings that reduce the deficit on a scale and in a manner sufficient to bring the external deficits into balance. The sector PERs contribute to this total.

397. The SPER identifies the contribution of social protection. One type of contribution comes from improving allocative efficiency, by bringing the allocations in line with those specified in the government's strategy. The other type of contribution comes from finding allocations in social protection that perform poorly in terms of their economy, efficiency and effectiveness. These are then adjusted to deliver the savings to be contributed, bearing in mind that economy, efficiency and effectiveness of resource use are ultimately also good for the poor and vulnerable.

6.3.2 Searching for Opportunities to Improve Economy, Efficiency, and Effectiveness

398. Having identified the poor and the groups at risk of becoming poor, the SPER must prioritize the expenditures that have the greatest impact on the reduction of poverty and on creating stepping stones out of poverty through income creation. Within the COFOG, the search begins with infrastructural expenditures in a variety of sectors that generate goods and services for the commons that also benefit the poor, and those at risk of becoming poor.

399. In agriculture, the main classes concern public agricultural research, extension services, education, and rural infrastructure. In education, these are pre-school and primary school construction, staffing and research facilities, public information and workshops about skills upgrading opportunities, transport and other costs that pose great risks to the public and that can only be addressed adequately by government. In health, the expenditures concern public health and preventive services. In the Ministry of Works/Infrastructure, they often appear as public works designed to support the underemployed.

400. In the partner countries, these activities are undertaken by several ministries, and are usually not coordinated under a single ministry responsible for social protection. Wherever they are found, they must be accorded the highest priority, since their neglect will have the greatest impact on the poor, especially those residing in rural areas.

401. Next in importance are expenditures to increase basic financial access to the poor and provide price protection that establish springboards for escape from poverty. In the COFOG, these would be found under headings in a wide range of classes:

- a. Grants, loans or subsidies, such as for drainage, infrastructure and similar work in agriculture.
- b. Operation or support of programs or schemes to stabilize or improve farm prices and farm incomes.

- c. Compensation, grants, loans or subsidies in connection with education, health and agricultural activities, including payments for restricting or encouraging output.
- d. Subsidized funding through development banks with supporting collateralization programs, and with waivers and subsidies to support applied research and experimental development by research institutes and universities.

402. In general, the priorities reflect attempts to address market failure that affect the poor severely, and are referred to by a range of categories such as: (i) cash transfers, conditional or unconditional; (ii) food stamps, vouchers or coupons; (iii) school feeding programs; (iv) school supplies and uniforms; (v) price subsidies, including energy, utilities, and transport; (vii) cost-free access and exemptions for transport, schools and health care.

6.3.2.1 Improving efficiency

403. The search for ways to improve efficiency involves two steps. The first step is to assess whether resources are allocated to the ministries, agencies, and activities in accordance with the strategic objectives of government. The second step is to assess whether, once allocated, the resources are used with maximal technical efficiency and promotes scale efficiency if necessary, and to adjust the use accordingly.

404. Each aspect of the efficiency analysis is conducted for every selected class purpose identified under the COFOG, and for all selected agencies under each class. In each case, analysis is done of the utilisation of allocations to improve allocative efficiency, technical efficiency, and scale efficiency when delivering support to the poor.

6.3.2.2 Improving allocative efficiency of budget

405. Here, the SPER Team examines the allocations of the sectors, sector activities or agencies to see if: (i) the actual allocations and their trends are in line with those defined by government strategy; and (ii) gains in the value of outputs can be achieved by shifting resources from current or previous priorities to new priorities as specified under the medium-term strategic framework of government. Gains can often be made when the allocations to sectors are mere amalgams of ministry requests and not tied to the strategic plan of government or to the required performance as defined by the strategic plans.

406. To assist with improving allocative efficiency, the SPER Team must receive from the government, in particular the Ministry of Finance, the new priorities and expectations of output that the SPER must use when examining past allocations that favour the poor. The trajectories of the past allocations must be compared to the proposed allocations under the strategic plans. Discrepancies must be analysed.

407. Then, the SPER Team must also assess the actual and projected outputs of the past allocations and compare them with the new targeted outputs of the strategic allocations to see if gains in output can be generated from a shift of the resources. The value of the gains should be measured and ranked in financial terms.

