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# Infrastructure Finance in the Developing World

## Infrastructure Pipeline and Need for Robust Project Preparation

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## About the project

The *Infrastructure Finance in the Developing World Working* Paper Series is a joint research effort by GGGI and the G-24 that explores the challenges and opportunities for scaling up infrastructure finance in emerging markets and developing countries. Each paper addresses a unique piece of the infrastructure finance puzzle and provides critical analysis that will give impetus to international discourse and play a catalytic role in the creation and success of new development finance institutions. The papers have been authored by top experts in their respective fields, and the process has been carefully guided by the leadership of both organizations. This work has important implications in the post-2015 environment, given the essential role infrastructure must play in achieving sustainable development. To this end, GGGI and the G-24 look forward to further development and operationalization of the contents of these papers.

# Infrastructure Pipeline and Need for Robust Project Preparation

Brendon Kortekaas

## 1. Introduction

The infrastructure project pipeline in emerging and developing economies falls well short of projected needs. In addition, the infrastructure project pipeline is lacking in both quantity and quality. The demand for infrastructure is not being translated into projects (quantity); for projects that are originated, either the fundamentals drive too high a risk premium or insufficient preparation is conducted for them to be considered bankable (quality). Even when projects are well prepared on paper and funding is in place, project execution can stifle how quickly the project pipeline is delivered. At the root of these issues is a skills and capacity shortage on the part of both government and private sector actors.

A critical issue slowing the flow of private capital to infrastructure is the lack of properly structured, bankable projects. Many projects do not have an adequate fact base built during preliminary work and therefore potential investors face ambiguity (rather than uncertainty), which cannot be quantified and translated into a risk–return tradeoff. Funding sources and mechanisms are largely responsive to the depth and quality of the project pipeline, rather than to its key determinants.

Project preparation facilities (PPFs) are intended to translate demand for infrastructure into bankable projects. Project preparation entails the work required to take projects from a concept to a contract award, including project definition, feasibility analysis, deal structuring, and transaction support; these activities can be divided into upstream/early stage and downstream/later stage activities. Preparation costs in developing countries typically range between 5%–10% of the total project investment. This paper discusses some of the main challenges in developing a robust and viable project pipeline to address the daunting infrastructure needs facing many countries worldwide.

### 1.1. Infrastructure Project Pipeline

**Q: How strong/weak is the pipeline of bankable infrastructure projects?**
*A: Indicators suggest that although the pipeline is strengthening, it falls well short of projected needs.*

There are no concrete figures to accurately and exhaustively quantify the magnitude of projects in development. Only a few countries publish data on projects in the prelaunch or investigatory stages. These tend to be countries with well-established track records of public–private partnerships (PPPs) in infrastructure, such as Canada, the UK, and Australia. Otherwise, publicly available data sources are usually either retrospective, cataloging historical public or private participation in infrastructure, or quantify the future need for infrastructure expenditure in aggregate terms or by sector.

The available data highlight the significant gap between historical expenditures (government and private sector combined) and future needs: worldwide expenditures on infrastructure need to more than double by 2020. Most indicators suggest that a step-function increase in expenditure of this magnitude is unlikely to generate the desired results. Where noticeable increases in infrastructure expenditure are evident in the pipeline, the increase over historical expenditure is in the 20%–40% range. A closer look at the cases of Africa, Brazil, India, and Indonesia follows.

#### 1.1.1. Africa's infrastructure pipeline

Africa's infrastructure deficit is acute. According to World Bank estimates, US$93 billion will be annually

required from 2012 through 2020 to close the continent's infrastructure gap. Historically, traditional sources of finances (e.g., national governments, the private sector, official development assistance, and so on) have annually contributed approximately US$45 billion,[1] which leaves a deficit of US$48 billion per annum. Numerous highly visible initiatives are underway to address this deficit.

