Spending on Public Infrastructure

A Practitioner's Guide

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Africa Region
Sustainable Development Unit
December 2011

Abstract

This paper provides a methodological tool to support the collection and preparation of standardized, comprehensive data regarding public spending on infrastructure services that can be rigorously compared across countries. Infrastructure is defined to cover six sectors: irrigation, energy (primarily power), transport, communication, wastewater management, and water supply.

The guide is designed to provide a much richer and more complete measurement of infrastructure spending than the limited highly aggregated data currently available through the IMF Government Financial Statistics. Originally developed for Africa, the methodology is relevant and readily applicable to any developing country.

With the aim of being as comprehensive as possible, the methodology covers central and sub-national government expenditures, non-budgetary vehicles (such as road funds), state-owned enterprises (SOEs), and public-private partnerships (PPPs). While the methodology focuses on collecting quantitative data on the level and composition of spending, this is complemented with qualitative data that provides the institutional context. Importantly, the methodology allows for cross-classification of infrastructure spending by purpose (power, roads, etc) and by function (operational versus capital spending).

This guide provides practical guidance—including concepts, definitions, and classifications—for each of the three stages of work, namely: (i) pre-field, (ii) field, and (iii) back office.

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Acknowledgments

This paper draws on contributions from sector specialists from the Africa Infrastructure Country Diagnostic Team; notably, Vivien Foster, Nataliya Pushak, and Karlis Smits. The paper is based on data collected by numerous local consultants and benefited greatly from feedback provided by colleagues in the World Bank; notably, James Brumby, Gerardo Corrochano, Praveen Kumar, Dino Merotto, and Sudhir Shetty.

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List of acronyms and abbreviations

AfDB	African Development Bank
AICD	Africa Infrastructure Country Diagnosis
CFAA	Country Financial Accountability Assessment
CG	central government
COFOG	classification of functions of government
DB	development budget
GDP	gross domestic product
GFS	global financial system
GFSM	Government Finance Statistics Manual
HR	human resources
IFAC	International Auditing Practices Committee of the International Federation of Accountants
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
INTOSAI	International Organization of Supreme Audit Institutions
IT	information technology
LCU	local currency unit
LG	local government
Ministry of Finance	ministry of finance
MTEF	Medium-Term Expenditure Framework
NEPAD	New Partnership for Africa's Development
NGO	nongovernmental organization
ODA	official development assistance
OECD	Organisation for Economic Co-operation and Development
OHADA	Organization for the Harmonization of Business Law in Africa
PFM	public financial management
PPA	Power Purchase Agreement
PPP	public-private partnership
PRSP	Poverty Reduction Strategy Paper
SF	special fund
SOE	state-owned enterprise
SPI	spending on public infrastructure
VAT	value added tax
WB	World Bank

Introduction

The spending on public infrastructure (SPI) exercise is a methodological tool to support the collection and preparation of standardized, comprehensive information—comparable across countries—on public spending on infrastructure services. Particular attention is paid to the level, composition, and planning and releasing mechanisms.

Originally, the SPI exercise was developed to support the Africa Infrastructure Country Diagnostic (AICD) study¹ in recognition of the fact that the infrastructure data in the fiscal accounts as collected by the International Monetary Fund (IMF) were scattered and incomplete. While Africa's infrastructure needs are widely debated, very little was known about the existing levels and composition of public expenditure on infrastructure subsectors. Such information is important in order to structure financing options to close any funding gap. Infrastructure outlays—if at all—are reported in an aggregate manner without the economic breakdown that would delineate their nature: that is, fixed capital, operations and maintenance, interest, subsidies, the compensation of employees, and so on. In addition, such outlays are not reported by function, which would allow costs to be attributed to specific infrastructure subsectors, such as irrigation, water resource management, electricity, transport, and so on.

Between 2000 and 2005, the IMF Government Financial Statistics,² under the general government section, reported infrastructure spending data for only Uganda out of the 42 Sub-Saharan African countries. These data indicated an implausibly low spending level of 0.2 percent of gross domestic product (GDP) in 2001. Since government statistics reported by the IMF focus primarily on central government accounts, they provide incomplete coverage of infrastructure expenditure, much of which is undertaken by subnational and parastatal entities. Delivery of infrastructure services relies heavily on public (or para-public) agencies outside the purview of the central government. A significant share—if not the majority—of public expenditure in infrastructure is channeled through nonfinancial public enterprises, local governments, and (other) off-budget vehicles (for example, special funds). Off-budget vehicles play an increasingly large role in mobilizing and protecting the infrastructure financing of several sectors, including roads (and rural infrastructure in general), even when part of their resources continue to be come via budget transfers.

At a time when the international community is committed to substantively increasing official development assistance (ODA) to Africa—and to infrastructure sectors in particular—it is of utmost

¹ The AICD study is being undertaken in coordination with the African Development Bank (AfDB), under the guidance of the New Partnership for Africa's Development (NEPAD), and is being funded by contributions from a number of donors and multidonor trust funds. In its first stage, the SPI exercise supported the generation of fiscal cost baselines and basic fiscal cross-country comparisons for 24 African countries: Benin, Burkina Faso, Cameroon, Cape Verde, Chad, the Democratic Republic of Congo, Côte d'Ivoire, Ethiopia, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, South Africa, Sudan, Uganda, Tanzania, and Zambia. The second stage focuses on the following countries: Mali, Mauritania, Angola, Guinea, Botswana, Swaziland, Zimbabwe, Central African Republic, the Republic of Congo, Gabon, Eritrea, Equatorial Guinea, Togo, Gambia, Liberia, and Sierra Leone.

² <http://www.imf.org/external/pubs/ft/gfs/>.

importance to compare the level and quality of spending against the cost of attaining development targets. It is also critical to assess the scope for expenditure reallocation and efficiency gains, and to quantify the financing gap that can and should be targeted by donor support. These are first steps toward the more efficient and effective use of resources devoted to infrastructure, which will need to be followed by systematic monitoring. Policy makers and researchers are increasingly aware of the opportunity cost that compressing public investment in infrastructure can have on long-run growth potential.

In fact, insufficient information on public infrastructure spending—and of the institutional mechanisms that underlie infrastructure service delivery—may be, in effect, preventing the efficient allocation of limited public funds across infrastructure sectors and projects. Most of the analytical methods and tools used to assess overall costs and returns on capital are not documented, making it difficult to evaluate the potential trade-offs between different cross-sector allocations. Further, to identify spending inefficiencies within a given project or institution, it is necessary to understand the economic use of funds and their links to achieved outputs. Annual spending flows, at the very least, give a sense of cost-recovery capabilities and the institutional capacity required to transform allocations not only into actual spending but into productive assets. To develop sustainable funding mechanisms, policy makers must first map out spending flows and current funding channels across the relevant institutions. This is a necessary step to evaluate the fiscal implications of a myriad of funding mechanisms that include user fees, levies, and taxes, as well as quasi-fiscal activities such as underinvestment, underpricing, and postponed maintenance.

By developing a detailed and rigorous data collection methodology, the objective of the SPI exercise is to create a standardized database of public expenditure levels and performance in infrastructure, comparable across countries. With the aim of being as comprehensive as possible, the exercise covers central and subnational government expenditures, nonbudgetary vehicles (such as road funds and rural infrastructure funds), state-owned enterprises (SOEs), and public-private partnerships (PPPs) in which the asset ownership remains with the government. Although developed in the African context, the methodology is not specific to Africa but is relevant and applicable to any developing country.

The purpose of this guide is to document the data collection methodology developed for and tested with the AICD, thereby making it available to a wider community of practitioners, and promoting its further application. Any data collected using this framework can legitimately be benchmarked against the existing public expenditure database developed for Sub-Saharan Africa under the AICD.

When applying this methodology, several issues should be kept in mind. First, the SPI exercise focuses on the standardization of public spending across infrastructure sectors, aiming mostly at facilitating cross-sector aggregate analysis rather than providing tools for more nuanced sector-specific resource efficiency assessments. Second, despite heroic efforts by consultants in the field, some data may be missing. Even as public corporations and special funds are increasingly required to report their accounts, public records are not always comprehensive even when published. In particular, financial records for special funds financing rural infrastructure are frequently unavailable (for example, in Uganda) and SOE accounts rarely report cash flows, limiting the public knowledge of actual disbursements in capital projects.

Finally, emerging results from the testing of this methodology in pilot countries (Tanzania, Kenya, Rwanda and Uganda) are already challenging the conventional wisdom on Africa public infrastructure spending. After adding up on-budget and nonbudgetary spending data, it is clear that most Sub-Saharan countries might, in fact, be allocating large amounts of resources to infrastructure, relative to the size of their economies. These sometimes enormous spending efforts are, however, challenged by these countries' own purchasing power of large-scale infrastructure, high costs, under-developed construction capacity as much as by their institutional ability to efficiently and effectively spend scarce resources.

Content

This guide includes concepts, definitions, and classifications with the aim of providing a comprehensive analytical framework for the measurement of infrastructure expenditures. It organizes the relevant work in three stages, namely: (i) pre-field, (ii) field, and (iii) back office. A schematic overview of the entire data collection process is provided in the table below.

For the purpose of the SPI exercise, infrastructure is broadly understood as six sectors: irrigation, energy (primarily power), transport, communication, wastewater management, and water supply. Detailed definitions are provided in section 3 of this Guide.

Overview table 1 Data collection matrix

Sector	Institution	Agent responsible	Qualitative templates to be completed	Quantitative templates to be completed	Additional information to request
Pre-field / Desktop			<p>Template 1: Jurisdictional responsibilities in infrastructure service delivery</p> <p>Template 2: Special funds financing infrastructure service delivery</p>	<p>Template 3: Private participation in infrastructure</p> <p>Template 4: ODA in infrastructure service delivery</p>	<p><i>Data available online:</i></p> <ul style="list-style-type: none"> • http://ppi.worldbank.org • http://www.oecd.dac.org
Overall	Ministry(ies) responsible for finance or planning	Department responsible for national budget	<p>Template 5: Basic budgetary institutions, national level</p> <p>Template 6: Budgetary cycle diagram, national level</p>	<p>Template 8: Macroeconomic parameters for normalization</p> <p>Template 9: Macroeconomic parameters for budgetary context of infrastructure spending</p> <p>Template 10: Functional and economic classification of government expenses (filled for the central government)</p>	<ul style="list-style-type: none"> • Copies of government budgets for the past five years • Copy of budget cycle diagram • Data for Template 8 available at World Bank open data http://data.worldbank.org/ • Copy of public investment programme
	Ministry(ies) responsible for local governments	Department responsible for local government	n.a.	Template 10: Functional and economic classification of government expenses	<ul style="list-style-type: none"> • Copies of government budgets for the past five years

Sector	Institution	Agent responsible	Qualitative templates to be completed	Quantitative templates to be completed	Additional information to request
	Local governments	budgets		(filled for local governments)	
Fuel and Energy	Utility(ies) responsible for electricity generation, distribution, and transmission	Department(s) responsible for general management	Template 7: Governance of public operators	Template 11: Public operators' financial data	<ul style="list-style-type: none"> • Copies of financial statements/annual reports for the past five years
	Energy funds/agencies	Finance director	Template 7: Governance of public operators	Template 11: Public operators' financial data	<ul style="list-style-type: none"> • Copy of electricity tariff schedule
Transport	Road fund(s)	Finance director	Template 7: Governance of public operators	Template 11: Public operators' financial data	<ul style="list-style-type: none"> • Copies of financial statements/annual reports for the past five years • Copies of fuel levy setting
	Air transport state-owned enterprise(s) (SOE[s])	Finance director	Template 7: Governance of public operators	Template 11: Public operators' financial data	
	Maritime transport SOE(s)	Finance director	Template 7: Governance of public operators	Template 11: Public operators' financial data	
	Rail transport SOE(s)	Finance Director	Template 7: Governance of public operators	Template 11: Public operators' financial data	
Communication	Telecommunications SOE(s)	Finance director	Template 7: Governance of public operators	Template 11: Public operators' financial data	<ul style="list-style-type: none"> • Copies of financial statements/annual reports for the past five years
Wastewater management	Ministry(ies) responsible for wastewater management	Department responsible for wastewater management	Template 7: Governance of public operators	Template 11: Public operators' financial data	<ul style="list-style-type: none"> • Copies of financial statements/annual reports for the past five years
	Utility(ies) responsible for wastewater management	Finance director			<ul style="list-style-type: none"> • Water and wastewater tariff schedules
Water supply	Ministry(ies) responsible for water supply	Department responsible for water supply	Template 7: Governance of public operators	Template 11: Public operators' financial data	<ul style="list-style-type: none"> • Copies of financial statements/annual reports for the past five years
	Utility(ies) responsible for water supply	Finance director			<ul style="list-style-type: none"> • Water and wastewater tariff schedules

n.a. = Not applicable

Section 1 deals with the pre-field stage. This is the planning phase, and consists of a desk review and interviews with people knowledgeable about the infrastructure sector in the country of interest. The pre-field work should draw a comprehensive picture of institutions and their role in providing infrastructure, take stock of available sources (literature and secondary data sources in general), and guide the fieldwork. Effective planning not only enables synergy between sources and interviewees in the field, but also ensures appropriate country-specific institutional coverage for the data collection.

Websites of ministries (finance, planning, and sector specific), regulators, and infrastructure operators are an important source of pre-field information. These sites may in some cases provide the data needed for partial, if not full, template completion (including the quantitative templates).

For the pre-field stage, the Guide sets out a game plan for initiating the activities and identifying the key documents needed for a thorough literature and secondary data review. Pre-fieldwork is not only a prerequisite for fieldwork but also provides a key output of the SPI exercise: the infrastructure institutional mapping. The Guide proposes templates to facilitate structuring this non quantitative and highly country-specific information.

Section 2 concerns the fieldwork, which is the main part of the SPI exercise. It introduces the templates for data collection and provides methodological guidance, including variable definitions and contextual issues to be considered. The templates are grouped into two sets:

- *The qualitative baseline* (section 3.1) comprises the indicative templates that support a standard description of the institutions and processes involved in resource allocation. The qualitative data collection process is divided into two distinct parts:
 - National level: Covers institutional questions related to planning and budgeting.
 - Operator level: Covers basic governance questions.
- *The quantitative baseline* (section 3.2) comprises standardized data templates on spending flows from governments and publicly owned operators supporting infrastructure service provision. It also captures, to some extent, sources of funding (external funds, tariffs, and user fees). The quantitative baseline aims at collecting annual spending—estimated, released, and actual—for central and local governments, as well as public spending realized through off-budget entities (public corporations, special funds, and so on) whose golden share (decisive vote) remains with the public sector. The quantitative data collection process is divided into two distinct parts:
 - National level: Covers federal and local government allocations.
 - Operator level: Covers financial accounts at the operator level.

Section 3 provides guidance on the back-office work of processing data, packaging, documenting results, and presenting country-specific analyses. The focus of this section is outlining the main components of a standardized country report that can be used to organize and summarize the main results of the data collection.

Box 0.1: Overview of data collection templates

There are a total of 11 templates to be completed as follows:

Pre-field

- Template 1: Jurisdictional responsibilities in infrastructure service delivery
- Template 2: Special funds financing infrastructure service delivery
- Template 3: Private participation in infrastructure
- Template 4: Official development assistance (ODA) in infrastructure service delivery

Qualitative

- Template 5: Basic budgetary institutions
- Template 6: Budgetary cycle diagram
- Template 7: Governance of public operators (one for each public enterprise and special fund)

Quantitative

- Template 8: Macroeconomic parameters for normalization
- Template 9: Macroeconomic parameters for budgetary context of infrastructure spending
- Template 10: Functional and economic classification of government expenses (separate versions will be needed for (i) central versus local government; (ii) each year of data collection; (iii) budget estimates, releases and actual; (iv) capital and recurring expenditures for countries with dual budgeting)
- Template 11: Public operators' financial data (one for each public enterprise and special fund).

As a companion to this Guide, the templates are all available in Microsoft Excel format to facilitate the data collection and can be downloaded from: www.infrastructureafrica.org.

Source: Author's elaboration.

1 Before beginning the fieldwork

The objectives of the pre-field stage are to:

- Define the scope of the exercise in terms of the country-specific institutions to be analyzed;
- Understand the institutional setting governing infrastructure;
- Identify (primary and secondary) sources of data and information;
- Answer as many qualitative (and quantitative) questions as possible based on secondary sources.

