

AFRICA INFRASTRUCTURE COUNTRY DIAGNOSTIC

Introductory Overview



Background

Following the October 2005 inaugural meeting of the Infrastructure Consortium for Africa meeting in London, a decision was taken to initiate a major study of the country level situation of the infrastructure sectors in Africa: the Africa Infrastructure Country Diagnostic (AICD) Study.

In the context of recent pledges by the international community to substantively increase aid flows to Africa (and to African infrastructure in particular), the objective of the AICD is to achieve a major improvement in the country level knowledge base of the infrastructure sectors in the region. This will provide a baseline against which future improvements in infrastructure services can be measured, making it possible to monitor the results achieved from the anticipated increase in donor support. It should also provide a more solid empirical foundation for prioritizing investments and designing policy reforms in the infrastructure sectors in Africa

The World Bank is responsible for the implementation of the study, in coordination with the African Development Bank, and under the overall guidance of the African regional institutions (AU, NEPAD and the RECs), as well as the major donors. This initiative is closely related to the Medium to Long Term Strategic Framework (MLTSF) study, which is being undertaken concurrently by the African Development Bank on behalf of NEPAD. The two studies essentially complement each other, insofar as the AICD focuses on basic data collection to document the infrastructure situation within countries, while the MLTSF focuses on the strategic framework and road map for the cross-border infrastructure needed to promote regional integration.

Scope

The AICD consists of a broad-based data collection exercise combined with a wide-ranging program of analytical work that builds upon this data platform. The country level data collection effort will focus on three pillars that together provide a comprehensive picture of the situation of each of the infrastructure sectors.

- a) Fiscal costs
- b) Investment needs
- c) Sector performance indicators

In essence, the fiscal costs study will cover the historic financing picture, the investment needs studies will portray the future financing requirements, and the sector performance indicators will clarify the scope for improvement in terms of efficiency gains as well as structural and policy reforms.

a) Fiscal costs

One key area where there is virtually no systematic data available at present, is the fiscal cost of the infrastructure sectors in SSA. The fiscal accounts data collected by the IMF

are scattered and incomplete with respect to their coverage of infrastructure, and at best highly aggregated. There is no clear breakdown of infrastructure costs by sectors, or functional outlays that distinguish for example between capital, maintenance and operating expenditures.

Thus, the AICD aims to create a standardized and systematic baseline on the fiscal costs of infrastructure in each of the countries based on the last 3-5 years of public expenditure data. The study will be comprehensive in its coverage of public expenditure on the infrastructure sectors, including both central and sub-national government expenditures, off-budget vehicles (such as road funds and others), state-owned enterprises, and subsidized private sector providers. By documenting the public finance situation of the infrastructure sectors, the study will identify the extent of fiscal space for public investment and the potential need for private finance of infrastructure.

The study will follow a clearly specified methodology that involves a detailed decomposition of both infrastructure expenditures and funding flows to the infrastructure sectors. Expenditures will be disaggregated according to infrastructure sub-sectors and functional categories such as investment, rehabilitation, maintenance, operations, etc. Funding flows will be disaggregated according to infrastructure sub-sectors and functional categories such as own resources, central budget allocations, loans, etc. The data will be obtained from realized budgets of the public sector and accounts of State-Owned Enterprises. State subsidies provided to private providers of infrastructure services will also be considered.

As a complement to the work on the aggregate fiscal costs, an additional component of the AICD study will examine project level expenditure data to establish unit cost information on infrastructure projects in SSA. Most donor agencies generate project completion reports of various kinds and archive tender documents and civil works contracts that provide quite detailed information on expected and realized project costs and project outputs, and that sometimes analyze the rate of return on investments made. This source of data, though relatively accessible, has never been systematically reviewed and analyzed with a view to generating data on the unit costs of various different types of infrastructure investments.

The unit cost study will perform a systematic review of infrastructure project completion reports and contractual documents for SSA. Based on these reports, the study will generate a project database detailing physical outputs, unit costs, rates of return, duration, and other relevant project performance indicators. The unit cost exercise will pool the project records of several donors that have agreed to participate including the African Development Bank, the European Commission, the European Investment Bank, Japan and the World Bank.

b) Investment needs

The limited evidence currently available on investment needs for infrastructure in SSA falls into two categories. On the one hand, there are high level ‘top-down’ cross-country

studies that estimate investment needs based on macro-economic data and unit cost parameters (see for example Fay and Yepes¹). These types of studies provide useful internationally consistent first order approximations of investment needs, but are so generic that they fail to do justice to country level specificities. On the other hand, there are country specific ‘bottom-up’ estimates of investment needs based on very detailed engineering studies of the sector. Such studies may be much more accurate; however, they also have a number of disadvantages associated with them. They are costly to produce, are not available for all countries and sectors, and tend to adopt a wide variety of methodologies that limit their comparability across countries.

For the purposes of the AICD, five different studies of investment needs are envisaged for the ICT, irrigation, power, transport, and water and sanitation sectors respectively. The objective is to develop a simple but robust methodology that is significantly more accurate than the ‘top-down’ macro studies, yet substantially more straightforward and cost-effective than the ‘bottom-up’ engineering studies. The methodology will not result in a single numerical estimate of investment needs, but rather will provide a spreadsheet tool that makes it possible to simulate investment needs under a range of different assumptions about economic growth, social objectives, unit costs and other relevant parameters. The value of developing a modeling tool rather than a specific numerical estimate for investment needs is that it will permit an iterative process of finding a balance between investment needs and available investment resources.