- **PIDA's PAP:** At the continent-wide level, the Program for Infrastructure Development in Africa (PIDA) has developed a priority action plan (PAP) to reach development objectives and bridge the infrastructure gap. The plan comprises 51 priority regional projects across four sectors and totals US$7.5 billion annually over nine years (US$68 billion from 2012–2020). PAP is the result of rigorous analytical and time-consuming consensus-building efforts over more than 18 months.
- **SADC's RIDMP:** Additional efforts are underway at the regional level as well. For example, the Southern African Development Community (SADC) countries have come together to develop a regional infrastructure development master plan (RIDMP). The plan extends beyond PAP quite significantly in the information and communication technology (ICT) and water sectors. Overall, the short-term portion of the plan—made up of projects to be implemented from 2013–2017—totals US$64 billion; approximately just over half (US$33 billion) appears to be incremental to PAP.
- **National initiatives:** Clearly, the infrastructure gap will not be purely addressed through regional projects, and much of the incremental expenditure will need to occur at the national and municipal levels. For example, the South African government, which has historically constituted a sizable proportion of infrastructure expenditure in Africa,[2] has plans to increase annual expenditures by 39% relative to the last two years.[3] The country's infrastructure pipeline, including projects in progress and being considered, is approximately US$320 billion, with 25% of this in progress and financed with the remainder still under assessment.

In a best-case scenario, these collective initiatives could reduce the infrastructure deficit by as much as half.[4] In reality, the net incremental impact will likely fall well short of this depending on (1) the extent to which PAP projects are incremental to legacy government spending rather than just supplanting it; (2) the proportion of projects found not viable and/or bankable and abandoned; and (3) project delays that will push actual execution beyond the targeted timelines.

Nevertheless, this level of incremental expenditure will present a significant challenge with regard to project preparation, financing, and implementation.

**1.1.2. Brazil's infrastructure pipeline**

The extent and scope of Brazil's infrastructure plans are ambitious. Decades of underinvestment have exacerbated the demand for basic infrastructure: the electricity grid, basic sanitation, roads, freight and passenger rail, air travel, telecommunications, and so on. An assessment by the World Economic Forum puts the overall quality of the country's infrastructure at 104th out of 148 countries. In 2007, the Brazilian government launched the growth acceleration program (PAC I), a large-scale infrastructure expenditure program. Following this, PAC II was introduced in 2010. As a result, there are an estimated 12,000+ public and private projects that are projected or in progress. PAC II's planned infrastructure totals approximately US$886 billion.[5] The plan requires 60% of it to be invested from 2011 to 2014 and the remaining 40% invested beyond 2014.[6] Public funds, including state-owned companies, are expected to contribute 80% of the funds, with the remainder coming from the private sector.

**1.1.3. India's infrastructure pipeline[7]**

The slowdown in overall GDP growth has highlighted the need for investment and reform in India's infrastructure pipeline, and India's government is set to double investment in infrastructure from INR 20.5 trillion to INR 40.9 trillion between 2012 and 2017. This will see infrastructure investment increase to more than 10.5% of GDP by 2017 from 8.3% in 2012.

In the past five years, investment has been focused in the telecom and oil & gas sectors, whereas critical transportation infrastructure segments including roads, railways, and ports have seen a shortfall in actual investments. Of the 564 infrastructure projects commissioned in India between 2003 and 2011, 42% are delayed and 31% have no fixed commissioning date. Only one-quarter of the total number of infrastructure projects have been commissioned on their scheduled dates, creating a huge backlog. The average PPP initiative takes approximately five years to gain approval.[8] With this track record, clearing the backlog and translating the promised hike in investment into physical achievement is fraught with challenges.

Land acquisition, regulatory approvals, and environmental clearances are among the most significant challenges to the successful delivery of projects in India. These are often amplified by poor project planning and pre tendering activities that see crucial procedures such as land acquisition being inadequately addressed, thereby leading to significant delays downstream. In addition, most projects offered for bidding are inadequately or inappropriately structured for a PPP model, which again contributes to delays downstream. Fortunately, there is growing recognition that improved project planning would streamline the implementation of projects and reduce time and cost overruns.