The information collected in this preparatory, or pre-field, phase might in some cases be referential but in all cases will be completed and cross-checked in the course of the fieldwork, making the whole process more efficient.

One important item on the pre-field agenda is a thorough literature review to determine the extent of the information and data readily available from public sources (both primary and secondary). A starting point for the literature and data review is offered by the specialized Web sites of development institutions (World Bank, African Development Bank [AfDB], Organisation for Economic Co-operation and Development [OECD], International Monetary Fund [IMF], and donors) and of relevant institutions in the country (such as the ministry of finance, statistical offices, central bank, line ministries, parastatals, monitoring units for parastatals, and so on). This search should include, but must not be limited to:

- Recent sectoral analysis material and publications;
- Recent fiscal analysis material such as the Country Financial Accountability Assessment (CFAA), Public Financial Management (PFM) diagnostic studies, and IMF's Recent Economic Developments;
- Organizational charts, annual reports, budget statements, budget speeches, budget laws, Poverty Reduction Strategy Papers (PRSPs), and the Medium-Term Expenditure Framework (MTEF);
- Budget books;
- Tariff schedule publications and their indexation;
- Financial accounts of infrastructure operators and funds;
- Annual reports of infrastructure operators and funds.

The pre-fieldwork should be organized so as to:

- Produce a blueprint of the institutions involved in infrastructure provision.
- Mine existing readily and publicly available data.
- Account for country-specific circumstances (and concerns) in order to achieve better results.

Institutional mapping

The purpose of institutional mapping is to provide a schematic description of institutions involved in infrastructure provision, policy making, regulatory functions, and their funding. The infrastructure institutional mapping is divided into two templates:

- Template 1. Jurisdictional responsibilities in infrastructure service delivery: An outline of infrastructure service delivery as mandated to different providers (central government, state-owned enterprises [SOEs], and local governments), listed by name and country, with an indication of whether their funding is on- or off-budget.
- Template 2. Special funds financing infrastructure: An overview of special funds—(specifying if they are extrabudgetary funds)—used to finance infrastructure. For each identified fund, the overview includes the name of the administering agency, the source of funding, as well as the objectives of the fund.

Institutional mapping should be done once per country, but be revised and validated periodically, since the universe of operators is always evolving (as operators cease to operate, change names, new comers can enter the market, divestitures can occur)

Indicative sources of information for the institutional mapping exercise are as follows:

- Sectoral policy documents and reports available from the World Bank, African Development Bank, Organisation for Economic Co-operation and Development, the U.K. Department for International Development, and other donor and university Web sites.
- Acts/laws governing institutions, their roles and responsibilities, including the decentralization of infrastructure services.
- National government Web sites, in particular those of relevant line ministries.
- Acts/laws governing each special fund.
- Fund-specific Web sites.
- Interviews with experts.

The qualitative documentation of institutions and their sphere of action is the *first and arguably the most important step in the successful completion of the exercise*. Provision of infrastructure is fragmented and increasingly decentralized. Consequently, data and information sources are varied and fragmented as well. The data will only make sense if institutional, legal, and procedural information is well understood, particularly since the aggregation and generation of spending indicators require careful processing to avoid double counting while guaranteeing comprehensive (representative) coverage. Splitting expenditures across sectors is an enormous challenge if feasible at all (as in the case of multisector water and power utilities or hydropower investments that involve power and irrigation investments).

Infrastructure institutional mapping also helps in defining the scope and depth of the spending on public infrastructure (SPI) application. It is increasingly common that a myriad institutions and subnational governments provide infrastructure and channel public funds. One hundred percent spending coverage might be not only impossible but also impractical. Establishing the scope and depth of the SPI

application should be based primarily on covering key institutions and services, and based on desired accuracy and available resources. It might be appropriate to focus on the two to three largest subnational governments (to the extent that they are involved in infrastructure service delivery), and the three largest operators for highly decentralized services (as is common for water).

The institutional mapping should be done using templates 1 and 2. Both templates are collected at the national level.

Jurisdictional responsibilities in infrastructure service delivery (template 1)

Template 1 lists all the entities that provide, fund, or regulate infrastructure services. These are organized by their main fund source (off-budget or on-budget), jurisdiction (national, subnational), and function vis-à-vis infrastructure service provision (formulation of policy, regulation, construction, maintenance, and operation). The list should include operators—SOEs, private-public operators, and governmental agencies—as well as subnational bodies with responsibility for delivering infrastructure services. A correctly filled template will make it easy to see the fragmentation and possible overlap and duplication of responsibilities across SOEs, central government (CG), local government (LG), and the agencies and departments within them.

The template should be filled with the names of the institutions responsible for a given infrastructure activity and should specify whether the institution is on- or off-budget (Box 1.1).

Box 1.1 On-budget versus off-budget entities

On-budget entities are those whose spending patterns and allocations follow the regular budget processes of planning, programming, allocation, approval, monitoring, and auditing (when applicable). Generally, their financing comes predominantly from taxes or revenues recorded in the public budget. These agencies are under the authority of central, federal, and/or local governments. Examples of on-budget agencies are the national directorates or departments within line ministries.

Off-budget entities make their spending decisions following their own planning processes, even if fully or partially funded through a governmental budget transfer. Off-budget entities commonly have their own financing sources. Traditional funding sources for off-budget vehicles are user charges, tariffs, levies, special revenues of state corporations, donor grants, and so on. State-owned enterprises and operators with public-private capital are examples of entities within this category. So are the so-called special budgetary funds that get most of their resources from user levies and fees. Off-budget vehicles are critical for infrastructure services delivery but tend to be overlooked when spending is being tracked. But their spending patterns and operational (in)efficiencies might have fiscal implications (that is, contingent liabilities and quasi-fiscal costs), mainly due to the central government's role as their main (or even sole) stakeholder and lender of last resort.

Source: Authors' elaboration.

In cases where policy responsibilities are shared or ambiguously allocated among institutions, all relevant institutions should be listed. A case in point is the road subsector, where responsibilities are frequently allocated across two or more ministries, subnational governments, and off-budget vehicles (for example, road funds and agencies). Similarly, responsibilities in the water sector are spread among many players, jurisdictions, and on- and off-budget vehicles. In both cases, spending on construction, maintenance, and/or the operation of assets is spread across many stakeholders and is difficult to track. Meanwhile, policy and regulatory oversight is frequently delegated to only one institution.

For the purposes of template 1 PPPs generally fall in the off-budget category; their ownership structure and the existence of any golden-share might require qualifications, to be inserted in the comments section.

Policy formulation includes the setting of the legal framework as well as the framework for sector/subsector policy planning, and, in the case of on-budget entities, programming as well.

Template 1 Jurisdictional responsibilities in infrastructure service delivery

Sectors	Activity	Agency responsible at national level		Agency responsible at subnational level		Comments
		On-budget	Off-budget	On-budget	Off-budget	
Irrigation	Formulation of irrigation policy					
	Regulation of irrigation sector					
	Construction of irrigation systems					
	Maintenance/rehabilitation of irrigation systems					
	Operation of assets and service provision					
	<i>Other (please specify)</i>					
Energy	Formulation of energy policy					
	Regulation of energy sector					
	Construction of energy infrastructure (for example, hydropower plants and so on)					
	Maintenance/rehabilitation of energy infrastructure					
	Generation of electricity					
	Transmission of electricity					
	Distribution of electricity					
	Operation of assets and service provision					
	<i>Other (please specify)</i>					
Transport—Air	Formulation of aviation policy					
	Regulation of aviation sector					
	Construction of aviation infrastructure (for example, airports)					
	Maintenance/rehabilitation of aviation infrastructure					
	Air transportation					
	Airports operation					
	<i>Other (please specify)</i>					
Transport—Maritime	Formulation of maritime policy					
	Regulation of maritime sector					
	Construction of maritime infrastructure (for example, ports)					
	Maintenance/rehabilitation of maritime infrastructure (for example, ports)					
	Maritime transportation					
	Ports operation					
	<i>Other (please specify)</i>					
Transport—Rail	Formulation of rail policy					
	Regulation of rail sector					
	Construction of rail infrastructure					
	Maintenance/rehabilitation of rail infrastructure					
	Rail transportation					
	Railway operation					
	<i>Other (please specify)</i>					

Sectors	Activity	Agency responsible at national level		Agency responsible at subnational level		Comments
		On-budget	Off-budget	On-budget	Off-budget	
Transport—Roads	Formulation of road policy					
	Regulation of road sector					
	Construction of intercity roads					
	Maintenance of intercity roads					
	Construction of urban (intracity) roads					
	Maintenance of urban (intracity) roads					
	Construction of village/rural roads					
	Maintenance of village/rural roads					
	Building and operating passenger/freight terminals					
	Public transportation					
	<i>Other (please specify)</i>					
Communications	Formulation of communication policy					
	Regulation of communications sector					
	Construction of communications infrastructure					
	Maintenance of communications infrastructure					
	Management of international gateway					
	Provision of fixed-telephony services					
	Provision of cellular telephone services					
	Provision of postal services					
	<i>Other (please specify)</i>					
Water supply	Formulation of water policy					
	Regulation of water sector					
	Urban water supply and treatment					
	Rural water supply and treatment					
	Construction of water sector infrastructure					
	Maintenance of water sector infrastructure					
	Operation of assets and service provision					
	<i>Other (please specify)</i>					
Wastewater management	Formulation of wastewater policy					
	Regulation of wastewater sector					
	Urban wastewater disposal/treatment					
	Rural wastewater disposal/treatment					
	Construction of wastewater infrastructure					
	Maintenance of wastewater infrastructure					
	Operation of assets and service provision					
	<i>Other (please specify)</i>					

Following the general guidelines, if a particular infrastructure function is not applicable to the country or information is not available, the given cell should be filled with “nav” (or —) or “nap” (or n.a. or n/a), respectively. A cell should not be left empty.

Table 1.1 provides some examples of how the mapping of jurisdictional responsibilities looked in the case of Rwanda (2006).³ The interpretation and fine-tuning of template 1 is country specific, and the comments column should be used to document exactly what the particular situation is in each country for each activity.

Table 1.1 Rwanda 2006, jurisdictional responsibilities in infrastructure service delivery

Sectors	Activity	Agency responsible at national level	On budget / Off budget	Agency responsible at sub-national level	On budget / Off budget	Comments
Energy & Fuel	Formulation of energy policy	Ministry of Infrastructure	On-budget	n/a		
	Regulation of energy sector	Rwanda Utilities Regulatory Agency	Off-budget	n/a		
	Construction of energy infrastructure (e.g. hydro power plants etc.)					
	Maintenance/Rehabilitaiton of energy infrastructure	Ministry of Infrastructure	On-budget			
	Generation of electricity	Electrogaz	Off-budget	Electrogaz	Off-budget	
	Transmission of electricity	Electrogaz	Off-budget	Electrogaz	Off-budget	
	Distribution of electricity	Electrogaz	Off-budget	Electrogaz	Off-budget	
	<i>Other (please specify)</i>	Discovery and promotion of national gas - UPEGAZ	On-budget	n/a		Department within the Ministry of Lands (On-Budget)
Roads	Formulation of road policy	Ministry of Infrastructure	On-budget	n/a		
	Regulation of road sector	Ministry of Infrastructure	On-budget			
	Construction of inter-city roads	Ministry of Infrastructure	On-budget			
	Maintenance of inter-city roads	Ministry of Infrastructure	On-budget			
	Construction of urban (intra-city) roads	Road Maintenance Fund	Off-budget			
	Maintenance of urban (intra-city) roads	Road Maintenance Fund	Off-budget			
	Construction and maintenance of village/rural roads	n/a		District authorities, Common Development Fund (CDF)	On-budget	District authorities can apply to the CDF for financing for basic road/path construction at the local level
	Building and operating	Office National de Transport en	Off-budget			
	Public transportation	Office National de Transport en	Off-budget			
Water Supply	<i>Other (please specify)</i>					
	Formulation of water policy	Ministry of Lands, Environment, Forestry, Water and Mines	On-budget	n/a		
	Regulation of water sector	Rwanda Utilities Regulatory Agency	Off-budget	n/a		
	Urban water supply and treatment	Electrogaz	Off-budget	n/a		
	Rural water supply and treatment			District authorities	On-budget	
	Construction and maintenance of water sector infrastructure	Ministry of Lands, Environment, Forestry, Water and Mines	On-budget	District authorities, Common Development Fund	On-budget	District authorities can apply to the Common Development Fund for financing for borehole projects etc at the local level
	<i>Other (please specify)</i>					

Source: World Bank 2006a.

³ The format of the template has since been amended.

Special funds financing infrastructure service delivery (template 2)

Template 2 aims to list special funds channeled to infrastructure. All the special funds listed in template 2 should have already appeared in template 1. But this second template is necessary to capture some of the institutional nuances that surround these sometimes controversial funds. The term *special funds* (SFs) includes funds that, even if partially or fully funded by the government budget, have managerial autonomy. SFs may be subject to different systems of cash management, control, and reporting than the budget itself; be set up under separate legislation; tap into commodity aid and levies; and earmark revenues for specific purposes. SFs are very common for roads and rural infrastructure services, and to support special-tariff regimes.

Template 2 captures qualitative information that helps characterize and interpret data from institutional arrangements in political and socially sensitive areas. Topics of interest, for the purposes of accurate interpretation, include:

- *Administering authorities*, which may include government representatives, independent boards, and/or third-party administrators.
- *Funding sources*, including user fees, budgetary transfers, and donor contributions.
- *Fund objectives*, which vary depending on the country's political economy, and range from supporting rural infrastructure to implementing emergency infrastructure interventions to supporting maintenance.

Template 2 Special funds financing infrastructure service delivery

Fund	Administering authority	Funding sources	Objectives

Table 1.2 lists Uganda's SFs in infrastructure as of 2006. In the case of Uganda, all active SFs are extrabudgetary in the sense that they are governed by their own planning and spending rules and mandates.

Table 1.2 Uganda 2006, special funds in infrastructure

Fund	Administrating authority	Funding sources	Objectives
Rural Electrification Fund	Rural Electrification Agency	5% levy of transmission bulk purchases by generation companies; World Bank; government	Capital subsidies to private rural generation companies; tariff subsidies to rural distribution companies.
Credit Support Facility		World Bank, government	Refinancing facility for long-term private lenders to rural electrification projects; partial risk guarantees.
Tariff Stabilisation Fund	UECL (transmission company)	Tariff levy on cost of generation	Smoothing of electricity tariff increase until Bujugali comes on stream.
Rural Communications Fund	Uganda Communications Commission	1% levy on gross revenue from telecommunications and postal services providers (universal service levy)	Support for rural communication; provision of at least one public telephone per 5,000 people at the subcounty level; ensure Internet access at every district headquarters.

Source: World Bank 2006b.

Collecting readily available relevant data

Private participation in infrastructure (template 3)

Indicative levels and trends of private participation in infrastructure according to various private participation modalities and arrangements can be gleaned from the World Bank's private participation in infrastructure database (<http://ppi.worldbank.org/>). One template should be completed for each country.

Template 4 contains a list of transactions in infrastructure services involving private participation. The source is the World Bank database on private participation in infrastructure (PPI), available online. The PPI database is undoubtedly the most consistent and comprehensive cross-country documentation of private transactions in infrastructure sector in developing countries. When analyzing the results of the exercise, the PPI data provide perspective on the relative importance of the public sector vis-à-vis the potential and current activities of the private sector. This is a great example of how tapping secondary sources in the pre-field stage leverages the SPI exercise.

Template 3 Private participation in infrastructure

Name of project	Modality (concession, BOT, management contract, and so on)	Sector	Subsector	Contract period	Investment year or financial closure year	Value of investment commitment (US\$ million)

BOT=Build Owned and Transfer

By way of example, table 1.3 lists the transactions in the private sector in Kenya since the early 1990s. The data include the private sector's commitments⁴ to the energy, water, and transport sectors, as well as specific cash transactions in the case of telecommunications.