The five investment needs studies will consider both market driven investments to keep pace with the demands generated by a growing economy, as well as politically determined investment targets to meet social needs that may not be commercially lucrative without government subsidy (for example, rural telephony or electrification).

In the case of market driven investments, the studies will project demand for infrastructure services based on historic trends in economic growth and other relevant drivers. Particular attention will be paid to the specific infrastructure needs of high potential economic sectors. Based on these projections, the study will estimate the cost of investments in infrastructure required to meet this incremental demand, under a range of alternative technological options.

In the case of socially motivated investments, the studies will identify any relevant national and international targets for access to infrastructure services and estimate the associated cost of meeting this demand. A range of technological options will be considered of relevance to both peri-urban and rural settings.

In addition to quantifying investment needs, the study will also estimate the costs of any rehabilitation required in order to restore the effective functioning of existing infrastructure and the maintenance expenditure required to preserve the serviceability of new and existing infrastructure assets in each of the countries concerned. These estimates will be based on locally grounded unit cost parameters.

¹ Fay, M. and Yepes, T. (2003) “Investing in infrastructure. What is needed from 2000 to 2010?”, Policy Research Working Paper Series No. 3102, World Bank, Washington DC.

c) Sector performance indicators

In order to develop a detailed portrait of the infrastructure sectors in SSA, it is necessary to build up a database of sector indicators for each sector and each country. These indicators will portray the current institutional framework for infrastructure service provision in each country, in terms of industry structure (horizontal and vertical integration, market concentration, ownership) and regulatory framework (nature of policy making and regulatory institutions, nature of regulations governing tariffs, service quality and competition). In addition, they will cover several different dimensions of performance including: access, affordability, efficiency, and quality of service. Careful definitions of each of these indicators will be developed, building as much as possible on existing indicator initiatives (such as the World Bank REDI Indicators and others) to ensure consistency with earlier work. To the extent possible, a time series of indicators will be collected going as far back as is practicable.

The availability of indicators is currently very patchy across sectors and countries. For the ICT sector, comprehensive international databases already exist, while for the power sector there is very little systematic information available. In the case of transport the SSATPP (Sub-Saharan Africa Transport Policy Program) has good coverage on some indicators for member countries, while for water the IBNET (International Benchmarking Network) has collected utility performance data for a number of countries. The approach to be taken by the AICD is to build incrementally on existing data collection initiatives. Where a good data collection initiative exists, AICD will fund the extension of that initiative to countries that are not currently covered. In areas where there are no existing indicators, AICD will initially review data sources internal to the World Bank (including project files and various kinds of analytical work). Once this source of information has been exhausted AICD will fund country level data collection activities in order to fill the remaining data gaps.

Country Coverage

The AICD aims to create a comprehensive infrastructure database at the country level. In the initial phase, coverage will be confined to 24 SSA countries. These have been chosen to be broadly representative of the diversity that exists across the region in terms of geography (coastal versus landlocked), language group (Anglophone, Francophone, Lusophone), income group and governance level. Moreover, on aggregate, they account for around 85% of the population, GDP and infrastructure aid flows to SSA. The specific countries to be covered in the first phase are: Benin, Burkina Faso, Cameroon, Cape Verde, Chad, Congo DRC, Cote d'Ivoire, Ethiopia, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, South Africa, Sudan, Tanzania, Uganda, and Zambia. The map below illustrates the country coverage of the AICD study. The intention is that the AICD study should be extended to cover the remaining countries in Africa at a later date. However, this will depend on the availability of additional funding, which has not yet been confirmed.



Duration

The AICD study is projected to run for two years from 1st January 2006. The first year will be devoted primarily to data collection activities, and the initiation of the analytical work. During the second year, the analytical work will be completed and the Summary Report will be produced and disseminated through a series of workshops to be held across Sub-Saharan Africa.

Governance

The AICD will rely on two main channels for consultation, feedback and quality assurance.

- *Steering Committee* The Study Team for the AICD reports to a Steering Committee comprising regional institutions (AU, NEPAD and RECs) and the major donors (Infrastructure Consortium). The group meets at regular junctures in order to guide the direction of the research, review progress, and provide feedback on the relevance and timeliness of the analytical work. The same Steering Committee oversees the AICD and the MTLF.
- *Technical Advisory Panel*. The study will convene a panel of distinguished peer reviewers drawn from policy making and academic circles, both in Africa and beyond. This panel will review all of the major outputs of the study, with a view to assuring the technical quality of the work.

All of the outputs of the AICD, including the resulting datasets and research papers will be made available to the public on the internet (www.infrastructureafrica.com).

Funding

The estimated total cost of the AICD for the 24 countries to be covered in the initial phase is US\$3.8 million. The study is being financed by DFID (US\$2 million), PPIAF (US\$1 million) and AFD (US\$0.25 million). The World Bank is contributing in kind with staff time valued at (US\$0.4 million). A funding gap still exists, and a number of other donors are presently considering their possible contributions.

Contacts

The AICD team is co-led by Antonio Estache and Vivien Foster of the World Bank's Infrastructure Vice-Presidency and Africa Region. Any enquiries regarding the study should be directed to Vivien Foster (vfoster@worldbank.org).

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