**1.1.4. Indonesia's infrastructure pipeline**

Indonesia too is planning to implement ambitious infrastructure development plans. In 2011, the government introduced the Master plan for Acceleration

**Table 1. World Bank's Logistics Performance Index (LPI)**

| Country | Singapore | Malaysia | Thailand | Philippines | Vietnam | Indonesia |
|---|---|---|---|---|---|---|
| LPI rank | 1 | 29 | 38 | 52 | 53 | 59 |

*Source:* World Bank, 2012 Logistics Performance Index

and Expansion of Indonesia's Economic Development (MP3EI). MP3EI aims to build six economic corridors in Indonesia, each supported by several industry clusters, to significantly improve connectivity throughout Indonesia and among economic corridors.

The plan includes approximately US$470 billion in investments that is expected to largely come via the private sector and through PPPs. Since the plan's introduction in 2011 through July 2013, the value of investments has totaled approximately US$60 billion; sources of investment are split amongst state-owned enterprises (27%), the private sector (36%), PPPs (22%), and the government (15%).[9]

A core tenant of the plan is transportation infrastructure, wherein the government expects to attract US$150 billion in private investment to overhaul its overburdened transportation infrastructure[10] The country's lack of adequate transportation infrastructure has driven steep increases in transportation and logistics costs and time, decreasing the country's competitiveness and inflating prices, especially in the archipelago's outer islands. Overall, the logistic costs represent approximately 14% of sales compared to less than 5% in Japan[11]; Indonesia ranks 59th on the World Bank's Logistics Performance Index (LPI), behind ASEAN competitors such as Singapore, Malaysia, Thailand, the Philippines, and Vietnam (Table 1).

Overall, investment in Indonesia's infrastructure has been steadily increasing, from 3.2% of GDP in 2005 and 3.9% in 2009, to a projected average of approximately 5% from 2009–2014.[12]

**Q: Is lack of funding/financing the main constraint to a robust infrastructure pipeline?**
*A: Lack of financing is not exclusively, or even mainly, the issue.*

The global financial crisis of 2008 has reduced bank debt available to finance infrastructure projects, as well as increased pricing, stricter lending covenants, and shorter tenors. In particular, several large European banks have deleveraged and retreated from markets in which they once played important roles.

Simultaneously, however, non-bank lending for infrastructure is taking on a new momentum.[13] Infrastructure, sovereign wealth, and pension funds are looking for asset classes with steady, inflation-adjusted income streams, and development banks are working to expand the number of vehicles available to access infrastructure.

A critical obstacle slowing the flow of private capital to infrastructure is the lack of properly structured, bankable projects.[14] Properly analyzed (with detailed demand, engineering, and costing analysis) and well-structured projects are able to find financing.[15] This does not imply that these projects are immune to uncertainty and risk. However, inherent uncertainties are clearly identified for investors to make calculated assumptions on the probabilities of expected outcomes, translate uncertainty into risk, and factor this into an expected return.

In practice, many projects do not have an adequate fact base built during preliminary work and potential investors face ambiguity (rather than uncertainty), which cannot be quantified and translated into a risk–return tradeoff. Frequently, infrastructure projects do not attract funding because they lack the adequate level of study necessary to establish their bankability, and projects that are not deemed bankable fail to attract more than cursory investor attention.

In short, funding challenges are real and significant. However, funding sources and mechanisms are largely responsive to the depth and quality of the project pipeline, rather than the key determinants of it. The remainder of this paper will focus on this critical issue of the challenge.

**Q: What are the obstacles to a strong infrastructure project pipeline?**
*A: Insufficient focus on planning and preparation are significant impediments.*

The infrastructure project pipeline is lacking in both quantity and quality. In simple terms, the demand for infrastructure is not being translated into projects (quantity); for projects that are originated, either the fundamentals drive too high a risk premium or insufficient preparation is conducted for them to be considered bankable (quality). Exacerbating this further, projects take too long to prepare.

## 1.2. Cornerstone Challenges: Politics, Policy, and Regulation

The political and policy-related challenges underpinning infrastructure finance are well publicized. Several basic cornerstones need to be in place to improve the quantity, quality, and efficiency of the infrastructure pipeline.