Table 1.3 Kenya 2006, private participation in infrastructure

Name of Project	Modality (concession, BOT, management contract, etc)	Status	Sector	Sub-Sector	Contract period	Investment year or financial closure year	Value of investment commitment (US\$ million)
Energy sector							
Iberafrica Power Ltd.	Greenfield project	Operational	Energy	Electricity	7	1996	64
Mombasa Barge-Mounted Power Project	Greenfield project	Concluded	Energy	Electricity	7	1996	20
Kipevu II	Greenfield project	Operational	Energy	Electricity	20	1999	85
Ormat Olkaria III Geothermal Power Plant (phase 1)	Greenfield project	Operational	Energy	Electricity	20	1999	54
Telecom sector							
Safaricom	Greenfield project	Operational	Telecom	Telecom	15	1999	68
						2000	68
						2001	68
						2002	68
						2003	68
						2004	157
						2005	171
Celtel Kenya	Greenfield project	Operational	Telecom	Telecom	15	1999	40
						2000	40
						2001	40
						2002	40
						2003	40
						2004	300
						2005	250
Econet Kenya Limited	Greenfield project	Construction	Telecom	Telecom	15	2004	75
Transport sector							
Mombasa Container Terminal	Management and lease contract	Canceled	Transport	Seaports	2	1996	-
Jomo Kenyatta Airport Cargo Terminal	Greenfield project	Operational	Transport	Airports	N/A	1998	21.4
Mombasa Grain Terminal	Greenfield project	Operational	Transport	Seaports	8	1998	32.0
Kenya-Uganda Railways	Concession	Operational	Transport	Railroads	25	2006	322.0

BOT=Build Owned and Transfer

Source: World Bank (2006c)

Official development assistance (ODA) in infrastructure (template 4)

Indicative levels and trends of ODA in infrastructure according to various private participation modalities and arrangements can be obtained from the online database of the OECD's Credit Reporting System (<http://www.oecd.org/statistics/>). One template should be completed for each country.

Template 4 sets up an indicative listing of levels and trends of ODA in infrastructure as a percentage of GDP. The OECD Credit Reporting Database is a comprehensive information source for the completion of this template.

⁴ With the exception of the telecommunications sector, the PPI database records commitments as opposed to actual disbursements. The difference between commitments and disbursements is often substantial. For instance, in multiyear projects the initial commitment to an investment is an aggregate, while disbursements correspond to annual flows.

Template 4 ODA in infrastructure service delivery

US\$ millions	t-4	t-3	t-2	t-1	t
Total infrastructure					
140: I.4. Water supply and sanitation					
210: II.1. Transport and storage					
220: II.2. Communications					
230: II.3. Energy					

Table 1.4 provides another example of how to leverage the SPI exercise using secondary sources. In this case, the table shows data from the OECD Credit Reporting Database for Sierra Leone.

Table 1.4 Sierra Leone 2007, ODA in Infrastructure

US\$ millions	2002	2003	2004	2005	2006	2007
Total infrastructure	2.79190057	66.48603636	39.50414176	94.27007312	3.33610499	55.43493961
140: I.4. Water supply and sanitation	0.97405642	8.82893883	18.16274457	5.58331844	10.6412804	11.78243788
210: II.1. Transport and storage	0.16644811	66.45760378	0	56.27007312	2.94492878	27.37850787
220: II.2. Communications	0.67516879	0	0.56316173	0	0.03401264	0.02792133
230: II.3. Energy	1.95028367	0.02843258	38.94098003	38	0.35716357	28.02851041

Source: <http://www.oecd.dac.org>.

Initial data collection: Practical concerns

SPI data need to be collected from central ministries (finance and economic planning) as well as from key line ministries, autonomous agencies, parastatals and, in a few occasions, nongovernmental organizations (NGOs). The involvement of key official and technical personnel is therefore critical in order to accurately identify sources and resources, and to validate inputs. As part of the data collection effort it is also essential to plan ahead and factor in a given country's budget and administrative cycles.

Budgetary cycle and budget classification

Establishing the budgetary cycle of the given country is a prerequisite to identifying the time periods that may be particularly inconvenient for data collection activities, to tailor the fieldwork timetable accordingly, and to get a sense of when budget data will become available (even before being published). Likewise, knowing the budget coding system used by the government is essential. In particular, the country may or may not have adopted the IMF's Government Finance Statistics Manual 2001 (GFSM 2001)⁵ for reporting budgetary accounts. If the country does not use the GFSM 2001 for its reporting, a code-mapping exercise will be necessary (to be discussed in more detail in the next section).

Strategy for fieldwork

Institutional mapping is followed by establishing the scope of the data collection in terms of the institutions and sectors covered, as well as the level of detail and disaggregation. This is where the complexity of comprehensive spending data collection is matched to the desired accuracy. *Resource*

⁵ <http://www.imf.org/external/pubs/ft/gfs/manual/>.

availability and focus are best defined before initiating the fieldwork. This is yet another reason why good infrastructure mapping is so important.

The institutional mapping should be matched with a comprehensive list of key country-specific officials, specialists, and locations, at the same time as identifying institutional repositories of data and central coordinating agencies that might constitute single data sources for a sector or a set of data. For instance, in some countries one option might be the auditor general's office (which compiles SOE financial accounts) while in others it might be the bureau of statistics (a good source of financial data).

In a nutshell, the interview plan prepared before the fieldwork commences should be as complete as possible and provide an exhaustive list of (i) institutions and contacts, (ii) existing secondary sources of data, and (iii) referential documents that should be collected in the preparatory work (table 1.5).

Table 1.5 Indicative checklist of documents and sources

Key documents	Source	Purpose
Central government budgets (including budget, release and actual) and budget speech	Ministry of Finance, the Central Planning Unit	Data collection: Quantitative templates 8, 9, and 10
Local government budgets (either consolidated total or three largest authorities)	Central Planning Unit or local governments	Data collection: Quantitative templates 7 and 10
Annual reports of SOEs and special budgetary funds financial accounts (income statement, balance sheet, cash flow statement)	Ministry of Finance, Central Planning Unit, SOEs, line ministry(ies), and/or special fund administration	Data collection: Quantitative template 11
Relevant acts or laws relating to public financial management	Ministry of Finance	Country report: Qualitative templates 5 and 6
Country Financial Accountability Assessment (CFAA)	WB	Data collection: Qualitative templates 5 and 6
Fiscal transparency—Report on Observation of Standards and Codes	IMF	Data collection: Qualitative templates 5 and 6
Recent economic developments	IMF	Country report
Medium-Term Expenditure Framework document	Ministry of Finance and/or Central Planning Unit	Quantitative templates 8 and 9 Qualitative template 6

Source: Authors' Elaboration

Note: Ministry of Finance = Ministry of Finance; IMF = International Monetary Fund; WB = World Bank; SOEs = state-owned enterprises.

Mining publicly available sources

As many quantitative template (using readily available public sources) should be completed during the pre-field stage as possible. Governments and enterprises are increasingly transparent, meaning that more national budget books, as well as annual reports and financial accounts for SOEs, are being made public and are increasingly available on-line.

Filling in the quantitative templates with as much data as possible *before* the fieldwork stage allows more focus on validation and the research needed to fill any data gaps. For this reason, it is highly recommended.

2 Fieldwork—Establishing a qualitative baseline

Framing qualitative fiscal information

Setting the qualitative baseline consists of documenting basic public expending processes related to infrastructure. The qualitative baseline component is divided into a number of parts.

- *National level*, which covers budgetary institutions and processes. These institutional variables are collected at the national level following templates 5 and 6. The best sources for this information are ministries of finance, ministries of planning, and the budget offices of the parliament.
- *Operator level*, which covers information pertaining to the governance quality of public providers (for example, parastatals, SOEs, PPPs). These institutional variables are collected at the operator level, following template 7. The best source for this information is the sector regulatory entity or—second best—the public operator itself, be it a corporation or a special fund.

Qualitative templates at the national level

The purpose of qualitative templates at the national level (templates 5 and 6) is to provide a schematic and, where possible, a categorical description of the institutional process and general regulatory characteristics guiding the planning, programming, and budgeting of infrastructure services.

- Template 5. Basic budgetary institutions. One questionnaire per country.
- Template 6. Budget cycle. A stylized scheme of the budgeting process. One questionnaire per country.

Sources of information for completing the templates include:

- Budget circulars/acts/laws.
- Literature reviews.
- World Bank Country Financial Accountability Assessments or similar public financial management diagnostics recently completed.
- Interviews with officials from the ministry of finance, line ministries, ministry of planning, regulators, state-owned enterprises, special funds, local governments, and any other infrastructure providers—senior-level meetings, for example, with the permanent secretary /secretary-general of finance (or equivalent) or director of budget to obtain reliable responses.

- Users should use their own knowledge of the Public Financial Management processes in the country to make a preliminary version of the sheet. World Bank economic counterparts will also be useful in confirming responses.

The following definitions and clarifications may be useful when completing these templates.

Unitary versus dual budgets

A unitary budget is a straightforward concept; using this system, a country prepares one and only one document characterizing all annual spending by functional and economic categories. Many countries, however, operate under a dual budget system, in which the budget is split in two, usually prepared and managed by separate entities within the government. Dual budget systems generally comprise (i) a recurrent budget (RB) and (ii) a development budget (DB). For many African countries DBs were convenient mechanisms in the first two decades of independence, as government responsibilities gradually expanded beyond the provision of law and order. DBs largely focused on public capital investment projects such as power supply, public housing, roads and bridges, schools and universities, and hospital and clinics, although even these included recurring activities such as malaria eradication and crop research. Outside donors were willing to finance such expansion, and separate budgets facilitated the coordination of aid.

Unlike RBs, DBs covered individual projects, allowing donors to closely monitor the projects being financed and also to identify future projects. Donors therefore preferred the dual budget system. The size of a DB was determined by the availability of aid, at the margin an add-on exercise.

In recent years, the composition of DBs has gradually changed due to the growing inability of domestic budgets to shoulder recurrent costs and by the increasing “ring-fencing” of donor-aided projects. Recurrent expenditures go into the DB because they are aid financed, not because they are capital investments, which blurs the distinction between capital and recurrent expenditure. Nowadays, projects frequently contain three types of expenditures: (i) new investment, (ii) rehabilitation of poorly maintained past investments (often aid financed), and (iii) recurrent funding.⁶

Basic budgetary institutions, national level (template 5)

This includes factors that define and characterize the overall strategic framework of the budget process.

⁶ Excerpts from World Bank (1999: 53).

Template 5 Basic budgetary institutions, national level

	Variable	Definition	Units
MTEF	Fiscal: MTEF	Medium Term Expenditure Framework (MTEF) process	1=yes, 0=no
	Fiscal: MTEF-Budget	MTEF an integral part of the budgetary process	1=yes, 0=no
	Fiscal: MTEF-Time	MTEF's time horizon	INTEGER
	Fiscal: Recent MTEF	Date of the most recent MTEF	YEAR
Budget	Fiscal-Unitary Budget	Unitary budget, for example, investment and recurrent spending are integrated in a unique budget bill	1=yes, 0=no
	Fiscal: Development Budget	Separate budget for investments	1=yes, 0=no
	Fiscal: Development Budget Coordination	Agency coordinating preparation of development budget	0=Min Finance, 1=Min Planning, 2=Other
	Fiscal: External Budget	Separate budget for externally funded budgets	1=yes, 0=no
	Fiscal: External Budget Coordination	Agency coordinating preparation of externally funded budgets	0=Min Finance, 1=Min Planning, 2=Other
	Fiscal: Recurrent Budget	Separate budget for recurrent spending	1=yes, 0=no
	Fiscal: Recurrent Budget Coordination	Agency coordinating preparation of recurrent spending	0=Min Finance, 1=Min Planning, 2=Other
	Fiscal: Sequence Budget Ceiling	Budget framework paper prepared prior to budget preparation to guide sectoral budget proposals	1=yes, 0=no
	Fiscal: Individual Strategic Budgets	Sector ministries prepare individual strategic expenditure plans (or their equivalent)	1=yes, 0=no
	Fiscal: Investment Portfolio	There is a project investment portfolio or an equivalent repository of bankable projects specific for individual sectors	1=yes, 0=no

Budgetary cycle diagram, national level (template 6)

The budget cycle diagram provides a chronological scheme of the government budget cycle, including approvals. In the case of a dual budget system, the separate decision paths for the recurrent and development budgets should be well understood. If easily available, the decision path for SOEs and parastatals should also be understood and documented. This is the main objective of template 6.

Where possible a budget cycle should be obtained directly from the ministry of finance or other reliable source (for example, Public Financial Management [PFM] diagnostic studies). If not available from the ministry or other source, the budgetary cycle diagram can be developed jointly with the ministry of finance (or planning) using template 6 as a framework.

Template 6 identifies and organizes the following activities in the correct chronological order, and identifies the agency responsible for each:

- Budget circular drafting
- Budget circular approval
- Budget call
- Current budget guide distribution

- Investment budget criteria distribution
- Current budget proposal
- Current budget negotiations
- Investment budget proposal
- Aggregated budget allocations
- Budget allocation endorsements
- Annual program/investment financing decrees
- Budget approval
- Budget law

Template 6 Budgetary cycle diagram, national level

Number of months in cycle	Month	First or second activity of the month	Budget activity	If other, describe here	Responsible agency	Comments
	January	First activity of the month				
		Second activity of the month				
	February	First activity of the month				
		Second activity of the month				
	March	First activity of the month				
		Second activity of the month				
	April	First activity of the month				
		Second activity of the month				
	May	First activity of the month				
		Second activity of the month				
	June	First activity of the month				
		Second activity of the month				
	July	First activity of the month				
		Second activity of the month				
	August	First activity of the month				
		Second activity of the month				
	September	First activity of the month				
		Second activity of the month				
	October	First activity of the month				
		Second activity of the month				
	November	First activity of the month				
		Second activity of the month				
	December	First activity of the month				
		Second activity of the month				

Template 6 should (i) include the actual names of local institutions, (ii) distinguish between different types of budgets (recurrent and development budgets, if existent), and (iii) include a flow diagram, with

boxes to represent activities and the responsible institutions. The structure of the process is country specific, and the number of boxes varies per country.

If the Medium Term Expenditure Framework (MTEF) is sufficiently developed so as to be considered an integral part of the budgetary process (as in South Africa and Uganda, for example), the budgetary cycle diagram should be extended to include the calendar and responsibilities for MTEF preparation prior to the issuing of the budget circular.

The budgetary cycle diagram should be guided by the indicative example provided in figure 2.1, describing the budgetary cycle in Turkey as of 2005.

Figure 2.1 Turkey 2004, budgetary cycle diagram

Source: World Bank (2005)

Qualitative template at the operator level

The purpose of the qualitative template at the operator level is to provide a schematic evaluation of the incentives and regulatory framework determining the “commercial” behavior of the providers financed by public funds.

The template should be completed for each public operator (whether an SOE, parastatal, special fund, or PPP/utility), so as to cover each of the institutions for which quantitative data will be collected. Where one enterprise covers more than one subsector (for example, electricity and water supply), the template should be completed for each subsector, if possible.

Sources of information include interviews with officials (ministry of finance, line ministries, regulators) and with providers (state-owned enterprises, parastatals, special funds).

This guide covers only institutional development indicators classified as *governance variables* collected at the utility or operator level following institutional data template 7. Template 7 has to be filled for each operator for each of the infrastructure sectors covered (template 1).

When filling template 7, the column for comments should not be overlooked. Even when a clear answer such as “yes” or “no” can be provided, any areas of doubt or ambiguity should always be recorded in the comments column. And in the case of the option “Other,” the comments column needs to be filled in with any necessary explanations and the name of the operator/institution.

Governance of public operators (template 7)

There are 33 governance variables that are laid out in the institutional data template 7, which has been adapted from Vagliasindi (2009). The data are organized along five dimensions: autonomy, transparency, accountability, tools, and universal service obligations.

Governance variables refer to the implementation of (i) measures inside a given enterprise (such as strengthening shareholder voice and supervision, board and management autonomy, and mechanisms for accounting and disclosure) and (ii) measures aimed at improving the external environment in which the enterprise operates (including outsourcing to the private sector and introducing discipline in a competitive labor and capital market).

Governance variables should be collected both from sector regulators and from the central government entity (line ministry), against which data from the given SOE can be verified.