408. Once the analysis of the allocative efficiency of the budget is complete, and it is clear which allocations are not in line with government's strategy and which reallocations of expenditure might yield the most savings, the SPER Team must analyse the utilization of the resources provided for social protection. The question posed to each purpose is whether it is possible to improve its economy, general productive efficiency, and effectiveness. Productive efficiency refers to technical efficiency and scale efficiency.

409. **Annex 7** presents a set of methods that can be used to measure the economy, efficiency and effectiveness of social protection expenditures in the partner countries. A by-product is the amount of savings that can be generated from improvements in efficiency. The methods presented are very powerful if data are available from farmers, schools, hospitals and other productive units involved in the social protection program. Reference here is to productive units as classified under ISIC (**Annex 6**).

6.3.3 Improving economy

410. Here, with prioritization guided by Figure 2.1, the SPER Team examines the allocations of the agricultural sector, purposes and agencies, to see if funds allocated are fully utilized and are used in accordance with the priorities set out in the budget, following all relevant procurement procedures. Allocations are normally judged to be in line with plans if the actual expenditures are within 10% of the planned expenditures, subject to satisfaction of all technical input specifications for the targeted outputs.

411. To assist with improving the economy of expenditures, the SPER Team must receive from the government, in particular the Ministry of Finance and the Ministry of Planning, the new priorities and expectations of inputs and output that the SPER must use when examining past allocations.

412. Then, the SPER Team must assess the actual inputs and outputs of the current allocations and compare them with the new target inputs and the outputs of the allocations to see if gains in output can be generated and the value of the gains from improvement in economy. For example, gains might be generated by improved procurement practices or a shift of resources.

413. Additional performance (gap) indicators to be used in assessing the economy of budget implementation are the following:

- a. Timeliness in meeting budget target
- b. Capacities of the action units (agencies or programs/projects) for planning, budgeting, implementation and monitoring.
- c. Commitment of action units to change in the productivity of resource use.
- d. Commitment of action units to use of social protection, especially springboard measures, to change poverty levels.

- e. Degree of beneficiary satisfaction with the action unit's rate of expenditure on inputs to deliver support services for the poor and vulnerable.

6.3.4 Improving technical efficiency

414. Here, with reference to the prioritization in Figure 2.1, the SPER examines the inputs of the sector agencies or activities and their outputs, in order to: (i) measure the competence with which inputs are converted to the outputs that deliver social protection; and (ii) see if gains in the value of outputs can be achieved by improving technology and managerial efficiency from current or previous levels to new levels consistent with the new priorities.
415. To assist with improving technical efficiency, the SPER Team must receive from the government, in particular the Ministry of Finance, a clear commitment to pursue avenues for increasing technical efficiency even if some underemployed labour will be displaced to more efficient employment. Social protection consistent with government's development strategy may imply pressures on the able-bodied underemployed to use socially supported stepping stones to better income opportunities.
416. Improvement of technical efficiency requires the SPER Team to ensure that up to date capital assets and competent individuals are engaged in the public service. Such individuals will have to be attracted through merit-based recruitment, adequate performance-based compensation, and merit-based promotion system.
417. Quantitative measurement of the impact of government's expenditure on the technical efficiency of each action unit can and should be done, as described in Annex 8. The method chosen for the calculations depends on the data available. The main methods described are: (i) non-parametric DEA; and (ii) the parametric stochastic frontier analysis.
418. Among others, the following indicators should also be considered when measuring technical efficiency:
- a. Timeliness in meeting budget target
 - b. Capacities of the action units (agencies or programs/projects) for planning, budgeting, implementation and monitoring.
 - c. Commitment of action units to change in the productivity of resource use in social protection.
 - d. Commitment of action units to use of social protection, especially springboard measures, to change poverty levels.
 - e. Degree of beneficiary satisfaction with the action unit's rate of expenditure on inputs to deliver support services and infrastructure that significantly benefit the poor.

6.3.5 Improving scale inefficiency

419. The measurement of scale efficiency is explained in Annex 7. In particular, measurement of scale efficiency is normally done in conjunction with the main methods of measurement of technical efficiency described in Annex 7. The DEA is best suited to the analysis of the scale

efficiency of agencies or activities involved in delivering infrastructure and services to the poor and vulnerable.

420. The basic principle is that even at the level of the operational units growth ultimately favours the poor, especially those seeking to use social protection as a springboard to better employment opportunities. The SPER must examine the scale of the social protection agencies or the activities they support to see if an increase in the value of inputs of capital and labour, employed in suitable technical combinations, can generate faster growth in the value of outputs, consistent with the new priorities.