- ***Enabling environment:*** Infrastructure assets not only have large upfront costs but also have a long life and are immobile. The upside payoff is largely limited

by design capacity (and in some cases, by inflation-adjusted tariff structures as well), and thus the payback depends on a predictable and long-term cash flow. This, in turn, depends on established, transparent, and stable regulatory and legal systems, with clear laws and regulations to implement PPPs based on internationally accepted norms. Given the upfront costs required, a high degree of confidence is required so that the tendering process is fair and contracts are not susceptible to costly renegotiations or cancellations. Enabling legislation as well as credible and apolitical regulatory bodies need to be established.

- ***Viability funding/Pay-for-use environment:*** Many projects have high socioeconomic benefits (such as employment, productivity, connectivity, or poverty alleviation) but uncertain cost recovery based on existing tariffs, user fees, income levels, and forecasted usage. In some cases, public sector resources are required to make these projects financially viable. In other cases, it cannot be achieved only through public funding, but financial viability that depends on fees that are cost reflective, effective collection of fees, and the establishment of a pay-for-use culture is also important. SADC views this issue as one of the major challenges to the sustainability and rehabilitation (and ongoing maintenance) of infrastructure, and particularly cites sub-economic tariffs as an issue hindering the securing of power purchase agreements.[16]
- ***Political commitment:*** Strong, broad-based, and consistent political support is critical for driving infrastructure development. In some cases, this may mean the political will to implement measures to increase user charges and combat under collection of tariffs. In other cases, it may be a matter of ensuring the government bureaucracy is accountable, effective, and efficient in planning, coordinating, executing, and monitoring such that unnecessary delays related to land acquisition, licenses and permits, connecting existing infrastructure and so on are minimized.[17]
- ***Policy stability:*** This is probably the largest political risk, especially, as it relates to ensuring subsidies on user fees or feed-in tariffs are not abruptly altered or removed. Climate change subsidies provide a good example of how policy and associated regulations can accelerate investment activity, but subsequently lead to a rapid slowdown once economic support is reduced or removed, potentially leading to significant losses for investors dependent on these subsidies.[18]

## 1.3. Planning, Preparation, and Execution Challenges

A secondary, though no less important, set of challenges stems from planning, preparation, and execution.

### 1.3.1. Infrastructure roadmap

Many governments do not adequately translate the need for infrastructure—high-level estimates of expenditure required to support (and catch-up) with the growth in population, GDP, trade and so on—into an infrastructure roadmap that articulates infrastructure gaps and the government's long-term priorities and commitments by sector.[19] As a result, project identification and origination are ad hoc and reactive in nature, dampening infrastructure supply at the point of origin. Furthermore, without an infrastructure roadmap, political support through the preparation phase is more susceptible to wane as competing priorities arise and stakeholders change.

Developing an infrastructure roadmap has the added benefit of helping to stimulate investor interest. Investors crave transparency and certainty and seek to understand a government's infrastructure plans beyond a political cycle. An infrastructure roadmap can signal political commitment to infrastructure over the long term and heighten investor interest. Investors such as pension funds will tend not to establish a presence in a market where political support is not well defined.

Part of the challenge is that developing an infrastructure roadmap requires an analytical underpinning with information and data on the quantity and condition of existing infrastructure assets (requiring asset registries and condition assessment reports, service levels), the future supply and demand mismatch, and estimates of the potential economic and social benefits. Efforts such as the African Infrastructure Country Diagnostic contribute toward building the prerequisite fact base.

Furthermore, once a "laundry list" of projects is established, it can be very challenging to compare and prioritize projects across different sectors. Given inevitable limits to time, expertise, and money (both for project evaluation and execution), a disciplined process is required to determine the projects with the potential to most efficiently yield economic and social benefits. The World Economic Forum in collaboration with The Boston Consulting Group recently outlined a proposed methodology to identify and prioritize projects[20] that may benefit from accelerated development up to the tendering process to accelerate the implementation of PIDA's PAP. The methodology, process, and analytical tools described are likely applicable (to a varying degree) to other continents and jurisdictions looking to screen and prioritize infrastructure projects (Box 1).