Template 7 Governance of public operators

	Series code	Variable	Definition	Units
Ownership and shareholder quality		Governance: Ownership	Percentage of the utility owned by central or local governments	Percent
		Governance: Ownership Private	Percentage of the utility owned by local or foreign private sector	Percent
		Governance: Ownership Employees	Percentage of the utility owned by central or local governments	Percent
		Governance: Legal Status	Legal status of the company	0=Uncorporatized state-owned enterprise, 1=corporatized state-owned enterprise, 2=limited liability share-owned company, 3=other
		Governance: Rate of Return	Whether the enterprise is required to earn a specific rate of return	1=yes, 0=no
		Governance: Dividends	Whether the enterprise is required to pay dividends	1=yes, 0=no
Managerial and board autonomy		Governance: Hiring	Whether manager is at liberty of hiring workers if needed	1=yes, 0=no
		Governance: Laying off	Whether manager is at liberty of laying off workers if needed	1=yes, 0=no
		Governance: Salaries	Whether manager is at liberty of setting salaries	1=yes, 0=no
		Governance: Production	Whether manager is at liberty of setting production levels	1=yes, 0=no
		Governance: Sales	Whether manager is at liberty of setting whom to sell	1=yes, 0=no
		Governance: Size of Board	Number of members on the board of directors	INTEGER
		Governance: Board Selection	Instance that selects board members	0= only government, 1=shareholders
		Governance: Independent Directors	Number of members on the board of directors that are drawn from independent private sector organizations	INTEGER
Ownership and shareholder quality		Governance: Publication Annual Report	Whether annual reports on enterprise financial performance are available to the public	1=yes, 0=no
		Governance: IFRS	Whether the firm follows the International Financial Reporting Standards (IFRS)	1=yes, 0=no
		Governance: External audits	Type of audit of the firm	0=none, 1=operational audit, 2=financial and operational audit, 3=external audit, 4=independent audit
		Governance: Audit Publication	Whether the audit results are made public	1=yes, 0=no
		Governance: Noncommercial	Whether the states remunerates noncommercial activity to the company	1=yes, 0=no
Performance monitoring		Governance: Performance Contracts	Whether there are any management or performance contracts made between the enterprise and the responsible government authority	1=yes, 0=no
		Governance: Performance	Whether the enterprise has performance-based incentive systems in which payments	1=yes, 0=no

	Series code	Variable	Definition	Units
		Contracts with Incentives	and promotion of managers are determined by their performance	
		Governance: Penalties for Poor Performance	Whether there are penalties for poor performance of managers	1=yes, 0=no
		Governance: Monitoring	Whether there is a periodic formal monitoring of managerial performance	1=yes, 0=no
		Governance: Third-party Monitoring	Whether there is a performance monitoring by an independent entity (private sector auditor)	1=yes, 0=no
Outsourcing		Governance: Billing and Collection	Whether the enterprise contracts out billing and bill collection	1=yes, 0=no
		Governance: Meter Reading	Whether the enterprise contracts out meter reading	1=yes, 0=no
		Governance: Human Resources (HR)	Whether the enterprise contracts out human resources	1=yes, 0=no
		Governance: Information Technology (IT)	Whether the enterprise contracts out information technology services	1=yes, 0=no
Labor market discipline		Governance: Restriction to Dismiss Employees	Framework guiding restrictions to dismiss employees	0=public service guidelines, 1=corporate law, 2=performance contracts
		Governance: Wages	Whether the enterprise's wages are comparable to those in the private and public sector	0=comparable to public sector salaries, 1=comparable to private sector salaries, 2=somewhere in between public and private salaries
		Governance: Benefits	Whether the enterprise's benefits are comparable to those in the private and public sector	0=comparable to public sector benefits, 1=comparable to private sector benefits, 2=somewhere in between public and private benefits
Capital market discipline		Governance: No Exemption from Taxation	Whether the enterprise is exempt from any form of taxation (for example, value added tax, VAT)	1=yes, 0=no
		Governance: Access to Debt	Whether the enterprise has access to debt at preferential rates	0=below market rate, 1=equal to market rate, 2= above the market rate
		Governance: State Guarantees	Whether the enterprise holds guarantees by the state	1=yes, 0=no

Source: Adapted from Vagliasindi (2009).

3 Fieldwork—Establishing a quantitative baseline

Target institutions and documents for collection

This chapter identifies and defines documents that are to be collected in support of setting the baseline. Spending data are among the most complex infrastructure data to be collected. The standardized collection of spending data requires the potentially elaborate recoding of national budgets, which are country specific and vary in complexity. It also demands the careful reclassification of financial information of nonfinancial public institutions' as to guarantee the comparability and consistency of spending categories across operators, sectors, and countries.

Norms and levels of transparency vary by country. In some countries making budget documents and financial accounts available to the general public is the exception rather than the norm. This is why the first step (and challenge) in setting the fiscal baseline is to have access and collect budget and financial account documents. To decide which institutions are the best sources of such documents, see the updated institutional map presented in template 1.

Fiscal data documents are generally collected from central ministries (finance and economic planning) as well as from key line infrastructure ministries, autonomous agencies, parastatals, and NGOs. The involvement of key official and technical personnel is therefore critical to the document collection process.

There are essentially five types of documents to collect:

- *Approved budgets.* These are final budget books that have been authorized by parliament in the form of budget laws. They often consist of both original estimates and supplementary budgets.
- *Actual budgets.* These are reports of funds that have actually been spent. When budget books are available, the actual execution of budget estimates for the previous year is reported in the same documents.
- *Annual reports/financial accounts.* These are documents published or made available internally by SOEs or special funds as they report their annual performance at the end of each fiscal year.
- *Audited budgets and annual reports.* These are the final actual budgets and annual reports, prepared after auditing. They may not be made available across all countries or to all entities within a country. A document is considered audited when it has been revised and approved in accord with a comprehensive set of audit policies and standards. Such standards should follow best international practice, such as the auditing standards published by the International Organization of Supreme Audit Institutions (INTOSAI) and the International Standards on Auditing prepared by the International Auditing Practices Committee of the International Federation of Accountants (IFAC).

- *Medium-term expenditure framework (MTEF) document.* The MTEF document is a framework for integrating fiscal policy and budgeting over the medium term by linking a system of aggregate fiscal forecasting to a disciplined process for the maintenance of detailed medium-term ministerial budget estimates that reflect current government policies. Forward estimates of expenditures become the basis of budget negotiations in the years following the budget, and these estimates are reconciled with final outcomes in fiscal outcome reports.

Table 3.1 provides a tentative list of the national and international institutions from which to gather fiscal documents.

Table 3.1 Indicative checklist of data sources and documents

Source	Key documents
Ministry of Finance or equivalent, the Central Planning Unit or equivalent	Central government budgets (including approved budget, release and actual) and budget speech.
Central Planning Units or local governments	Local government budgets (either consolidated total or three largest authorities).
Ministry of Finance, Central Planning Units, SOEs, regulators, office of the comptroller, and/or line ministries	Annual reports of SOEs and special budgetary funds. Financial accounts (income statement, balance sheet, cash flow statement).
Ministry of Finance, Central Planning Units, SOEs, and/or line ministries	List of ongoing investment projects in infrastructure (current).
Ministry of Finance and/or Central Planning Units	Medium-Term Expenditure Framework (MTEF) document.
Ministry of Finance	Relevant acts or laws relating to public financial management.
World Bank	Country Financial Accountability Assessment (CFAA).
International Monetary Fund	Fiscal transparency—Report on Observation of Standards and Codes.
International Monetary Fund	Recent economic developments.

Source: Authors' elaboration.

Note: Ministry of Finance = Ministry of Finance; SOEs = state-owned enterprises.

Framing the scope of fiscal data

The data collection process for the fiscal component is divided into a number of parts:

- *National level.* There are two templates that support the collection of fiscal-related data at the national level. Quantitative variables related to the overall budget and basic macroeconomic indicators are collected following template 8. Template 9 should be filled in for the central government only. The best sources for this information are the ministry of finance, ministry of planning, and the budget offices of the parliament.
- *Government level.* Budgetary flows are collected for the central government and local governments separately following fiscal data template 10. This template should be filled in *separately* for the different stages of the budget (estimates, releases, and actual expenditures) and, in the case of dual budgets, for each budget (development and recurrent). For example, in the case of Uganda's central government, which uses a dual budget, this template should be used six times for each year of data collected: development budget estimates, development budget releases, development budget actuals, recurrent budget estimates, recurrent budget releases, and recurrent

budget actuals. The best sources for this information are the ministries of planning and finance, the parliament, and published budget laws.

- *Operator level.* Financial variables are collected from SOEs, public corporations, or parastatals, and special funds, following fiscal data template 11. The best source for this information is the public operator itself, be it a corporation or a special fund.

Fiscal data template at the national level

Macroeconomic parameters for normalization (template 8)

Template 8 is used to guide data collection at the national level. Template 8 collects basic macroeconomic data for normalization (for example, GDP, exchange rates), most of which are available through internationally validated secondary sources (the World Bank and IMF Web sites, for example). The template should be completed for the same years for which data for templates 10 and 11 have been collected (that is, the most recent five years).

Template 8 Macroeconomic parameters for normalization

Policy code	Series code	Variable	Definition	Unit
Noninfrastructure (NIN)	XXXXXXX	Gross domestic product		LCU per year
	XXXXXXX	Average exchange rate		LCU per year
	XXXXXXX	Population		LCU per year

Source: Authors' elaboration.

Note: LCU = local currency units.

Relevant definitions: Functional and economic classifications

The following definitions and clarifications may be useful when completing all the templates related to fiscal data (see templates 9 and 10).

The functional classification of expenditures or COFOG

Using the GFSM 2001 as the starting point for this exercise provides a methodological platform that is well used and known across countries and has substantive advantages. The use of the GFSM 2001 functional classification allows for examining expenditure trends over time, regardless of country-specific institutional arrangements or restructuring. Another advantage is the unambiguous definition of the sectoral scope.

The functional classification of expenditures, also known as the classification of functions of government (COFOG), is a detailed classification of the functions, or socioeconomic objectives, that

general government units aim to achieve through various kinds of outlays. It is one of four classifications referred to as classifications of expenditure according to purpose.⁷

The COFOG classifies government outlays by functions of general interest and amenable to a wide variety of analytic applications. Statistics on health, education, social protection, and environmental protection, for example, may be used to study the effectiveness of government programs in those areas.

The classification codes of the COFOG are somewhat different from the structure of other global financial system (GFS) classification codes. The functions are classified using a three-level scheme.⁸

- There are 10 first-level, or two-digit categories, referred to as divisions. Examples are health (Division 07) and social protection (Division 10).
- Within each division, there are several groups, or three-digit categories, such as hospital services (073) and sickness and disability (101).
- Within each group, there are one or more classes, or four-digit categories, such as nursing and convalescent home services (0734) and disability (1012).

All outlays for a particular function are collected in one category of the COFOG, regardless of how the outlays are implemented. That is, cash transfer payments designed to be used for a particular function, the purchase of goods and services from a market producer that are transferred to households for the same function, the production of goods and services by a general government unit, or the acquisition of an asset for that same function are all in the same category. The economic classification of the expense—that is, whether an outlay is used for rehabilitation of existing assets or payment of salaries, or so on—will be given by an additional attribute in the budget item coding (see below).

The COFOG allows trends in government outlays of various kinds and purposes to be examined over time. Conventional government accounts are not usually suitable for this purpose because they reflect the organizational structures of governments. Not only may time series be distorted by organizational changes, but at a specific time some organizations may be responsible for more than one function, and responsibility for one function may be divided among several organizations. For example, if a government establishes a new department that brings together some of the functions previously administered by several departments or at several levels of government, it will not usually be possible to use conventional government accounts to compare outlays for these purposes over time.

The COFOG is also used to make international comparisons of the extent to which governments are involved in economic and social functions. Just as the COFOG avoids the problems of organizational changes in a single government, it also avoids the problems of organizational differences across countries. For example, in one country all functions connected with water supply may be undertaken by a single

⁷ This section includes excerpts from chapter 6 of the Government Finance Statistics Manual 2001 (GFSM 2001) by the International Monetary Fund (IMF). The COFOG was produced by the Organisation for Economic Co-operation and Development (OECD) and was published together with the three other classifications in the United Nations' Classifications of Expenditure according to Purpose (New York, 2000). Original material of the GFSM 2001 regarding the COFOG is adapted from that publication.

⁸ All three classification levels and detailed descriptions of the contents of each class are reproduced in annex 1 as discussed in chapter 6 of the GFSM 2001.

government agency, while in another country they may be distributed among departments dealing with the environment, housing, and industrial development.

The items classified should, in principle, be individual transactions. Each purchase of goods and services, wage payment, transfer, or other outlay should be assigned a COFOG code according to the function that the transaction serves.

If administrative outlays overlap two or more classes, an attempt should be made to apportion outlays among the classes concerned. If this approach is not feasible, the total should be allocated to that class that accounts for the largest share of the total outlay.

Defining infrastructure outlays using the COFOG

The definition of infrastructure sectors for this exercise is limited to infrastructure services supporting economic activities plus the services included in the water and sanitation Millennium Development Goals. Table 3.2 lists the COFOG classes that correspond to that definition.

Definitions are provided only for the lowest functional category (for example, the 4-digit class) being used for data collection.

Note that the only infrastructure subsector that is not unambiguously captured by the COFOG code is irrigation. Irrigation expenditures are defined in this guide as the combination of two cost elements: (i) Expenditures in irrigation systems (a share of class 70421 Agriculture), and (ii) multipurpose development projects (70474).

Table 3.2 COFOG codes capturing infrastructure cost elements

Code	Division/group/class	GFSM 2001 definition
704	Economic affairs	
7042	Agriculture, forestry, fishing, and hunting	
	<i>Irrigation systems (a share out of class 70421 Agriculture)</i>	<i>Administration, construction, maintenance, and/ or operation of flood control, irrigation and drainage systems, including grants, loans, or subsidies for such works.</i>
7047	Other industries	
70474	<i>Multipurpose development projects</i>	<i>Administration, construction, maintenance, and/ or multipurpose development projects typically consisting of integrated facilities for generation of power, flood control, irrigation, navigation, and recreation.</i>
7043	Fuel and energy	
70434	<i>Other fuels</i>	<i>Administration, construction, maintenance, and/ or operation of affairs and services involving fuels such as alcohol, wood and wood waste bagasse, and other noncommercial fuels.</i>
70435	<i>Electricity</i>	<i>Administration, construction, maintenance, and/ or operation of traditional sources of electricity such as thermal or hydro supplies and newer sources such as wind or solar heat.</i>
70436	<i>Nonelectric energy</i>	<i>Administration, construction, maintenance, and/ or operation of nonelectric energy affairs and services, which chiefly concern the production, distribution, and utilization of heat in the form of steam, hot water, or hot air; Includes: geothermal resources; nonelectric energy produced by wind or solar heat.</i>
7045	Transport	
70451	<i>Road transport</i>	<i>Administration of affairs and services concerning operation, use, construction, and maintenance of road transport systems and facilities (roads, bridges, tunnels, parking facilities, bus terminals,</i>

Code	Division/group/class	GFSM 2001 definition
		and so on).
70452	Water transport	Administration of affairs and services concerning operation, use, construction, and maintenance of inland, coastal, and ocean water transport systems and facilities (harbors, docks, navigation aids and equipment, canals, bridges, tunnels, channels, breakwaters, piers, wharves, terminals, and so on), as well as of water transport facilities.
70453	Railway transport	Administration of affairs and services concerning operation, use, construction, and maintenance of railway transport systems and facilities (railway roadbeds, terminals, tunnels, bridges, embankments, cuttings, and so on).
70454	Air transport	Administration of affairs and services concerning operation, use, construction, and maintenance of air transport systems and facilities (airports, runways, terminals, hangars, navigation aids and equipment, air control amenities, and so on).
7046	Communication	
70460	Communication	Administration of affairs and services concerning construction, extension, improvement, operation, and maintenance of communication systems (postal, telephone, telegraph, wireless, and satellite communication systems).
705	Environmental protection	
7052	Wastewater management	
70520	Wastewater management	Administration, supervision, inspection, operation, or support of sewage systems and wastewater treatment.
706	Housing and community amenities	
7063	Water supply	
70630	Water supply	Administration of water supply affairs; supervision and regulation of all facets of potable water supply including water purity, price, and quantity controls.

Source: Adapted from IMF (2001).

Note: See annex 2 for a more detailed description of the content of each category.

Economic classification of expenditures

The economic classification provides the desirable breakdown of outlays in order to differentiate the nature of expenditures (tables 3.3 and 3.4).