421. To assist with improving scale efficiency, the SPER Team must receive from the government, in particular the Ministry of Finance, a clear commitment to pursue avenues for increasing scale efficiencies of microenterprises, including small farms. The commitments must apply even if some government institutions and agencies have to be merged or privatised, and even if land redistribution programs are necessary to support the efforts.

6.3.6 Improving Effectiveness

422. Effectiveness analysis is done for every selected class purpose identified under the COFOG, and for all selected agencies under each class. In each case, analysis is done of the utilisation of social protection allocations to improve cost effectiveness and development effectiveness, whatever the specific sector in which the spending occurred.

6.3.6.1 Improving cost effectiveness

423. Improvement of effectiveness involves reallocations to improve the outcomes generated from the outlays. Its broad measure is the benefit-cost ratio.

424. In the area of social protection, a measure of cost-effectiveness seeks indicates the extent to which inputs can be saved when producing a given amount of infrastructure or services that yield a targeted amount of social benefits.

425. Thus, numerical cost-effectiveness testing is best applied when benefits are difficult to value or when objectives and outcomes have already been well-defined. If numerical data are available on the desired outcomes and the inputs used, cost-effectiveness can be measured using the DEA techniques of Annex 7. If no data are available, then detailed analysis of the economy of expenditure is a reasonable alternative.

426. Cost-effectiveness is primarily a technical measure that can be influenced politically. Therefore, the SPER Team must receive from the government, in particular the Ministry of Finance, a clear commitment to accountability and the pursuit of avenues for increasing cost-effectiveness.

427. Pursuit of cost effectiveness requires managerial autonomy to appraise the work of action units with spending authority. It also requires responsibility to implement the government's defined expenditure programmes, subject to accountability for performance.
428. The following indicators should be considered when measuring the benefits gained:
- a. Timeliness in meeting budget target.
 - b. Capacities of the action units (agencies or programs/projects) for planning, budgeting, implementation and monitoring.
 - c. Commitment of action units to change in the productivity of resource use in social protection.
 - d. Commitment of action units to use of social protection, especially springboards to better job opportunities, to change poverty and inequality levels.
 - e. Degree of beneficiary satisfaction with the action unit's rate of expenditure on inputs to deliver support services and infrastructure on which the poor rely.

6.3.6.2 Improving development effectiveness

429. Development effectiveness applies when, for a given activity, the partner government gives the highest priority to increasing export competitiveness and growing exports or to other cross-cutting internationally-agreed development goals.
430. Improvement of development effectiveness involves allocations to improve export per dollar of imports, even when pursuing other internationally-agreed development goal. An example of this is when funding is allocated to subsidize employment of low-cost labour to develop access roads that raise productivity in export agriculture or tourism.
431. Development-effectiveness requires the SPER Team to appraise all public expenditure programmes for their orientation to achievement of this goal. The inclusiveness of this provision is based on the wide-ranging benefits that the poor can obtain when the economy solves its core development problems.
432. Pursuit of development effectiveness requires managerial autonomy to use contribution to export per dollar of imports to appraise the work of action units with spending authority, including specific projects and agencies receiving government funding.
433. Both COFOG and ISIC classifications are used when measuring development effectiveness. Additional indicators to be used in assessing development effectiveness are:
- a. Timeliness in meeting budget target
 - b. Capacities of the action units (agencies or programs/projects) for planning, budgeting, implementation and monitoring.
 - c. Commitment of action units to improve the productivity of resource use in the country.

- d. Commitment of action units to use of growth and development to change poverty and inequality levels.
- e. Degree of beneficiary satisfaction with the action unit's rate of expenditure on inputs to deliver support services and infrastructure.

434. The SPER Team must be realistic about how long it will take to implement each policy and how long it will take thereafter for the full impact of the policy measure to be felt in the economy and especially in the sectors that yield benefits for the poor, especially education, health and agriculture. It makes a difference whether an expenditure policy instrument can attain its goals in the budget year, in the medium term or in the long run.

435. For example, if a policy aimed at generating economic growth will only be effective in the long run, other exogenous factors will also intervene to change the conditions and trajectories of the economy and its constituent sectors. Discretionary policy will have to change accordingly. The SPER Team must therefore consider the likelihood that many other social policy interventions will also be needed to ensure that success is achieved in reducing poverty or vulnerability.