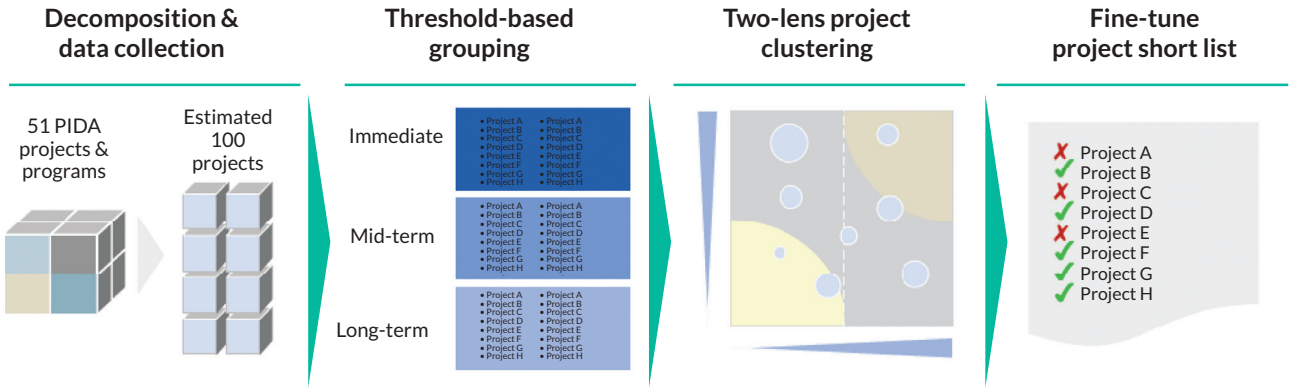
### 1.3.2. Project preparation

Project preparation is the essential next step linking high-level infrastructure priorities to bankable projects that can attract equity sponsors and debt financing, enabling projects to move from the drawing board to "breaking ground." Often, even large and important projects in emerging and developing countries lack sufficient feasibility and financial analysis for them to be considered bankable. As a result, they are abandoned during the project preparation phase or the cost of financing is increased (potentially to the point that the project is no longer financially feasible).

## Box 1. Methodology for Selecting Infrastructure Projects for Acceleration

***Context:*** The World Economic Forum on Africa has formed a Business Working Group comprising 35 companies, multilateral development banks (MDBs), NGOs, and regional experts and organizations. The group developed a methodology to accelerate private sector involvement in infrastructure in Africa. This can also be replicated and scaled up across other continents.

The methodology simplifies the task of analyzing and prioritizing a large number of diverse projects and includes four basic steps.




***Four step process:***

1. Unbundle complex infrastructure programs into discrete individual projects to make direct comparisons with other projects in the same sector.
2. Group projects by their potential for immediate, mid-term, or long-term acceleration (based on data quality/ availability, difficulty of project environment, and project complexity).
3. Using two-lens clustering to identify candidates for immediate acceleration, as per their readiness and likely value creation and impact:
   - Lens 1: Project realization readiness/capacity.
   - Lens 2: Project value creation/impact.
4. Finetune the shortlist produced in the previous step for other key considerations (for example, regional and sector diversity and public support).

*Source:* World Economic Forum 2013. Strategic Infrastructure in Africa: A business approach to project acceleration.

To address this issue, several new PPFs have been setup over the past decade, including more than 20 focused on Africa. Nevertheless, their resource levels are insufficient at the aggregate level. For example, in Africa, the 17 core project PPFs are estimated to have US$190 million in funds not committed.[21] Impressive as a standalone figure, this amount is nevertheless far short of the US$525 million annually required[22] to support the US$7.5 billion in annual infrastructure expenditure needed in the PAP.

The solution will require a combination of increased funding channeled through existing and/or new PPFs, mechanisms to attract funding from the private sector, and improved preparation efficiency through scale and specialization (either by sector, region, or phase of preparation).