Table 3.3 Economic classification of government expenditures—current expenditures

Category/subcategory	Definitions
Compensation of employees	Consists of all compensation of government employees including <i>social contributions</i> by employers. Includes payments in cash or in kind. Social contributions paid by deduction from employees' wages and salaries are also included in this category.
Use of goods and services (maintenance)	Routine and periodic spending to keep an asset in functioning order.
Other use of goods and services	All other expenditure on goods and services.
Consumption of fixed capital	Consumption of fixed capital is the decline in the value of the stock of fixed assets during the accounting period as a result of physical deterioration, normal obsolescence, and normal accidental damage. Consumption of fixed capital related to fixed assets used in own account capital formation is excluded from this category and included as part of the value of the asset produced. It is always a noncash expense.
Subsidies to public corporations	Subsidies are current transfers that government units pay to enterprises, either on the basis of the levels of their production activities or on the basis of the quantities or values of the goods or services that they produce, sell, or import. Included are transfers to public corporations that are intended to compensate for operating losses.
Subsidies to private enterprises	Subsidies are current transfers that government units pay to enterprises, either on the basis of the levels of their production activities or on the basis of the quantities or values of the goods or services that they produce, sell, or import. Included are transfers to private enterprises that are intended to compensate for operating losses.
Grants and transfers	This category captures transfers of conditional grants for financing current spending to lower levels of local government.

Source: Adapted from IMF (2001)

Note: See annex 3 for a more detailed description of the content of each category.

In terms of the benefits of monitoring infrastructure spending, the GFSM 2001 economic classification (COFOG) allows—at the very least—for a rough distinction between current expenditures and capital expenditures. This distinction, even if basic, is extremely important when analyzing infrastructure costs and planning infrastructure needs. The systematic lack of reporting of the capital/maintenance split may well be a cover used by governments when not properly spending and/or allocating resources on needed maintenance requirements.

It is also critical to try to capture external financing that can be traced to specific activities. In this regard, two additional categories have been added to the capital expenditure categories so as to single out infrastructure capital spending that has been financed through the budget using external funding.

The GFSM 2001's economic classification, when cross-referenced with the functional classification, becomes an enormously powerful tool. Nevertheless, the GFSM 2001 has drawbacks in recording expenditures at the microeconomic levels needed for sector level analysis and decision making by sector specialists.

In particular, the IMF economic classification does not provide a definition of rehabilitation, although a country might have its own. If the country does not have a definition, the user should flag this and be guided by the following principles in deciding whether an expenditure item should be classified as rehabilitation. Line ministries could also help identify rehabilitation activities by applying these principles:

- Look at the description of the budget line to see whether words such as *rehabilitation* or *refurbishment* appear.
- Look for expenditures that relate to major repair and restoration of degraded existing assets to their original condition without resulting in any upgrading or expansion of capacity.
- Look for large maintenance activities that span more than a one-year duration.

Also, the IMF economic classification does not provide a definition of maintenance, nor does it provide a breakdown good enough to tailor an accurate derived estimation. Given this structural constraint on the reporting format and therefore the way the data are collected, a proxy for maintenance—as good as any other—is to use the category “use of goods and services,” which essentially comprises all current expenditures, excluding wages and salaries, transfers, depreciation, and subsidies. Despite this drawback, using the GFSM 2001 facilitates the sustainability of the exercise and cross-country comparison.

It is likely that consumption of fixed capital will be difficult to allocate by function, especially if only aggregated figures for total government capital stock and consumption of fixed capital are compiled. In these circumstances, approximations will have to be used. One possibility may be to distribute consumption of fixed capital according to the assets acquired. Thus, the COFOG statistics should be cross-classified at least with total expense and acquisition of nonfinancial assets.

Table 3.4 Economic classification of government expenditures—capital expenditures

Category/subcategory	Definitions
Buildings, structures, machinery, and equipment	Explicit spending flows allocated to capital investment during the period recorded. Includes flows into new assets and rehabilitation of existing ones.
<i>Of which rehabilitation</i>	If the government do not classify rehabilitation expenditures, it will be useful to state the approximate amount used for rehabilitation. This could be done by estimating capital expenditures on new fixed assets and then deducting those from total capital expenditures. Alternatively, the split between new and rehabilitation expenditures can be allocated on a project-by-project basis.
<i>Of which external-funded capital—budget support</i>	External funding that enters the budget with no earmarking but that can be traced to infrastructure sectors.
<i>Of which external-funded capital—earmarked projects</i>	External funding earmarked for specific projects.
Other fixed assets	Other fixed assets consist of cultivated assets and intangible fixed assets.
Other capital expenditure	Includes capital expenditures not elsewhere classified, for example, capital tax and compensation for damages caused by natural disasters.
Capital transfers	This category captures transfers of conditional grants for capital financing to lower levels of local government.

Source: Adapted from IMF(2001).

Note: See annex 4 for a more detailed description of the content of each category.

Fiscal data templates at the government level

Templates 9 and 10 are used to guide data collection at the government level. Template 9 collects data variables that would provide the overall budget context of infrastructure budgetary overlays in other

sectors. Template 10 collects all the data related to spending on public infrastructure by any level of government (central or local). *This template with all its occurrences is the core of the SPI exercise.*

Macroeconomic parameters for budgetary context of infrastructure spending (template 9)

The data for template 9 should be gathered from the government. It must be kept in mind that even if the definitions used by a government are different from the standardized definitions suggested in this manual, a proxy for infrastructure spending based on institutions that provide services (rather than infrastructure services provided by infrastructure and non-infrastructure specialized institutions) can always be found. This back-of-the-envelope estimation will guide the user in positioning infrastructure within the overall fiscal framework.

Template 9. Macroeconomic parameters for budgetary context of infrastructure spending

Policy code	Series code	Variable	Definition	Unit
Noninfrastructure (NIN)		Total budget		LCU per year
		Infrastructure		LCU per year
		Education		LCU per year
		Health		LCU per year
		Other sectors		LCU per year

Source: Authors' elaboration.

Note: LCU = local currency units.

Functional and economic classification of central and local government expenditures (template 10)

Template 10 is probably the single most relevant output of the SPI exercise. Its purpose is to provide, for all relevant sectors (4-digit categories or classes—see below for definitions), expenditures according to the GFSM 2001 functional and economic classification. It should be filled in for the central government to cover the most recent 5 years of available data for:

- Budget estimates
- Budget releases
- Actual expenditures (audited expenditures if available)

Thus, ideally, 15 occurrences of this template (estimates, releases, and actuals for 5 years) should be completed for central government expenditures. The collection of separate data on estimates, releases and actuals allows for the subsequent calculation of various budget execution ratios and provides a much richer understanding of expenditure patterns and processes. However, in some cases it may not always be possible to do so.

Template 10 should also be completed for local governments following the same approach: budget estimates, releases, and actuals for the most recent 5 years of data available. Depending on the country, local government data may be available in an aggregate form provided by the central government. Where this is not the case, the data collection exercise should aim to cover the most important local authorities in spending terms, collecting data individually from each local authority and then aggregating it into a first order estimate of local government expenditure.

The main aim of the SPI exercise is a cross-classification of expenditures in which, for each infrastructure function or subsector (e.g. power generation), expenditures can be disentangled by their economic use (e.g. operations or investment). Standardized infrastructure expenditure data that are comparable across countries permit tracking over time while benchmarking trends and levels of infrastructure government outlays.

Template 10 consolidates the core of the budgetary data of the SPI exercise and follows definitions and classification of expenditures as presented in sections 2 and 3, largely based on the GFSM 2001. Reporting of spending is done using a cash-based approach.⁹

Filling template 10 is a labor-intensive process that involves three steps (i) code mapping the budget, (ii) extraction of budget lines from budget documents, and (iii) actual consolidation of data in template 10.

Code mapping the budget

Reporting infrastructure expenditures using standardized functional and economic classifications involves a remapping of the country-specific budget classification to the GFSM 2001 format.

Code mapping has two components: functional code mapping and economic code mapping. In no other phase of the infrastructure data collection process do the data collector and the relevant technical personnel need to work so closely together as during the code mapping. The Ministry of Finance is usually the most relevant partner for the code-mapping exercise.

Functional code mapping. The prevalent functional coding system needs to be identified as a starting point. Provided the country uses the GFSM 2001, the government expenditure data can be used directly; however, a functional code mapping exercise should be undertaken when the country is not utilizing GFSM 2001 (for example, when the country utilizes GFS86, United Nations 93, or any other system) or for reported years that precede the GFMS 2001 reporting. By way of example, table 3.5 presents the functional code mapping for Kenya, in which “votes” of the Kenyan budget system were mapped to the GFSM 2001’s COFOG.

⁹ In the GFSM 2001 framework, transactions should be recorded on an accrual basis (flows are recorded at the time economic value is created, transformed, exchanged, transferred, or extinguished) in contrast to a cash basis (flows are recorded when the money is received, which means that nonmonetary transaction might not be fully integrated in the accounting system). It suffices for this work to use the GFSM 2001 reporting. Even for countries that have adopted the GFMS 2001, the GFMS 2001 framework should be used exclusively from the transaction reporting rather than the transaction recording viewpoint.

Table 3.5 Kenya functional code mapping

Vote	Sub vote	Head	Description	GFS Code	Description: (COFOG)
R13	Recurrent Budget	Ministry of Public Works and Roads			
R13	130	381	Provincial Administration Services	70451	Road transport
R13	130	382	District Administration Services	70451	Road transport
R13	130	419	Supplies Branch	70451	Road transport
R13	133	505	Mechanical and Transport Department	70451	Road transport
R13	133	506	Material Branch	70451	Road transport
R13	136	384	Major Roads	70451	Road transport
R13	136	392	Headquarters Roads Department	70451	Road transport
R13	136	393	Road Works Inspectorate	70451	Road transport
R13	136	482	Provincial/District Administration and Technical Services	70451	Road transport
R13	136	483	Extra-ordinary Road Maintenance	70451	Road transport
D13	Development Budget	Ministry of Public Works and Roads			
D13	133	505	Mechanical and Transport Department	70451	Road transport
D13	133	506	Material Branch	70451	Road transport
D13	136	Roads			
D13	136	384	Major Roads	70451	Road transport
D13	136	385	Other Roads	70451	Road transport
D13	136	488	Extra-ordinary Road Maintenance	70451	Road transport
D13	136	489	Miscellaneous (RA.RP and G.B.c)	70451	Road transport
R14	Recurrent Budget	Ministry of Transport			
R14	140	General Administration and Planning			
R14	140	572	Shipping and Maritime Affairs Department	70452	Water transport
R14	140	574	Aircraft Accident Investigation	70454	Air transport
R14	141	Information Communication Technology Services			
R14	141	613	Information Communication Technology Services	70460	Communication
R14	144	Railways			
R14	144	457	Kenya Railways Corporation	70453	Railway transport
R14	148	Road Transport			
R14	148	475	Transport Licensing and Registration	70451	Road transport
D14	Development Budget	Ministry of Transport			
D14	140	General Administration and Planning			
D14	140	572	Shipping and Maritime Affairs Department	70452	Water transport
D14	144	Railways			
D14	144	457	Kenya Railways Corporation	70453	Railway transport

Source: World Bank (2006)

Economic code mapping. There are numerous ways of generating budget lines and/or recording expenditures according to their use. When filling in fiscal data template 10, the data collector needs to group (and in some cases delineate) spending categories so as to map them to the GFSM 2001 economic categories. By way of example, table 3.6 presents an economic code mapping for Rwanda in which

French terminology and classification used in Rwanda's budget lines are mapped to the GFSM 2001 economic classification (based on the 2004 budget).

Table 3.6 Rwanda economic code mapping

Expenditures breakdown (economic classification)	Rwanda budget line item	Which includes:
Wages and salaries	Traitements et Salaires	Personnels statutaires Personnels contractuels Indemnités
Social contributions	Contributions sociales	Cotisations de l'état aux pensions de retraite et de prévoyance Contributions de l'état aux soins de sante
Use of goods and services	Autres dépenses de biens et de services	Loyers et charges locatives Documentation générale et officielle Frais de poste et télécommunications Rémunération de tiers Frais divers Dépenses d'interventions diverses réparties Autres dépenses d'intervention non réparties
Other current expenditure	Frais de déplacement et de mission	Frais de transport Frais de mission officielle
Capital expenditure: buildings, structures, equipment, and machinery	Achat de biens consommables	Petits matériel et fourniture de bureau Consommations d'eau et d'énergie
... rehabilitation	Entretien et reparations	Immeubles Véhicules et autre matériel de transport Matériel et outillage techniques

Source: World Bank (2007).

During the functional and economic reclassification of expenditures, the principle of item indivisibility applies—that is, a spending item cannot be split across multiple categories. In all cases the item should be reclassified in the category that best captures the nature of the item, and the criteria used when performing this code mapping properly documented.

Extraction of budget lines from budget documents

The second step is to identify, in the budget book, the functional codes pertaining infrastructure, as per the definition of infrastructure and the code mapping prepared in previous steps, and list them in a spreadsheet that includes in an adjacent the economic nature of each expenditure as in the budget books. This spreadsheet should not include functions from the budget that are not relevant to infrastructure e.g. Affaires étrangères, Services concernant le sport, Enseignement Secondaire etc. In the working spreadsheet the user should have only the infrastructure related functions and the corresponding data and figures under each.

Table 3.7 Example of infrastructure functional codes with matching economic nature

Functional Code	Functional Classification (as defined in the Guide)	Economic Code	Economic classification (as presented in Government budget)
0432	Petrol and natural gas	463110	Subsidies to public organizations
0432	Petrol and natural gas	463113	Personnel
0432	Petrol and natural gas	463114	Electricity and telephone
0432	Petrol and natural gas	523410	Investment expenditures
0432	Petrol and natural gas	721120	Research and studies
0434	Electricity	261100	Personnel
0434	Electricity	362110	Expenditure on materials for operation
0434	Electricity	362140	Fuel
0434	Electricity	362220	Vehicle maintenance
0434	Electricity	362620	Postal charges
	...		
	Should include all infrastructure functions		

The resulting spreadsheet contains only the expenditure under the relevant infrastructure functions. When sorting this spreadsheet by the IMF economic classification and adding all data with the same IMF economic classification for a given sector, the user will obtain the respective entry of template 10. For instance, assuming Table 3.8 list of the recorded expenditures for electricity for a fictional country, the row “70435 – Electricity” will have in the column ‘employee compensation’ 300 LCU, in the column ‘Use of goods and services – maintenance’ 1250 LCU and in the column ‘Use of goods and services – other’ 2515 LCU.

Table 3.8 Example of spending by economic nature

Functional Code	Functional Classification (as defined in the Guide)	Economic Code	Economic classification (as presented in Government budget)	IMF economic classification	Data (LCU)
0434	Electricity	261100	Personnel	Employee compensation	300
0434	Electricity	362110	Expenditure on materials for operation	Use of goods and services - maintenance	200
0434	Electricity	362212	Maintenance of IT equipment	Use of goods and services - maintenance	1000
0434	Electricity	362220	Vehicle maintenance	Use of goods and services - maintenance	50
0434	Electricity	362140	Fuel	Use of goods and services - other	1500
0434	Electricity	362620	Postal charges	Use of goods and services - other	15
0434	Electricity	362820	Transport charges	Use of goods and services - other	1000
			...		
			To include all economic classifications		

Consolidating data in template 10

After the relevant budget lines have been extracted, all functional codes mapped to the relevant COFOG categories are added and input into the corresponding cell of template 10. It is then necessary to calculate the totals for each economic classification (by function), by simple addition taking care of the units of the data, and input them into the corresponding cell of template 10.

As discussed, this template should include each year's budget estimates, budget releases, and actual expenditures (audited expenditures) when available. If data collection covers 5 years, this implies that template 10 will need to be filled 15 times.

In countries with a dual budget system, template 10 needs to also be filled in separately for each budget type (which doubles the occurrences of template 10 from 15 to 30 for a 5-year data collection period). This makes the data generation process easier and more transparent. It also allows the classification of expenditures to be assessed. In other words, quantify the amount of current expenditures included in the DB as well as the capital expenditures included in the RB (see section 3).

Template 10 Functional and economic classification of government expenditures

GFS Government function (local currency)		Compensation of employees	Use of goods and services		Consumption of fixed capital	Subsidies		Grants and transfers (current)	Other current expenditure	Capital expenditure					Total	... external funding	
Code	Name		Maintenance	Other		To public corporations	To private enterprises			Buildings, structures, machinery, and equipment	... rehabilitation	Other fixed assets	Other capital expenditures	Transfers of capital expenditures to lower levels of governments		Budget support	Earmarked for projects
704	Economic affairs																
7042	Agriculture, forestry, fishing, and hunting (irrigation only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Irrigation (amount specific to irrigation systems from 70421)														0		
7047	Other industries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70474	Multipurpose development projects														0		
7043	Fuel and energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70434	Other fuels														0		
70435	Electricity														0		
70436	Nonelectric energy														0		
7045	Transport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70451	Road transport														0		
70452	Water transport														0		
70453	Railway transport														0		
70454	Air transport														0		
7046	Communication	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70460	Communication														0		
705	Environmental protection																
7052	Wastewater management	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70520	Wastewater management														0		
706	Housing and community amenities																
7063	Water supply	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70630	Water supply														0		
Total productive infrastructure		0	0		0	0	0	0	0	0	0	0	0	0	0		

Local governments

Public spending flows also need to be collected for local governments so as to get a full picture of overall public spending flows. But depending on the degree of decentralization and the level of central monitoring of local government expenditures, it might be necessary to provide information for a few—not all—local authorities.