436. The SPER Team and stakeholders will have to consider two distinct time lags due to exogenous forces. The first is the lag between the emerging need for a fresh policy intervention as reflected in the initial conditions and the changing economic path *and* the time when the policymaker recognizes that need. The second is the lag between the time of recognition and the time when the policy intervention is initiated.

437. Administrative delays and the need for legislative action can cause such time lags. The SPER Team must also consider the endogenous lags, which are lags that depend on the way the economy works and the capacity of the export-competing units to adjust their business practices.

6.4 ANALYSIS OF NECESSARY CONDITIONS FOR ACHIEVING SPER GOALS

438. In addition to conducting the search for improvements in economy, efficiency and effectiveness, the SPER Team should analyse the extent to which budgeted public expenditure is transparent, accountable, consensus-oriented, comprehensive, fair and equitable, predictable and consistent, and market-enhancing. In this assessment, the SPER should take account of all resources windows that would affect agriculture expenditure.

6.4.1 Transparency

439. For the successful conduct of the SPER, and for achievement of the SPER goals, all internal budget analysis and all audited financial data should be available to the SPER Team

in an understandable format and on a timely basis. The best approach is to assess whether the accounting procedures follow either or both of the following:

- a. The IFRS.
- b. The IMF's 1998 code of Good Practices on Fiscal Transparency.

6.4.2 Accountability

440. All ministries are normally required to follow the government's rules and mechanisms for holding public accounting officers liable for their actions. **Annex 1** provides some clarification. The SPER Team should analyse whether this mechanism routinely provides for:

- a. Specification of the procedures for spending public funds.
- b. Identification of the accounting officer or other person who must be held accountable for each allocation and expenditure.
- c. Detailed specification of what the accounting officer or other person is accountable for.
- d. Specification of the senior officer to whom the accounting officer is accountable.
- e. Specification of the format of reporting and accounting in this process, along with all supporting documents and signatures needed when accounting.
- f. Specification of document filing procedures aimed at ensuring that accurate records are routinely available for examination.

6.4.3 Consensus-orientation

441. A budget is consensus-oriented when it is prepared through a harmonized open dialogue mechanism that provides all stakeholders an opportunity to influence it. The poor rely heavily on such open mechanisms, since they have few alternatives to influence policy. The SPER Team should analyse the budget dialogue mechanism to determine whether it features one or more of the following elements:

- a. A commitment to open dialogue with each stakeholder institution.
- b. A proper forum (physical and virtual) for timely stakeholder participation in collecting and analysing information (facts and opinions) in the early stages of the budget process.
- c. A formal process for facilitating participation.
- d. Clear rules of participation.
- e. A calendar/schedule for the dialogue, with:
 - i. Stakeholders to be met.
 - ii. Meeting date.
 - iii. Meeting time.
 - iv. Meeting locations and directions to locations.
 - v. Meeting topics.
 - vi. Meeting agenda.
- f. An adequate process and timeline for arrival at final agreements and decisions when a joint policy process is in place.

6.4.4 Comprehensiveness

442. The SPER Team should analyse whether the expenditure is comprehensive, in the sense that the budget provides a full and complete picture of all of the following:

- a. Sources of revenues by ministries, districts, local governments, autonomous and semi-autonomous agencies and any other government controlled agency or program/activity.
- b. Categories of expenditures by ministries, districts, local governments, autonomous and semi-autonomous agencies and any other government controlled agency.
- c. The role of user fees, profits, grants, and other non-tax revenue.

6.4.5 Fairness and equity

443. Public expenditure should be fair and equitable. In particular, it should not be discriminatory or regressive. Accordingly, the SPER Team should analyse all sector budgets, including those for social protection, for any conflict between equity and the goals of economy, efficiency and effectiveness. If any conflict is observed, the SPER should propose specific measures to address the problem or draw the conflicts to the attention of government. Proposed measures should favour the poor and vulnerable.

6.4.6 Predictability and consistency

444. Sound budgets are consistent and predictable. Predictability support expenditure prioritisation and implementation. It also helps to signal government's intentions to stakeholders and it assists the private sector with its own strategic planning and investment programming.

6.4.7 Market-enhancing

445. In general, public expenditure should cater adequately for market failure and should also minimize market distortions. Accordingly, the SPER Team should analyse all sector budgets for evidence of key forms of market failure that are adequately addressed by the spending program. The poor relies heavily on public solutions of problems of market failure. For example, the construction of agricultural access roads in certain districts or regulation of the use of agricultural chemicals in these districts are important sources of market failure that could help the poor.