### 1.3.3. Execution and backlog

Even if projects are well prepared on paper and funding is in place, project execution can stifle how quickly the project pipeline is delivered. For example, Russia's construction sector is only 36% as efficient as that in the US.[23] In Brazil, the first two phases of PAC, which began in 2007, have experienced significant delays in implementing projects. By the end of 2011, approximately 30% of the funds allocated for use had not yet been disbursed according to schedule due to delays in construction. The backlog is particularly acute in certain sectors, such as sanitation, where just 7% of 114 large projects have been completed as per the schedule, whereas 60% are delayed, on hold, or not yet initiated.[24]

Indonesia is also struggling to deliver its infrastructure development goals: four out of 11 priority programs—

established for President Yudhoyono's second term in office, 2009–2014—are far from reaching their objectives. The gap between target and completion to-date is most acute in road and rail: tolls roads (296 km complete vs. the 1,296 km target); roads (10,830 km complete vs. the 19,370 km target); rail (319 km of track complete vs. the 954 km target).[25]

### 1.3.4. Skills and capacity

Both government and private sector actors face a skills and capacity shortage. The preparation (as well as implementation) of infrastructure projects requires various specialized skills ranging from technical and engineering to environmental, legal, financial, and negotiation. Even when the private sector overcomes this, the bottleneck shifts to government bodies in the form of delayed decision making and approvals, lengthy negotiations, and inadequacies in contract and performance management (which can also result in the public sector getting locked into fiscally unsustainable contracts that are subsequently cancelled). The skills and capacity shortage is at the root of the entire spectrum of issues discussed above, from policy development, through to planning, preparation, and execution.[26]

## 2. Project Preparation

**Q: What is project preparation and what goes into it?**
*A: The objective of project preparation is to translate demand for infrastructure into bankable projects.*

Project preparation entails the work required to take projects from a concept to a contract award, including project definition, feasibility analysis, deal structuring, and transaction support. It can also extend to creating the enabling environment and post-signing/implementation support activities.

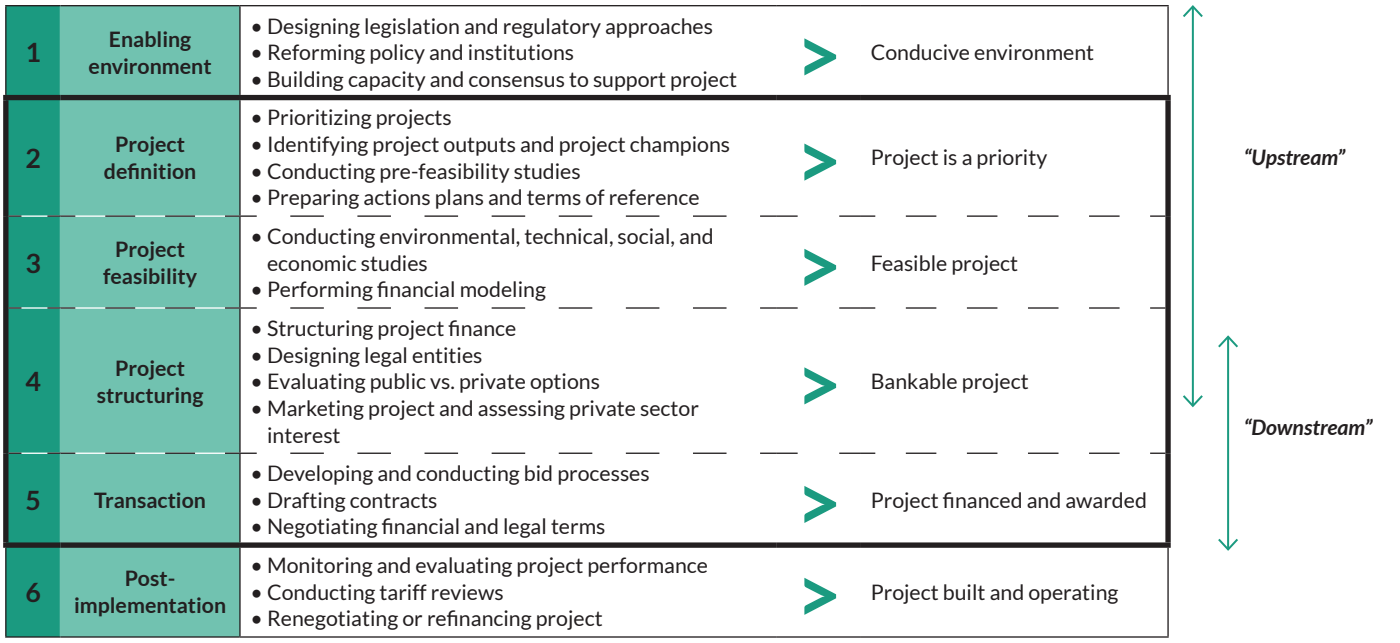
Key activities and outputs addressed through project preparation include