One major challenge is avoiding the double counting of conditional transfers (very likely captured in central government accounts). Transfers to local governments should be netted from central government accounts, and the use of funds recoded as part of the local government data, where the use of resources will be clearly specified.

As mentioned, template 10 should also be filled with local government fiscal data. Identification of relevant local government authorities (for example, provinces, districts, and/or municipalities) and their role in providing infrastructure services should be done in the pre-field stage. Based on this work, the user should have a good sense of whether there is a centralized repository of local government accounts and if they are reported using a common structure.

There two possible options for collection local governments data:

- When there is standardized data reporting to a central unit:
 - If local governments use the same budget coding structure as the central government, the user will use the code mapping carried on from the central government to input the data in template 10. But the double counting of conditional transfers (very likely captured in central government accounts) should be avoided by netting out transfers.
 - If local governments use different budget coding from the central government and make expenditures in the relevant infrastructure sectors, the user will have to carry out a new recoding exercise before filling in template 10.
- When there is no standardized data reporting to a central unit:
 - If aggregate figures for local government are available but without a further economic or functional breakdown, the user should report local government accounts on template 10. As in the above case, the user should avoid double counting. The user should determine whether it can be assumed that most local government spending goes to the relevant productive infrastructure sectors.
 - If aggregate figures are not available, the user should select a few of the most relevant/largest local government entities, depending on desired accuracy and resource availability. Only when this has been decided will the user proceed to produce template 10 for the selected entities.

Fiscal data templates at the operator level

Fiscal data template 11 consists of three parts: the income statement, the cash flow statement, and the balance sheet. It is also very helpful for economic analysis to collect a copy of the complete tariff schedule in application for each power and water utility. Fiscal data template 11 should be prepared for each public operator and/or special fund with clear responsibilities in the delivery (or funding) of activities within the 4-digit COFOG sector categories: irrigation, electricity, transport, communication, wastewater management, and water supply. In the case that one enterprise covers more than one subsector, for example, electricity and water supply, template 11 (as well as the

preceding template 7) should be completed for each subsector where possible, ideally attributing costs and revenues to each sector.

All figures in the income statement, cash flow, and balance sheet should be entered as positive figures unless there is a loss.

Public operators' financial data (template 11)

Template 11 provides raw financial data from SOEs, public corporations or parastatals, regulatory bodies, or special funds. Henceforth, they are named “public operators.” It should be completed for public operators include SOEs, parastatals, regulatory bodies, and special funds, which have separate accounts. For each public operator, templates should be generated for the five most recent accounting years. Where one enterprise covers more than one subsector, for example, electricity and water supply, template 11 should be completed for each subsector, if possible.

Data should be extracted from audited and/or published accounts from the sources identified in the pre-field stage. These are likely to include: (i) the central unit monitoring public corporations, if it exists; (ii) the national audit institution (auditor general, court of audit, or equivalent); (iii) the Web site of the previous institutions and/or of each of the public operators; and (iv) each of the public operators directly. Note that it is very likely that the most recent accounts are available only from the public operators themselves.

Given the variety in the forms of reporting and the use of accounting concepts, a glossary of accounting terms is provided in annex 4.

Template 11. Public operators' financial data

Policy code	Series code	Variable	Unit	t-4	t-3	t-2	t-1	t
Income Statement		Revenues from sales	Local currency					
		Total employee compensation	Local currency					
		Purchase of goods and services directly used in production	Local currency					
		<i>Of which fuel</i>	Local currency					
		<i>Of which power purchase agreement (PPA) fees (if applicable)</i>	Local currency					
		Other purchase of goods and services (that is, those not included in line 3 above)	Local currency					
		Rent	Local currency					
		Depreciation and amortization	Local currency					
		Misc. taxes/fees (property and so on)	Local currency					
		Other operating expenditures	Local currency					
		Income (loss) from operations	Local currency					
		Income (loss) from operations as reported by enterprise	Local currency					
		Interest paid	Local currency					
		(Of which, foreign)	Local currency					

Policy code	Series code	Variable	Unit	t-4	t-3	t-2	t-1	t
Statement of Cash Flows		Interest earned	Local currency					
		Direct foreign grants	Local currency					
		Transfers/subsidies from government	Local currency					
		Revenue from irregular activities	Local currency					
		Of which, fixed assets' selling price	Local currency					
		Other nonoperating revenue	Local currency					
		Irregular activities expenditures	Local currency					
		Of which, book value of fixed assets sold	Local currency					
		Other nonoperating expenditures	Local currency					
		Profit (loss) before tax	Local currency					
		Corporate income tax	Local currency					
		(Of which tax exemptions)	Local currency					
		Net income, as reported by enterprise	Local currency					
		Net cash from operating activities	Local currency					
		Net cash flow from investing activities	Local currency					
		Capitalized rehabilitation costs (increase in the period)	Local currency					
		Purchase of intangible assets	Local currency					
		Purchase of property, plant, and equipment	Local currency					
		(Of which replacement of property, plant, and equipment)	Local currency					
		Sales of property, plant, and equipment, if any	Local currency					
		Purchase of financial investing assets	Local currency					
		Net cash flow from financing activities	Local currency					
		Dividends paid	Local currency					
		(... to government)	Local currency					
		Investment grants received	Local currency					
		New loans	Local currency					
Balance Sheet		Current assets	Local currency					
		Noncurrent assets	Local currency					
		Gross value of capitalized rehabilitation costs	Local currency					
		Depreciation and amortization accumulated on deferred rehabilitation costs	Local currency					
		Gross value of property, plant, and equipment	Local currency					
		Depreciation and amortization accumulated on property, plant, and equipment	Local currency					

Policy code	Series code	Variable	Unit	t-4	t-3	t-2	t-1	t
		Total assets	Local currency					
		Current liabilities	Local currency					
		(Of which foreign)	Local currency					
		Long-term liabilities	Local currency					
		(Of which foreign)	Local currency					
		Equity and reserves	Local currency					
		Retained earnings (retained deficit) for the period	Local currency					
		Total liabilities and equity	Local currency					

Note: In the Excel template, the three rows below the income statement are verification lines. These figures are automatically calculated from the various items in the income statement to ensure consistency between the data entered and data calculated.

Practical considerations

The initial meeting in the fieldwork stage will set the pace for the rest of the data collection process. Thus it is highly advisable that during this meeting, likely to be with relevant authorities of the Ministry of Finance or its equivalent, the scope of the data collection and the potential uses of data are discussed. The relevance of these uses are key to gaining access to necessary institutions, officials, and data. It is strongly recommended that a champion or main institutional counterpart—who can help in identifying key sources and facilitating meetings and follow-up with key technical counterparts—be chosen.

Follow-up meetings should aim not only at obtaining data and documents but should also be used to verify information and to close gaps in interpretation. In fact, when working with imperfect data and recoding, the need to make assumptions in attributing expenditures to uses is almost unavoidable, and, therefore, the opinions of and discussions with local technical counterparts are essential. The final report should properly document these assumptions as well as the actual discussions, when relevant.

Balance between the qualitative and the quantitative baseline

During the data collection process, data for the quantitative baseline should be prioritized while ensuring that the qualitative questions are answered with careful attention. Getting the qualitative information right is essential for efficient and accurate completion of this work, as well as to interpret and validate data in back-office analyses. Constructing the qualitative baseline should not, however, absorb more resources and time than necessary. *The essence of the exercise is the quantitative baseline.*

As a general rule, qualitative templates should be completed prior to quantitative templates, using opportunities during quantitative data collection to validate responses. The pre-field stage, from this perspective, is key for success. Matching collected data and information against existing publications and discussions with colleagues (both macroeconomists and sector specialists) before, during, and after the fieldwork enhances the quality of the results greatly.

Requirements for technical data collection

Units of measurement. It is important to note that all financial values should be reported in local currency units (LCUs) for the year to which the data correspond. When obtaining any quantitative data, figures should always be entered in local currency units and the multiplier used (if any) should be specified; noting – for example, figures that are presented in units of 000s or 000,000s. No attempt should be made to convert values into U.S. dollars or to correct for inflation. These adjustments should be made at a later stage and in a manner consistent across all countries that are being analyzed. All physical values should be recorded in metric units. Deviations from this practice should be clearly indicated in the comments column.

Excel sheets. Excel versions of the templates exist as a companion to this Guide and can be downloaded directly from www.infrastructureafrica.org. In Excel, data can be entered into only the yellow cells. A comments/clarifications column is provided in the Excel templates to ensure that the data can be easily interpreted by a reader. Careful note should be made of any calculations made.

Time series. Ideally, the data should be collected for a period of at least five years up to and including the most recent year available. When data for some of these years are not available, they should be collected for as many years as possible within this period, even if it means that the time series is not continuous. Greatest efforts should be devoted to obtaining the most recent years.

Documenting and collecting data sources. It is essential that all technical data collected have a reference to a data source. Preferably, a copy of each document used as a source should be collected with a reference to the data which were extracted from it and the page number where the data are located. When the documents are too large to be collected, the cover page(s) and individual pages from which data were extracted may be copied.

4 Back-to-the-office work

Country reports: Survey documentation

The qualitative, quantitative, and performance indicator templates described above should invariably be accompanied by a brief country report that documents each of the following issues.

a. General context.

In this section the user will provide a brief description of the country's economic context, highlighting recent economic and/or political milestones that might help facilitate the interpretation of the data.

b. Data quality and coverage.

In this section the user will provide a list of significant gaps in the data, for example, years for which expenditure figures are unavailable should be reported, and reasons given for these gaps.

The report should also include a brief assessment by the user, outlining his or her understanding of the quality and coverage of the official figures presented in the quantitative templates. This does not require undertaking an audit of the figures or carrying out a review of government systems, but merely recording any useful information that may have been acquired during the course of completing the quantitative templates. Any indications of potential underreporting of donor-financed expenditures, either in budgeted or in actual figures, will be of particular interest and must be reported.

It will be equally important to report on significant changes in the quality and coverage of data over the five-year reporting period, which may have implications for comparability. These could be due to ongoing reforms in public financial management that lead to more comprehensive budget coverage or better reporting of budget execution—for example, better budgeting and/or reporting of donor-financed expenditures. Deteriorations in budgetary systems are also possible.

Where figures for actual expenditure have not been externally audited by independent national audit institutions, this should be indicated.

c. Definitions, assumptions, and code mapping

c.1 Country-specific definitions

It is also important to document the country-specific definitions used in the economic classification, especially where these differ from those set out in the International Monetary Fund's (IMF's) Government Finance Statistics Manual 2001 (GFSM 2001). Specifically, the report should clarify the following issues regarding capital, maintenance, and rehabilitation expenditure:

- What definitions are used by the country to classify government expenditures as capital? Are there forms of spending that could be classified as capital expenditures that are not considered as such, for example, rehabilitation?
- Is there a definition for rehabilitation expenditure, and is rehabilitation distinguished from other capital spending? (Provide sector nuances as necessary.)
- What is the definition of maintenance spending, and are there forms of spending that could be considered as maintenance that are not classified as such—for example, periodic maintenance? What are the criteria for splitting operating expenditures from maintenance expenditures?

The report should indicate whether the country has a dual budget system (that is, separate recurrent and development budgets) or a unitary budget (as is more common in francophone countries).

The basis for recording “released” expenditure figures in template 10 should be indicated, that is, whether the figures represent supplementary budgets, allocations made by the ministry of finance (Ministry of Finance), or a combination of the two.

c.2 Assumptions

It is also important to record all key assumptions¹⁰ made in compiling the quantitative templates.

Where—in the absence of a centralized information source—a sample of sub-national governments or SOEs has been selected, the basis for making the selection should be reported. The selection should generally be made on the basis of the relative importance of the organization’s spending. Any deviations from this principle should be indicated and explained.

Sometimes it may not be possible to directly map a country’s functional and economic classifications to the GFSM 2001. In these situations it is best to not split expenditures, but instead to allocate the expenditure to the most important function or economic item. Any assumptions of this kind should be carefully documented.

Differences in financial reporting for SOEs between countries following different accounting traditions (for example, Anglophone and Francophone Africa) is frequently an issue, specifically in relation to the income statement. These differences should be noted, and any assumptions made in presenting the data in the template stated.

Interest payments are not always recorded in the budget at the sector level. Where these are known, any assumptions used by the Ministry of Finance in allocating interest payments to sectors should be stated.

c.3 Code mapping

In this section the user will record whether GFSM 2001 expenditure classifications have been adopted by a given country.

¹⁰ Assumptions of minor significance (measured by the scale of expenditure involved) can be reported as comments on the soft copies of relevant templates.

Not all countries will have adopted the GFSM 2001 functional classification, COFOG, and necessitating a code-mapping exercise as described earlier in the Guide. The basis for this code-mapping exercise should be fully described in the country report. The best way to do this is through a tabular presentation (as shown for Kenya in table 3.5 and for Rwanda in table 3.6).

An assessment of the practical problems that officials face in presenting data from the government's existing budget presentation, aligned with the GFSM 2001 reporting framework, should consider whether these problems arise from poor data capture (on the part of the Ministry of Finance, for example), from weak accounting systems, or simply from weak data reporting through the budget structure.

Pre-field templates.

In the report embed¹¹ the Excel files containing the pre-field templates:

- Template 1. Jurisdictional responsibilities in infrastructure service delivery
- Template 2. Special funds financing infrastructure service delivery
- Template 3. Private participation in infrastructure
- Template 4. ODA in infrastructure service delivery

Qualitative field templates.

In the report embed the Excel files containing the qualitative templates:

- Template 5. Basic budgetary institutions, national level
- Template 6. Budgetary cycle diagram, national level
- Template 7. Governance of public operators

Quantitative field templates.

In the report embed the Excel files containing the quantitative templates:

- Template 8. Macroeconomic parameters for normalization
- Template 9. Macroeconomic parameters for budgetary context of infrastructure spending
- Template 10. Functional and economic classification of government expenditures (central and local)
- Template 11. Public operators' financial data

d. Concluding remarks

The report should provide concluding remarks on the data collection process, emerging messages and other country-specific issues that might be of interest, as next steps for the country in terms of data generation, institutional transparency, etc.

¹¹ To embed an Excel file into a Word file:

Insert → Object → Select “Create from File” tab → (click on “display as icon” option) → Browse your file → Select the file to embed by pressing “Insert” → select “Change Icon” → Type the name of the file as specified in the Guide in the box “Caption” → click “OK” → click “OK.”

Annex 1. Classification of expense by government function

7	Total outlays	706	Housing and community amenities
701	General public services	7061	Housing development
7011	Executive and legislative organs, financial and fiscal affairs, external affairs	7062	Community development
7012	Foreign economic aid	7063	Water supply
7013	General services	7064	Street lighting
7014	Basic research	7065	R&D Housing and community amenities
7015	R&D ¹ General public services	7066	Housing and community amenities n.e.c.
7016	General public services n.e.c. ²	707	Health
7017	Public debt transactions	7071	Medical products, appliances, and equipment
7018	Transfers of a general character between different levels of government	7072	Outpatient services
702	Defense	7073	Hospital services
7021	Military defense	7074	Public health services
7022	Civil defense	7075	R&D Health
7023	Foreign military aid	7076	Health n.e.c.
7024	R&D Defense	708	Recreation, culture, and religion
7025	Defense n.e.c.	7081	Recreational and sporting services
703	Public order and safety	7082	Cultural services
7031	Police services	7083	Broadcasting and publishing services
7032	Fire protection services	7084	Religious and other community services
7033	Law courts	7085	R&D Recreation, culture, and religion
7034	Prisons	7086	Recreation, culture, and religion n.e.c.
7035	R&D Public order and safety	709	Education
7036	Public order and safety n.e.c.	7091	Pre-primary and primary education
704	Economic affairs	7092	Secondary education
7041	General economic, commercial, and labor affairs	7093	Postsecondary nontertiary education
7042	Agriculture, forestry, fishing, and hunting	7094	Tertiary education
7043	Fuel and energy	7095	Education not definable by level
7044	Mining, manufacturing, and construction	7096	Subsidiary services to education
7045	Transport	7097	R&D Education
7046	Communication	7098	Education n.e.c.
7047	Other industries	710	Social protection
7048	R&D Economic affairs	7101	Sickness and disability
7049	Economic affairs n.e.c.	7102	Old age
705	Environmental protection	7103	Survivors
7051	Waste management	7104	Family and children
7052	Waste water management	7105	Unemployment
7053	Pollution abatement	7106	Housing
7054	Protection of biodiversity and landscape	7107	Social exclusion n.e.c.
7055	R&D Environmental protection	7108	R&D Social protection
7056	Environmental protection n.e.c.	7109	Social protection n.e.c.