446. In pursuing the commitment to poverty reduction, public expenditure should generally facilitate rather than displace the private sector, unless the latter is not likely to engage in socially efficient activities. It is important to the poor that government expenditure also ensures fair pricing, fair competition and fair trade. Market distortions can affect the quality of the decisions to reallocate funds from current uses to better uses, and thereby hurt the poor.

6.5 KEY DATA CHALLENGES TO BE ADDRESSED

447. By its nature, the SPER usually requires reliable and highly disaggregated data for analysis and comparisons of agencies and activities, classified as indicated above. It also requires data that can be used for comparison across ministries, activities, as well as countries.

448. Ideally, within the COFOG codes, the SPER should track the sector allocations and the related expenditure at least by the Heads of expenditure. However, it may be necessary to follow details to the Subheads, Items, and Sub-Items. The SPER should determine the level and share of each in the total, and whether it is increasing, decreasing, or unchanging.

449. In the process, the SPER Team should be prepared to address several data challenges set out in Table 6-16 with strategies to address them. Analysis of the data challenges combined with analysis of the economy of expenditure provides a qualitative substitute for numerical measurement of efficiency and effectiveness when financial data are not available.

Table 6-16: Data challenges to be addressed and resolved in a SPER		
Data Challenge	The Problems	The Solution
Contradictory data	Key skilled personnel may leave an organisation or department and may not be available to the SPER.	Triangulation with other sources and use of other datasets. Alternatively, the SPR Team may have to track data all the way to the Vote Books mentioned in Annex 1.
	Different reports from the same institution or program provide different and inconsistent data on the same subject	Use the interview process to get the facts or get clarification of the inconsistencies.
Ongoing reforms	Partner governments are always undertaking public sector reforms projects. These often lead to changes in policy, laws, and changes in institutional or program responsibilities, mandates, activities, and budgets.	Detailed study and monitoring of all previous and ongoing reforms. Identification of all issues arising. Identification of the leaders of the reforms and interviews with them on all changes relevant to the SPER. This may require special interview instruments.
Changing and mergers of budget codes; different codes for different ministries	As indicated in Annex 1, the budget in all partner countries is specified in terms Heads, Subheads, Items, and Sub-Items. These might change over time, often by merging or by discontinuation.	Read <i>concurrently</i> the code and title for each relevant Head, Subhead, Item, and Sub-Item starting from 3 years ago. Follow the code to the present year of the SPER. If any change, seek clarification from the Ministry of Finance or go to the Vote Books.
Inter-country comparisons	The SPER may need to compare performance ratio across countries. This is especially relevant to internationally agreed development goals. Differences in relative prices, rate of development, state of infrastructure, market failure, and the comparative roles of the market usually make it difficult to compare ratios meaningfully.	Do not base expenditure assessments on international comparisons alone. Use internally computed ratios as well, following the methods described in the methodology.
Off-budget spending	<ul style="list-style-type: none"> • Some expenditure on agriculture is payment by external (non-government) interests to contractors who provide service or goods to the government without passing through the national accounting system. • Some agriculture expenditure takes place out of extra-budgetary funds. • Some expenditure on agriculture come from earmarked funds. 	Report all instances in the SPER and document the understanding formed of the influence of the funds on the assessment of the optimality of savings and reprioritization.
Inconsistencies in classifications used in annual sector action plans	Budgets are developed from annual action work plans of departments and sector ministries. The activities of these departments and sectors are not similarly classified and detailed across sectors.	At start of the SPER, use the COFOG as basis for a cross sector classification matching exercise. Track spending to the Vote Books. Also use the ISIC classifications. Read <i>concurrently</i> the code and title for each relevant Head, Subhead, Item, and Sub-Item in each sector starting from 3 years ago. Follow the code to the present year of the SPER. If any doubt, seek clarification from the Ministry of Finance. Use a Public Expenditure Tracking Survey as described below.

6.6 ANALYSING FUNDING SOURCES AND FUNDING MODALITIES FOR SOCIAL PROTECTION

6.6.1 Forecasting the revenues for public expenditure

450. Before the government can decide how and where to spend money, it must first determine what sources will be available to spend in the coming year. In the SPER, it is important to know the general sources, amounts, and conditions because they have a bearing on what can be appropriately allocated and used for agriculture. Government revenues comprise domestic revenues and revenues from external sources, including grants and loans.