- Designing and establishing the laws, regulations, policies, and institutions to support and enable a project's (or broader sector's) development and ongoing operation;
- Defining the need for the project, scoping the desired outputs, and establishing the project's prioritization relative to competing demands;
- Conducting a cost-benefit analysis to establish the project's feasibility;
- Developing project financing options and risk allocation to attract the right mix of finance;
- Translating plans into tangible agreements through a procurement and tendering process that ultimately concludes with financial close.

This work requires input from a wide range of disciplines, including legal, policy, engineering, environmental, and financial. Preparation activities can be broadly divided into upstream/early stage and downstream/later stage activities (Figure 1).

In theory, the risk of a project not reaching implementation is highest in the early stages, wherein the scope of uncertainty is greatest and diminishes as the project progresses to the later stages of preparation. Accordingly, the project's fund-raising prospects improve as the extent of liabilities and potential risks are clarified.

**Figure 1. Project Preparation Phases**




*Source:* Adapted from PPIAF.

**Figure 2. Project Preparation Cost Estimates**

| Scope | | Costs as a % of Scope project capital costs |
|---|---|---|
| Upstream | • 2–3% for large regional projects up to $1 billion in size, with a gradual decrease in preparation cost percentages for projects over $1 billion | |
| Dowstream | • 3–4% associated with transaction work (PPP procurement and contract negotiation) | **5%–7%** |
| + Premium | • Plus 2–3% premium for particularly difficult sub-sectors (like hydropower) or large regional projects involving more than two countries | **7%–10%** |
| Source: "Infrastructure Project Preparation in Africa: Cost and Funding Options", James Leigland (2010) | | |

| | | |
|---|---|---|
| Upstream + Downstream | • PIDA assumes that preparation costs average 7% of total investment costs | **7%** |
| Source: PIDA | | |

| | | |
|---|---|---|
| Upstream + Downstream | • NEPAD has recently suggested that preparation costs in Africa are closer to 10% of a project's investment cost, largely because upstream preparation often has not been done | **10%** |
| Source: NEPAD | | |

*Source:* Adapted from Public–Private Infrastructure Advisory Facility (PPIAF).

**Q: How much does project preparation cost and how is it financed?**
*A: Project preparation typically costs between 5%–10% of the project's capital cost, and can be financed via grants, risk capital, and loans.*

Project preparation costs in developing countries typically range between 5%–10% of the total project investment (Figure 2). The project preparation cost depends on the project's size and complexity whether several regional governments are involved, how prolonged the preparation process becomes, and the extent to which upstream preparation is complete. Clearly, the more efficient project preparation is, the greater the leveraging effect of a dollar spent in project preparation on infrastructure delivered to the benefit of end users.

There are several key sources of funding/financing for project preparation, including

- *Risk capital* that is repaid to project developers, ultimately through the project's tariffs and subsidies over the life of a successful project;
- *Sovereign loans and credits* from development banks. Credits can be used to fund early stage studies, especially where the studies are required for the credit approval process. The World Bank, for example, operates a project preparation advance, where IDA countries can borrow up to US$3 million per project for preparation; if the project does not proceed, the loan effectively converts into a grant;
- *Grant funding* originating from trust funds, national budgets, specific donor programs, and PPFs.

In practice, funding for project preparation can be a mix of the above. For example, in the case of International Finance Corporation (IFC) Advisory Services, a government seeking assistance to prepare a PPP project is asked to pay for 25% of IFC Advisory Service' costs, with the expectation that the remaining 75% will be recovered from the winning bidders in the privatization transaction. Where a government cannot afford to pay, typically IFC Advisory Services will apply for grant funding through DevCo on the government's behalf.[27]

**Q: Where do PPFs fit in?**
*A: PPFs are one of the several actors involved in the project preparation process.*

Numerous factors will influence the entities that undertake the project preparation, such as

- Initiation: Public vs. private initiation of the project;
- Scope: Sub-national, national, regional scope of the project;
- Structure: Public sector, PPP, or private sector project execution and funding;
- Phase: Enabling environment, upstream, and downstream preparation phases.