Source: Adapted from IMF (2001)

Note: The prefix "7" has been added to align the classification of functions of government (COFOG) codes with other global financial system (GFS) classification codes.

Annex 2. COFOG codes capturing infrastructure cost elements

Code	Division/group/class	GFSM 2001 definition
704	Economic affairs	
7042	Agriculture, forestry, fishing, and hunting	
	<i>Irrigation systems (a share out of class 70421 Agriculture)</i>	<i>Construction or operation of flood control, irrigation and drainage systems, including grants, loans, or subsidies for such works; Excludes: multipurpose development projects (70474).</i>
7047	Other industries	
70474	<i>Multipurpose development projects</i>	<i>Multipurpose development projects typically consist of integrated facilities for generation of power, flood control, irrigation, navigation, and recreation. Administration of affairs and services concerning construction, extension, improvement, operation, and maintenance of multipurpose projects. Production and dissemination of general information, technical documentation, and statistics on multipurpose development project affairs and services. Grants, loans, or subsidies to support the construction, operation, maintenance, or upgrading of multipurpose development projects. Excludes: projects with one main function and other functions that are secondary (classified according to main function).</i>
7043	Fuel and energy	
70431	<i>Coal and other solid mineral fuels</i>	<i>This class covers coal of all grades, lignite, and peat irrespective of the method used in their extraction or beneficiation and the conversion of these fuels to other forms such as coke or gas. Administration of solid mineral fuel affairs and services; conservation, discovery, development, and rationalized exploitation of solid mineral fuel resources; supervision and regulation of the extraction, processing, distribution, and use of solid mineral fuels. Production and dissemination of general information, technical documentation, and statistics on solid mineral fuel affairs and services. Grants, loans, or subsidies to support the solid mineral fuel industry and the coke, briquette, or manufactured gas industries. Excludes: solid mineral fuel transportation affairs (classified to the appropriate class of group 7045).</i>
70432	<i>Petroleum and natural gas</i>	<i>This class covers natural gas, liquefied petroleum gases and refinery gases, oil from wells, or other. Sources such as shale or tar sands and the distribution of town gas regardless of its composition. Administration of petroleum and natural gas affairs and services; conservation, discovery, development, and rationalized exploitation of petroleum and natural gas resources; supervision and regulation of the extraction, processing, distribution, and use of petroleum and natural gas. Production and dissemination of general information, technical documentation, and statistics on petroleum and natural gas affairs and services. Grants, loans, or subsidies to support the petroleum extraction industry and the industry refining crude petroleum and related liquid and gaseous products. Excludes: petroleum or gas transportation affairs (classified to the appropriate class of group 7045).</i>
70433	<i>Nuclear fuel</i>	<i>Administration of nuclear fuel affairs and services; conservation, discovery, development, and rationalized exploitation of nuclear material resources; supervision and regulation of the extraction and processing of nuclear fuel materials and of the manufacture, distribution, and use of nuclear fuel</i>

Code	Division/group/class	GFSM 2001 definition
		<p>elements.</p> <p>Production and dissemination of general information, technical documentation, and statistics on nuclear fuel affairs and services.</p> <p>Grants, loans, or subsidies to support the nuclear materials mining industry and the industries processing such materials.</p> <p>Excludes: nuclear fuel transportation affairs (classified to the appropriate class of group 7045); disposal of radioactive wastes (70510).</p>
70434	Other fuels	<p>Administration of affairs and services involving fuels such as alcohol, wood and wood wastes bagasse, and other noncommercial fuels.</p> <p>Production and dissemination of general information, technical documentation, and statistics on availability, production, and utilization of such fuels.</p> <p>Grants, loans, or subsidies to promote the use of such fuels for the production of energy.</p> <p>Excludes: forest management (70422); wind and solar heat (70435) or (70436); geothermal resources (70436).</p>
70435	Electricity	<p>This class covers both traditional sources of electricity such as thermal or hydro supplies and newer sources such as wind or solar heat.</p> <p>Administration of electricity affairs and services; conservation, development, and rationalized exploitation of electricity supplies; supervision and regulation of the generation, transmission, and distribution of electricity.</p> <p>Construction or operation of non-enterprise-type electricity supply systems.</p> <p>Production and dissemination of general information, technical documentation, and statistics on electricity affairs and services.</p> <p>Grants, loans, or subsidies to support the electricity supply industry, including such outlays for the construction of dams and other works designed chiefly to provide electricity.</p> <p>Excludes: nonelectric energy produced by wind or solar heat (70436).</p>
70436	Nonelectric energy	<p>Administration of nonelectric energy affairs and services, which chiefly concern the production, distribution, and utilization of heat in the form of steam, hot water, or hot air.</p> <p>Construction or operation of non-enterprise-type systems supplying nonelectric energy.</p> <p>Production and dissemination of general information, technical documentation, and statistics on availability, production, and utilization of nonelectric energy.</p> <p>Grants, loans, or subsidies to promote the use of nonelectric energy.</p> <p>Includes: geothermal resources; nonelectric energy produced by wind or solar heat.</p>
7045	Transport	
70451	Road transport	<p>Administration of affairs and services concerning operation, use, construction, and maintenance of road transport systems and facilities (roads, bridges, tunnels, parking facilities, bus terminals, and so on);</p> <p>Supervision and regulation of road users (vehicle and driver licensing; vehicle safety inspection; size and load specifications for passenger and freight road transport; regulation of hours of work of bus, coach, and lorry drivers, and so on), of road transport system operations (granting of franchises, approval of freight tariffs and passenger fares and of hours and frequency of service, and so on), and of road construction and maintenance.</p> <p>Construction or operation of non-enterprise-type road transport systems and facilities.</p> <p>Production and dissemination of general information, technical documentation, and statistics on road transport system operations and on road construction activities.</p> <p>Grants, loans, or subsidies to support the operation, construction, maintenance, or upgrading of road transport systems and facilities.</p> <p>Includes: highways, urban roads, streets, bicycle paths, and footpaths.</p>

Code	Division/group/class	GFSM 2001 definition
		<i>Excludes: road traffic control (70310); grants, loans, and subsidies to road vehicle manufacturers (70442); street cleaning (70510); construction of noise embankments, hedges, and other antinoise facilities including the resurfacing of sections of urban highways with noise-reducing surfaces (70530); street lighting (70640).</i>
70452	Water transport	<p><i>Administration of affairs and services concerning operation, use, construction, and maintenance of inland, coastal, and ocean water transport systems and facilities (harbors, docks, navigation aids and equipment, canals, bridges, tunnels, channels, breakwaters, piers, wharves, terminals, and so on).</i></p> <p><i>Supervision and regulation of water transport users (registration, licensing, and inspection of vessels and crews; regulations concerning passenger safety and freight security; and so on) of water transport system.</i></p> <p><i>Operations (granting of franchises, approval of freight tariffs and passenger fares and of hours and frequency of service, and so on) and water transport facility construction and maintenance.</i></p> <p><i>Construction or operation of non-enterprise-type water transport systems and facilities (such as ferries).</i></p> <p><i>Production and dissemination of general information, technical documentation, and statistics on water transport system operations and on water transport facility construction activities.</i></p> <p><i>Grants, loans, or subsidies to support the operation, construction, maintenance, or upgrading of water transport systems and facilities.</i></p> <p><i>Includes: radio and satellite navigation aids; emergency rescue and towing services.</i></p> <p><i>Excludes: grants, loans, and subsidies to shipbuilders (70442).</i></p>
70453	Railway transport	<p><i>Administration of affairs and services concerning operation, use, construction, or maintenance of railway transport systems and facilities (railway roadbeds, terminals, tunnels, bridges, embankments, cuttings, and so on).</i></p> <p><i>Supervision and regulation of railway construction and maintenance.</i></p> <p><i>Construction or operation of non-enterprise-type railway transport systems and facilities.</i></p> <p><i>Includes: long-line and interurban railway transport systems, urban rapid transit railway transport systems, and street railway transport systems; acquisition and maintenance of rolling stock.</i></p> <p><i>Excludes: grants, loans, and subsidies to rolling stock manufacturers (70442); construction of noise embankments, hedges, and other antinoise facilities including the resurfacing of sections of railways with noise-reducing surfaces (70530).</i></p>
70454	Air transport	<p><i>Administration of affairs and services concerning operation, use, construction, and maintenance of air transport systems and facilities (airports, runways, terminals, hangars, navigation aids and equipment, air control amenities, and so on).</i></p> <p><i>Supervision and regulation of air transport users (registration, licensing, and inspection of aircraft, pilots, crews, and ground crews; regulations concerning passenger safety, investigation of air transport accidents; and so on), of air transport system operations (allocation of routes, approval of freight tariffs and passenger fares and of frequency and levels of service, and so on), and of air transport facility construction and maintenance.</i></p> <p><i>Construction or operation of non-enterprise-type public air transport services and facilities.</i></p> <p><i>Grants, loans, or subsidies to support the operation, construction, maintenance, or upgrading of air transport systems and facilities.</i></p> <p><i>Includes: radio and satellite navigation aids; emergency rescue services; scheduled and nonscheduled freight and passenger services; regulation and control of flying by private individuals.</i></p> <p><i>Excludes: grants, loans, and subsidies to aircraft manufacturers (70442).</i></p>
70455	Pipeline and other transport	<p><i>Administration of affairs and services concerning operation, use, construction, and maintenance of pipeline and other transport systems (funiculars, cable cars, chairlifts, and so on).</i></p> <p><i>Supervision and regulation of users of pipeline and other transport systems (registration, licensing, inspection of equipment, operator skills, and training; safety standards; and so on), of pipeline and other transport systems operations (granting of franchises, setting tariffs, frequency and levels of</i></p>

Code	Division/group/class	GFSM 2001 definition
		<p>service, and so on), and of pipeline and other transport systems construction and maintenance.</p> <p>Construction or operation of non-enterprise-type pipeline and other transport systems.</p> <p>Production and dissemination of general information, technical documentation, and statistics on the operation and construction of pipeline and other transport systems.</p> <p>Grants, loans, or subsidies to support the operation, construction, maintenance, or upgrading of pipeline and other transport systems.</p>
7046	Communication	
70460	Communication	<p>Administration of affairs and services concerning construction, extension, improvement, operation, and maintenance of communication systems (postal, telephone, telegraph, wireless, and satellite communication systems).</p> <p>Regulation of communication system operations (granting of franchises, assignment of frequencies, specification of markets to be served and tariffs to be charged, and so on).</p> <p>Production and dissemination of general information, technical documentation, and statistics on communication affairs and services.</p> <p>Grants, loans, or subsidies to support the construction, operation, maintenance, or upgrading of communication systems.</p> <p>Excludes: Radio and satellite navigation aids for water transport (70452) and air transport (70454); radio and television broadcasting systems (70830).</p>
705	Environmental protection	
7052	Wastewater management	
70520	Wastewater management	<p>Administration, supervision, inspection, operation, or support of sewage systems and wastewater treatment.</p> <p>Sewage system operation includes management and construction of the system of collectors, pipelines, conduits, and pumps to evacuate any wastewater (rainwater, domestic, and other available wastewater) from the points of generation to either a sewage treatment plant or to a point where wastewater is discharged to surface water.</p> <p>Wastewater treatment includes any mechanical, biological, or advanced processes to render wastewater fit to meet applicable environment standards or other quality norms.</p> <p>Grants, loans, or subsidies to support the operation, construction, maintenance, or upgrading of such systems.</p>
706	Housing and community amenities	
7063	Water supply	
70630	Water supply	<p>Administration of water supply affairs; assessment of future needs and determination of availability in terms of such assessment; supervision and regulation of all facets of potable water supply including water purity, price, and quantity controls.</p> <p>Construction or operation of non-enterprise-type of water supply systems.</p> <p>Production and dissemination of general information, technical documentation, and statistics on water supply affairs and services.</p> <p>Grants, loans, or subsidies to support the operation, construction, maintenance, or upgrading of water supply systems.</p> <p>Excludes: irrigation systems (70421); multipurpose projects (70474); collection and treatment of wastewater (70520).</p>

Source: Adapted from IMF (2001).

Annex 3. Economic classification of expenditures

Table A3.1 Economic classification of government expenditures—Current expenditures

Category/Subcategory		Definitions (from IMF)
Compensation of employees		<p>Consists of all compensation of government employees including <i>social contributions</i> (212) by employers. It <i>includes</i> payments in cash or in kind. Social contributions paid by deduction from employees' wages and salaries are included in this category.</p> <p>Wages and salaries also exclude social benefits paid by employers in the form of children's, spouse's, family, education, or other allowances in respect of dependents; payments made at full or reduced wage or salary rates to workers absent from work because of illness, accidental injury, or maternity leave; and severance payments to workers, or their survivors, who lose their jobs because of redundancy, incapacity, or accidental death. These social benefits are included in <i>employer social benefits</i>.</p> <p>Social contributions are payments, actual or imputed, made by general government units to social insurance schemes to obtain entitlement to social benefits for their employees, including pensions and other retirement benefits.</p>
Use of goods and services	Maintenance	Routine and periodic spending to keep the value of the asset and its functioning.
	Other	All other expenditure on goods and services.
Consumption of fixed capital		<p>Consumption of fixed capital [GFS] is the decline in the value of the stock of fixed assets during the accounting period as a result of physical deterioration, normal obsolescence, and normal accidental damage. Consumption of fixed capital related to fixed assets used in own account capital formation is excluded from this category and included as part of the value of the asset produced. It is always a noncash expense.</p> <p><i>Note for the user:</i> Consumption of fixed capital is a forward-looking measure because its value is based on future events rather than past events. Countries might not report this figure for their public assets because they do not keep valuation of asset stock. Hence, it will be expected to be blanks in all entries. Creating an inventory of assets is not part of the task.</p>
Subsidies	To public corporations	Subsidies are current transfers that government units pay to enterprises either on the basis of the levels of their production activities or on the basis of the quantities or values of the goods or services that they produce, sell, or import. Included are transfers to public corporations that are intended to compensate for operating losses.
	To private enterprises	Subsidies are current transfers that government units pay to enterprises either on the basis of the levels of their production activities or on the basis of the quantities or values of the goods or services that they produce, sell, or import. Included are transfers to private enterprises that are intended to compensate for operating losses.
Grants and transfers (current)		Grants are noncompulsory transfers, in cash or in kind, paid to foreign governments. Grants are noncompulsory transfers, in cash or in kind, paid to an international organization. Grants are noncompulsory transfers, in cash or in kind, paid to other general government units. These include transfers to local governments as conditional grants for current expenditures. Grants are noncompulsory transfers, in cash or in kind, paid to resident nongovernment units.
Other current expenditure		Other expenditures includes all expense transactions not elsewhere classified. Transactions recorded here include property expenditures, interest; taxes, fines, and penalties imposed by one government on another; current transfers to nonprofit institutions serving households; capital transfers other than capital grants; social benefits; and nonlife insurance premiums and claims.

Source: This appendix is an abstract of the Government Financial Statistics Manual 2001 (GFSM 2001)—for full text check <http://www.imf.org/external/pubs/ft/gfs/manual/>.