451. The government policy on all its loans from the markets and governments should be documented, even though much of the policy is shaped by monetary policy concerns. In particular, it should be stated whether loans will be used for recurrent purposes or only for capital projects that will contribute to competitiveness and long term growth. Forecasts should be done to indicate the levels, share and rate of growth of the revenue classes.

6.6.2 Forecasting domestic revenues

452. Forecasts of domestic revenues should be done under the headings in Box 6-3. (also see **Annex 3**).

6.6.3 Forecasting external revenues

453. Forecasts should also be done of external revenues, in terms of level, share and rate of growth.

6.6.4 Addressing External grants

454. External grants are sums of money given by donor countries and other International Development Institutions. They carry no quid pro quo and requirement requirements. The amount involved must be forecasted. An important source, some funnelled through non-government agencies, is the Economic Partnership Agreement with the EU.

Box 6-3: Revenues to be forecasted

Tax revenues

- i. indirect taxes from goods and services
- ii. income taxes (PAYE taxes)

Non tax revenues

- i. trade licenses,
- ii. driving permits,
- iii. court fees,
- iv. traffic fees,
- v. passports,
- vi. consular fees
- vii. school fees
- viii. hospital fees
- ix. sale of property
- x. profits from government-owned businesses

Other sources of revenue.

There are non-tax revenues which are earmarked for use by the agencies that produce and collect them. These include:

- i. Fees from concessions to produce and sell products or services, for example fees from use of pharmaceutical windows, interest from student loan programs, fees from use of tourism parks and museums, housing agencies.
- ii. Districts and local government collect and retain some revenue.
- iii. Domestic financing by borrowing from banks and non-bank institutions, and special financing arrangements.
- iv. Drawdowns from deposits in the Central Bank.

6.6.5 Forecasting External loans

455. External loans carry repayment obligations and debt implications. Loans can be obtained from the foreign private market or from international development agencies. The amount involved must be forecasted.

6.6.6 Funding modalities in partner countries

456. The partner countries gain access to international funding under several modalities.

- a. General budgetary support, for example under the EPA agreement.
- b. Special supports to the various sector budgets.
- c. Special projects
- d. Separate funding under the EPA

6.6.7 Analysis to be done by source of funding

- a. The trends in revenue by funding source, and as a percentage of GDP.
- b. The trends in the share of revenue by funding source.
- c. The overall trends in all internally generated revenue.
- d. The trends and amounts of extra-budgetary funds.
- e. The trends and amounts generated by districts.
- f. The form in which the development partners chose to use their aid, that is, among general budget support, sector basket funding, and stand-alone projects.
- g. Predictability of funding by source.
- h. National and global issues likely to positively or negatively affect funding in future.

6.7 ANALYSING THE INSTITUTIONAL ARRANGEMENTS OF SOCIAL PROTECTION

457. In addition to the analysis of the level and composition of public expenditure allocations, it is also necessary to analyse the institutional arrangements that shape allocation and implementation of social protection policy. This analysis is necessary because the institutional relationships among the main decision-makers strongly influence the allocations as well as implementation of the expenditure program.

458. The SPER must determine:

- a. If the institutional processes and incentives for performance are adequate.
- b. If changes in the relationships would improve the allocations and execution on a sustainable basis.
- c. If to propose institutional reforms accordingly.

459. The SPER should determine whether the effects of any of the following public expenditure management problems are present to cause socially undesirable outcomes:

- a. The tragedy of the commons – which means it is practically impossible to enforce ownership rights and hence control over the use of a product or resource in accordance with the economy-wide expenditure framework. This happens, for example, when government cannot enforce intellectual property rights.

- b. Information asymmetries and high transactions costs – which tend to cause incomplete definition of the relationship between the expenditures of government and the wishes of citizens and non-government organisations. These problems can only be resolved in a joint decision-making framework characterized by harmonized mechanisms for dialogue and participation.
- c. Information asymmetry and incentive incompatibility within the government structure – which can limit success in making the allocation and use of budget funds socially acceptable.
- d. Perverse incentives – which can be created if external agencies or special private political donors can direct funds to NGOs and other groups to undertake social protection activities that benefit government but are not included in the national budget.

460. The SPER should determine whether institutional reforms are necessary to resolve these problems and improve expenditure allocations. These issues are best addressed by primary data collection by the SPER Team. A questionnaire for this purpose can be developed using the information provided in **Annex 8**.

6.8 PRESENTING RECOMMENDATIONS

461. Recommendations should generally be presented based on the integrated scoring of all relevant Heads and Subheads of expenditure within the COFOG. These scores should take into account the SPER’s assessment of the transparency, accountability, consensus-oriented, comprehensiveness, fairness and equity, predictability and consistency, and the market-enhancing characteristics of government’s expenditure process.

462. Consider Subheads of budget allocations aimed at “increasing the supply of infrastructure from 38% to 70% of need in 3 years in specific districts where key exporting firms operate”. Table 6-17 illustrates how the integrated scoring should be represented.

		Allocation Code or Project				
		0013	0202	0003	0004	0505
Project Description		Infrastructure construction, District 1	Classroom construction, District 2	Infrastructure construction, District 3	Classroom construction, District 4	Classroom construction, District 5
1	Budget	10	20	30	40	50
2	Actual expenditure	8.5	17.8	28	32	48
3	Variance	1.5	2.2	2	8	2
4	% variance	15%	11%	7%	20%	4%
5	Economy of inputs purchased:					
6	Measures of the percentage of budget used	85%	89%	93%	80%	96%
7	Efficiency of inputs purchased					
8	Extent to which specification followed - number of planned work items completed vs number of items planned; or percentage of standards of delivery achieved	80%	70%	85%	90%	95%
9	Extent to which output delivered on time;	50%	60%	70%	80%	90%

Table 6-17: Integrated measure of Economy, Efficiency and Effectiveness

		Allocation Code or Project				
		0013	0202	0003	0004	0505
	measured as the % of planned time of delivery					
10	Actual output as percentage of potential output	80%	78%	95%	97%	75%
11	Efficiency Score (8+9+10)/2	70%	69%	83%	89%	87%
12	Effectiveness of inputs purchased					
13	Does the infrastructure solve the problem being addressed?	95%	96%	86%	97%	100%
14	Is the best education being provided?	100%	100%	100%	90%	90%
15	What fraction of the underemployed have used the asset as springboard to move into fulltime paid employment?	70%	75%	80%	90%	80%
16	Use rate of infrastructure built?	85%	90%	87%	95%	100%
17	Impact on achievement of targeted growth of effective consumption capacity over 3 years?	75%	65%	16%	12%	90%
18	Effectiveness Score (13+14+15+16+17)/5	85%	85%	74%	77%	92%
19	Overall Score (6+10+16)/3	80%	81%	83%	82%	92%

463. The scores should be followed by a concluding statement about the implications for reprioritizing the expenditures and generating savings in line with government strategy. Similar tables should be constructed for all other key budget objectives, again often best expressed in terms of some percentage of need or demand. For example, the other economic development imperatives might translate to the following objectives:

- f. Increase the supply of human capital from 58% to 88% of need within 5 years.
- g. Improve business climate from an index of 58% to an index of 80% within 3 years.
- h. Improve technical efficiency of exporters from 75% to 95% over 5 years.
- i. Improve research and development capacity for growth of scale efficiency and export competitiveness among exporters 10% of need to 25% of need by 2020.
- j. Increase access to external financing from 28% of business needs to 50% of business needs over the next 3 years.

464. Once integrated scores have been presented for all Heads and/or Subheads, the overall recommendations can be assembled as illustrated in Table 6-18. Information should be presented on the target groups, the extent of coverage planned, the integrated scores, the proposed actions and the amount of savings achieved for the upcoming budget year.

Table 6-18: Recommendations on Reprioritization of Allocations

COFOG Categories	Target Group of Poor or Vulnerable	Planned Coverage	Integrated Score on Economy, Efficiency, Effectiveness	Proposed action	Savings (\$ million)
Allocations for cash payments or gifts in-kind (goods and services) to protect against or support:					
Sickness	Children; Elderly	55%	75	-10	3
Disability	Disabled of any age	100%	65	Re-evaluate; 5% increase	-2
Old Age	Age group 70 and over	100%	85	no change	0
Loss of parents or other family support	Children; Victims of industrial accidents	100%	65	25% increase	-4
Dependent children	Children ages 0 to 14 years	100%	68	-50%	5
Unemployment and similar loss of	Unemployed	60%	70	-60%	15