Table A3.2 Economic classification of government expenditures—Capital expenditures

Category/Subcategory		Definitions (from IMF)
Buildings, structures, machinery, and equipment		<p>Explicit spending flows allocated to capital investment during the period recorded. Includes flows into new assets and rehabilitation of existing ones.</p> <p>Buildings and structures consist of dwellings, nonresidential buildings, and other structures.</p> <p>Other structures consist of all structures other than buildings. Included are the following: highways, streets, roads, bridges, tunnels, railways, subways, runways, sewers, waterways, harbors, dams, other waterworks, communication lines, power lines, and pipelines.</p> <p>Machinery and equipment include transport equipment and other machinery and equipment.</p> <p>Transport equipment includes motor vehicles, trailers, ships, railway locomotives and rolling stock, aircraft, motorcycles, and bicycles.</p> <p>Other machinery and equipment consists of machinery and equipment other than transport equipment.</p>
Of which rehabilitation		<p>If the government expenditures report rehabilitation expenditures separately, the proportion of total capital expenditures which are rehabilitation should be reported here. If the government do not classify rehabilitation expenditures, it will be useful to state the approximate amount used for rehabilitation. It could be done by estimating capital expenditures on new fixed assets and then deducting that from total capital expenditures. Alternatively the split between new and rehabilitation expenditures can be allocated on a project-by-project basis by allocating a specific project to either new investments or rehabilitation based on where the bulk of the expenditure lies.</p>
Other fixed assets		<p>Other fixed assets consist of cultivated assets and intangible fixed assets.</p> <p>Intangible fixed assets include mineral exploration, which is undertaken to discover new deposits of petroleum, natural gas, and other subsoil assets that may be exploited commercially.</p>
Other capital expenditure		<p>Includes capital expenditures not elsewhere classified, for example, capital tax and compensation for damages caused by natural disasters.</p>
Transfers of capital expenditures to lower levels of governments		<p>This category captures transfers of conditional grants to lower levels of local government.</p>
Of which external funding	Budget support	<p>External funding that enters the budget with no earmarking.</p>
	Earmarked for projects	<p>External funding earmarked for specific projects.</p>

Source: Authors' elaboration.

Annex 4. Glossary of accounting terms

Variable	Definition
Revenues from sales	The total revenue the public corporation has received from the sales of the services produced. In the case of special funds revenues may include levies, sector-specific taxes, and so on.
Total employee compensation	Total wages and social contributions paid to the workers (and so on) for delivering the services.
Purchase of goods and services directly used in production	The corporation's purchase of goods and services necessary to produce the services delivered.
... <i>fuel</i>	Expenditures by the public corporation on the purchase of electricity, oil, or other fuel inputs.
... <i>power purchase agreement (PPA) fees (if applicable)</i>	Expenditures on power purchase agreements (PPAs).
Other purchase of goods and services (that is, those not included in line 3 above)	The corporation's purchase of goods and services other than those necessary to produce the services delivered.
Rent	The rent paid to the owner of assets enabling the public corporation to produce the services.
Depreciation and amortization	The amount of depreciation and amortization that the public corporation has deducted for the year. Depreciation and amortization are the terms used for the systematic allocation of the capitalized cost of an asset to income over its useful life. Strictly speaking, depreciation represents the allocation of the cost of tangible fixed assets; amortization refers to the cost of intangible assets.
Miscellaneous taxes/fees (property, and so on)	Various taxes (though not profit taxes), which the public corporation has to pay.
Other operating expenditures	Other expenditures which the public corporation has incurred and which are not captured above, if any.
Income (loss) from operations	Income or loss from operations calculated as a difference between operational revenues and operational expenditures.
Income (loss) from operations as reported by enterprise	Income or loss from operations as reported in the financial statement.
Interest paid	Interest (on both domestic and foreign debt) which the public corporation has to pay on its debt.
... <i>foreign</i>	
Interest earned	The interest that the public corporation has received during the year on either its financial investments or its cash balance.
Direct foreign grants	Foreign grants, which the public corporation have received but which have not been posted on the central government budget or local government budgets.
Transfers/subsidies from government	The subsidies which the public corporation has received from the local or general government for supporting service delivery.
Revenue from irregular activities	Revenue produced by activities that are not part of the regular company operations.
... <i>fixed assets' selling price</i>	Revenue received from the sale of property, plant, and equipment, if any.
Other nonoperating revenue	Other nonoperating revenue, which the public corporation has earned but which is not included above.
Irregular activities expenditures	Expenditures incurred because of activities that are not part of the regular company operations.
... <i>book value of fixed assets sold</i>	Book value of property, plant, and equipment sold, if any.
Other nonoperating expenditures	Other nonoperating expenditures, which the public corporation has incurred but which are not included above.
Profit (loss) before tax	The profit or loss before income tax, calculated as difference between total revenues and total expenditures.
Corporate income tax	The corporate income tax or profit tax.
... <i>tax exemptions</i>	Income tax exemptions, if any.
Net income, as reported by enterprise	The net profit or net earnings (profit after tax) of the public corporation for the accounting period, as reported in the financial statement.
Net cash from operating activities	The net amount of cash provided from operating activities. Operating activities include the company's day-to-day activities that create revenues, such as selling inventory and providing

Variable	Definition
	services. Cash inflows result from cash sales and from collection of accounts receivable. Examples include cash receipts from the provision of services and other revenue. Cash outflows result from cash payments for inventory, salaries, taxes, and other operating-related expenditures and from paying accounts payable.
Net cash flow from investing activities	The net amount of cash provided from investing activities. Investing activities include purchase and selling of investments. Investments include property, plant, and equipment; intangible assets; other long-term assets; and both long-term and short-term investments in equity and debt (bonds and loans) issued by other companies. Cash flows in the investing category include cash receipts from the sale of nontrading securities; property, plant, and equipment; intangibles; or other long-term assets. Cash outflows include cash payments for the purchase of these assets.
Capitalized rehabilitation costs (increase in the period)	These are costs depreciated over the lifetime of the rehabilitated asset instead of being expensed immediately. As an outflow, this item must be entered with a positive sign into the statement of cash flows template.
Purchase of intangible assets	Cash payments for the purchase of intangible assets. Intangible assets are not physical in nature. They include corporate intellectual property (patents, trademarks, copyrights, business methodologies), goodwill, and brand recognition. In the case of utilities and telecom service providers, intangible assets also include billing data, contextual information and analytics, credit history, and social networking interests.
Purchase of property, plant, and equipment	Cash outflows for purchase of tangible assets (that is, property, plant, and equipment). As an outflow, this item must be entered with a positive sign into the statement of cash flows template.
... replacement of property, plant, and equipment	Cash outflows used for replacement of existing tangible assets (subset of the entry above), if available. As an outflow, this item must be entered with a positive sign into the statement of cash flows template.
Sales of property, plant, and equipment, if any	Cash inflows from the sale of property, plant, and equipment. As an inflow, this item must be entered with a negative sign into the statement of cash flows template.
Purchase of financial investing assets	Cash payments for the purchase of long-term and short-term investments in the equity and debt (bonds and loans) issued by other companies.
Net cash flow from financing activities	The net amount of cash provided from financing activities. Financing activities include obtaining or repaying capital, such as equity and long-term debt. The two primary sources of capital are shareholders and creditors. Cash inflows in this category include cash receipts from issuing stock or bonds and cash receipts from borrowing. Cash outflows include cash payments to repurchase stock, to pay dividends, and to repay bonds and other borrowings.
Dividends paid	Cash paid in dividends to the company shareholders. Could be inflow or outflow, depending on whether dividends were paid or retained.
... to government	Dividends paid to government.
Investment grants received	Includes resources obtained to finance new investments: grants from government, foreign grants, foreign and domestic loans, and issuance of new shares and bonds. As an inflow, this item must be entered with a negative sign into the statement of cash flows template.
New loans	New loans received.
Current assets	The current assets of a public corporation. Current assets are the cash deposits, trade receivables, inventories, accounts receivable, and so on.
Noncurrent assets	The fixed and other assets that the public corporation has acquired at cost price.
Gross value of capitalized rehabilitation costs	Capitalized or deferred rehabilitation costs.
Depreciation and amortization accumulated on deferred rehabilitation costs	The accumulated depreciation on capitalized rehabilitation costs.
Gross value of property, plant, and equipment	Gross value of property, plant, and equipment (that is, before any depreciation expenditure)
Depreciation and amortization accumulated on property, plant, and equipment	The accumulated depreciation on property, plant, and equipment.
Total assets	Sum of current and noncurrent assets.
Current liabilities	The public corporation's current liabilities, which is the sum of the accounts payable, deferred taxation, and so on.
... foreign	This specifies if any of the public corporation's current liabilities are to be paid to entities abroad.
Long-term liabilities	The public corporation's long-term liabilities, that is, the long-term debt of the public

Variable	Definition
	corporation.
<i>... foreign</i>	The portion of long-term debt which is foreign debt.
Equity and reserves	The public corporation's equity and reserves.
Retained earnings (retained deficit) for the period	Cumulative earnings retained in the company.
Total liabilities and equity	Sum of liabilities and equity

Source: Authors' elaboration.

Annex 5. Correspondence between template 11 and TAFIRE

Sixteen African countries belonging to the Organization for the Harmonization of Business Law in Africa (OHADA) use the statement of sources and application of funds (tafire) instead of the statement of cash flows: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, the Republic of Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Guinea, Guinea-Bissau, Mali, Niger, Senegal, and Togo, with the Democratic Republic of Congo joining soon. The template, capturing cash flow entries, is designed to facilitate data collection from TAFIRE.

Item	Category	French equivalent or comment
Income statement		
1	Revenues from sales	Chiffre d'affaires
2	Total employee compensation	Charges du personnel.
3	Purchase of goods and services directly used in production	Achats de matières premières et fournitures liées (+/- Variation de stocks) + Autres achats (+/- Variation de stocks) + Achats de marchandises (+/- Variation de stock)
3a	... fuel	
3b	... power purchase agreement (PPA) fees (if applicable)	
4	Other purchase of goods and services (that is, those not included in line 3 above)	Transports + Services extérieurs
5	Rent	
6	Depreciation and amortization	Dotations aux amortissements et aux provisions (exploitation)
7	Miscellaneous taxes/fees (property and so on)	Impôts et taxes + Autres charges
8	Other operating expenditures	If any.
9	Income (loss) from operations	Total des produits exploitation – total des charges d'exploitation
9a	Income (loss) from operations as reported by enterprise	Resultat d'exploitation
10	Interest paid	Total des charges financières
10a	... foreign	
11	Interest earned	Total des produits financiers
12	Direct foreign grants	
13	Transfers/subsidies from government	Subventions d'exploitation
14	Revenue from irregular activities	Produits HAO or produits hors activités ordinaires
14a	... fixed assets' selling price	Prix de cession des immobilisations
15	Other nonoperating revenue	Production immobilisée + Autre produits + Reprises de provisions + Transferts de charges
16	Irregular activities expenditures	Total des charges HAO
16a	... book value of fixed assets sold	Valeurs comptables des cessions des immobilisations
17	Other nonoperating expenditures	If any
18	Profit (loss) before tax	Total des produits annuels – total des charges annuels
19	Corporate income tax	Impôt sur les bénéfices (ou TSS)
19a	... tax exemptions	
20	Net income, as reported by enterprise	Resultat net de l'exercice
Statement of cash flows		
21	Net cash from operating activities	Excédent de trésorerie d'exploitation (for consistency, should be negative if there is cash surplus, and positive in case of cash shortage)
22	Net cash flow from investing activities	In TAFIRE, it is <i>investissement total</i> , which is the difference between applications and resources (or <i>emplois and ressources</i>)
22a	Capitalized rehabilitation costs (increase in the	TAFIRE specific: Charges immobilisées (augmentation dans l'exercice)

Item	Category	French equivalent or comment
	period)	
22b	Purchase of intangible assets	Acquisitions incorporelles. If using TAFIRE, this is the Emplois the section.
22c	Purchase of property, plant, and equipment	Acquisitions corporelles. If using TAFIRE, this is the Emplois section.
22d	(Of which replacement of property, plant, and equipment)	If available. Not applicable to TAFIRE.
22e	Sales of property, plant, and equipment, if any	Cessions d'immobilisations corporelles. IF using TAFIRE, this is the Ressources section. Should be negative for consistency sake.
22f	Purchase of financial investing assets	Acquisitions financiers. IF using TAFIRE, this is the Emplois section.
23	Net cash flow from financing activities	Ressources nettes de financement. Entry should be positive if Emplois are greater than Ressources, and vice versa.
23a	Dividends paid	Dividends.
23b	(Of which, to government)	If available
23c	Investment grants received	Subventions d'investissement (Ressources section, therefore should be negative for consistency)
23d	New loans	Emprunts (2) (Ressources section, therefore should be negative for consistency)
Balance sheet		
24	Current assets	Total actif circulant (NET) + Total tresorerie-actif
25	Noncurrent assets	Total actif immobilise (NET)
25a	Gross value of capitalized rehabilitation costs	Charges a repartir
25b	Depreciation and amortization accumulated on deferred rehabilitation costs	Dotations amortissements + provisions on Frais d'établissement et charges à repartir
25c	Gross value of property, plant, and equipment	BRUT Terrains + Bâtiments + Installations, Agencements + Matériel + Matériel de transport + Immobilisations concédées.
25d	Depreciation and amortization accumulated on property, plant, and equipment	Dotations amortissements + provisions on immobilisations corporelles
26	Total assets	
27	Current liabilities	Total passif circulant + total tresorerie-passif
27a	(Of which foreign)	
28	Long-term liabilities	Total dettes financieres
28a	(Of which foreign)	
29	Equity and reserves	Total capitaux propres
30	Retained earnings (retained deficit) for the period	Report à nouveau
31	Total liabilities and equity	

Source: Authors' elaboration.

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About AICD and its country reports

This study is a product of the Africa Infrastructure Country Diagnostic (AICD), a project designed to expand the world's knowledge of physical infrastructure in Africa. AICD provides a baseline against which future improvements in infrastructure services can be measured, making it possible to monitor the results achieved from donor support. It also offers a solid empirical foundation for prioritizing investments and designing policy reforms in Africa's infrastructure sectors.

The AICD is based on an unprecedented effort to collect detailed economic and technical data on African infrastructure. The project has produced a series of original reports on public expenditure, spending needs, and sector performance in each of the main infrastructure sectors, including energy, information and communication technologies, irrigation, transport, and water and sanitation. *Africa's Infrastructure—A Time for Transformation*, published by the World Bank and the Agence Française de Développement in November 2009, synthesized the most significant findings of those reports.

The focus of the AICD country reports is on benchmarking sector performance and quantifying the main financing and efficiency gaps at the country level. These reports are particularly relevant to national policy makers and development partners working on specific countries.

The AICD was commissioned by the Infrastructure Consortium for Africa following the 2005 G8 (Group of Eight) summit at Gleneagles, Scotland, which flagged the importance of scaling up donor finance for infrastructure in support of Africa's development.

The AICD's first phase focused on 24 countries that together account for 85 percent of the gross domestic product, population, and infrastructure aid flows of Sub-Saharan Africa. The countries are: Benin, Burkina Faso, Cape Verde, Cameroon, Chad, Côte d'Ivoire, the Democratic Republic of Congo, Ethiopia, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, South Africa, Sudan, Tanzania, Uganda, and Zambia. Under a second phase of the project, coverage was expanded to include as many of the remaining African countries as possible.

Consistent with the genesis of the project, the main focus is on the 48 countries south of the Sahara that face the most severe infrastructure challenges. Some components of the study also cover North African countries so as to provide a broader point of reference. Unless otherwise stated, therefore, the term "Africa" is used throughout this report as a shorthand for "Sub-Saharan Africa."

The World Bank has implemented the AICD with the guidance of a steering committee that represents the African Union, the New Partnership for Africa's Development (NEPAD), Africa's regional economic communities, the African Development Bank (AfDB), the Development Bank of Southern Africa (DBSA), and major infrastructure donors.

Financing for the AICD is provided by a multidonor trust fund to which the main contributors are the United Kingdom's Department for International Development (DFID), the Public Private Infrastructure Advisory Facility (PPIAF), Agence Française de Développement (AFD), the European Commission, and Germany's Entwicklungsbank (KfW). A group of distinguished peer reviewers from policy-making and academic circles in Africa and beyond reviewed all of the major outputs of the study to ensure the technical quality of the work. The Sub-Saharan Africa Transport Policy Program and the Water and Sanitation Program provided technical support on data collection and analysis pertaining to their respective sectors.

The data underlying the AICD's reports, as well as the reports themselves, are available to the public through an interactive Web site, www.infrastructureafrica.org, that allows users to download customized data reports and perform various simulations. Many AICD outputs will appear in the World Bank's Policy Research Working Papers series.

Inquiries concerning the availability of data sets should be directed to the volume editors at the World Bank in Washington, DC.