Table 6-18: Recommendations on Reprioritization of Allocations

COFOG Categories	Target Group of Poor or Vulnerable	Planned Coverage	Integrated Score on Economy, Efficiency, Effectiveness	Proposed action	Savings (\$ million)
earnings					
Accidents and fire damage resulting in loss of home or job	Victims of accidents and natural hazards	100%	73	-40%	10
High housing costs	Poor and vulnerable by specific means test	80%	75	-45%	58
Social policy research	Poor and vulnerable	100%	78	-5%	14
Allocations to Provide Social Springboards					
Vocational training	Able-bodied poor and vulnerable	100%	83	10% increase	5
On-the-job skills training	Youth of working age without a job but possessing suitable academic qualifications	100%	42	Eliminate	40
Technical assistance	Small Entrepreneurs in agriculture and selected export industries	100%	65	Re-evaluate; reduce 60%	44
Micro finance	Poor and vulnerable	55%	90	40% increase	22
Total					207
Target Savings					300
% of Target Savings Achieved					69%

6.9 STRUCTURE OF THE SPER REPORT

465. In general, the SPER Report should have the following structure:

Executive Summary

Introduction

Defining the boundaries of social protection expenditure

Context of the SPER

Policy and regulatory framework for

- a. The public sector generally
- b. Social protection

Institutional arrangements of public spending

- a. The main actors
- b. The relationships among the main actors

Recent reforms in the

- a. Public sector generally
- b. Social protection

Development assistance through EPA and other arrangements

- a. Volume
- b. Sources
- c. Instruments

Public expenditure in Country

- a. All expenditures
- b. All social protection expenditure
 1. Ministry of Agriculture
 2. Ministry of Education
 3. Ministry of Health
 4. Ministry responsible for public infrastructure
 5. All other Ministries

Lessons from internal budget analysis and audits

The social protection expenditure review

Overall estimate of social protection expenditure:

- a. Expenditure by all relevant Heads of expenditure (COFOG)
- b. Expenditure by selected agencies, identified within COFOG classes.
- c. Sources of funding:
 1. Domestic resources
 2. International resources
 3. Expenditure analysis by sectoral area:
- d. Trends, Share, Rate of growth for each broad source of funding

Contribution of the social protection resources to national revenues during the study period (2013 – 2015).

The utilisation of social protection allocations and potential savings from improvements in

- a. Economy
- b. Efficiency,
- c. Effectiveness

Case study 1: Fiscal decentralisation for social protection

Case study 2: Institutional capacity for social sector management and budgeting

Major lessons of the SPER

Recommendations of the SPER

Conclusions and summary

References

Annexes

Standard detailed tables showing

- a. Budget,
- b. Actual and committed expenditure
- c. Revenue
- d. Notes on how various estimates were arrived at, including definitions, assumptions and data sources.

Standard tables from institutional survey data

COFOG subsector summaries (maximum 5 pages each) focusing on specific issues relevant to social protection)

Summary on issues related to social protection expenditures at decentralized level

List of persons interviewed

- 7 ANNEX 1: THE PROCESS OF PUBLIC EXPENDITURE IN PARTNER COUNTRIES**
- 8 ANNEX 2: MODEL FOR MANAGING THE BALANCE OF PAYMENTS DEFICITS AND BUDGET DEFICITS OF PARTNER COUNTRIES**
- 9 ANNEX 3: REVENUE AND EXPENDITURE FORECASTING TECHNIQUES FOR THE PEER**
- 10 ANNEX 4: ANNOTATED OUTLINE OF A TOR THAT CAN BE ADAPTED FOR A SECTOR PER TEAM**
- 11 ANNEX 5: THE UNITED NATIONS CLASSIFICATION OF THE FUNCTIONS OF GOVERNMENT (COFOG)**
- 12 ANNEX 6: THE UNITED NATIONS INTERNATIONAL STANDARD CLASSIFICATION OF INDUSTRIES (ISIC)**
- 13 ANNEX 7: METHODS OF MEASURING THE ECONOMY, EFFICIENCY AND EFFECTIVENESS OF PUBLIC EXPENDITURE**
- 14 ANNEX 8: A QUESTIONNAIRE FOR ASSESSING INSTITUTIONAL ARRANGEMENTS**
- 15 ANNEX 9: MEASURING POVERTY AND INEQUALITY FOR A PER**