Based on the above factors, project preparation is typically undertaken by/within a

- Government agency, PPP unit, or state-owned enterprise;
- Corporate entity, either for in-house purposes (as is the case with mining and oil/gas) or as an external business (such as an engineering firm);
- PPF supported by a development bank (multilateral or national) or regional economic communities (RECs). These can be either hosted within the supporting entity or outsourced.

PPFs are an important, but not singular, source of project preparation. In Africa, for example, PPFs are estimated to constitute 20%–30% of total project preparation funding.[28]

## 2.1. Types of Funding Offered by PPF

Funding provided by PPFs include two broad categories: grant-based or cost contribution.[29] Grant-based facilities provide funds or technical assistance without requiring a significant level of financial contribution from the project originator. For funds available on a cost contribution basis, the facility will need to recover its costs, either in part or in full, whether services are provided by the facility itself or someone else. In practice, many facilities are flexible as to the actual percentage of grant funding provided or the amount and modality of cost contributions.

Some funding—either a grant or cost contribution—may be provided on a "linked" basis; in other words, there is an expectation that the facilities own products or services will be used at some phase of the project development. DevCo is a prominent example of a facility that offers grants on a linked basis. The IFC Municipal Fund and the IFC Advisory Services are examples of facilities that offer cost contribution support on a linked basis.

Unlinked support, either grant-based or on a cost contribution basis, does not carry any specification that the facility's products or services be used. The Islamic Development Bank's Technical Assistance Facility (TAF) is an important facility offering cost contribution support on an unlinked basis, while the UN's Sustainable Energy Finance Initiative (SEFI) offers grants on an unlinked basis.

## 2.2. Roles and Responsibilities

Within the PPF landscape, the division of roles amongst actors is complex and an actor can frequently play multiple roles. In broad terms, roles and responsibilities can be divided along the lines of hosting, fund management, and task execution (Box 2).[30]

## Box 2. PPF Arrangements[31]

### Hosting Arrangements

| HOSTING ARRANGEMENT | EXAMPLES |
|---|---|
| Multilateral development banks/ developlment fianance institutions | EIB: EU-AITF<br>WBG: PPIAF; InfraVentures; DEVCo, ESMAP<br>IsDB: AFFI-TAF |
| Africa-based development banks | AfDB: NEPAD IPPF; AWF, FAPA<br>DBSA: DBSA DF, DBSA-EIB PDSF, NEPAD PPFs, SADC PPDF |
| AU and RECs | ECOWAS: PPDU<br>COMESA: PPIU<br>AU: EU–Africa Infrastrucure Partnership |
| National government departments | Egypt: PPP Unit Egypt<br>Mauritius: PPP Unit Mauritius<br>South Africa: RSA PPP Unit |
| Other | Actis Infrastructure Fund: Globeleq<br>Nexant Incorporated: USAID AIP<br>PIDG: InfraCo Africa; TAF<br>GIZ: AEEP RECP |

### Fiduciary, Implementation, and Execution

| PPF | FIDUCIARY MANAGEMENT (HOSTING INSTITUTION)[30] | FACILITY/FUND MANAGEMENT (IMPLEMENTING ENTITY) | USER OF SUPPORT (EXECUTION/TASK MANAGEMENT) |
|---|---|---|---|
| NEPAD IPPF | AfDB | AfDB | Recipient |
| EU-AITF | EIB | ITF Secretariat | Nominated development banks/DFIs and others in an internal financiers group (e.g., PIDG, AfDB) |
| PPIAF | World Bank | PMU (hosted by WB) | IBRD (mostly)/recipient |
| AFFI-TAF | IsDB | Board/Secretariat | Participating DFIs |
| DBSA-EIB PDSF | DBSA | DBSA | Recipient |
| SADC PPDF | DBSA | SADC | Recipient |
| AFD-DBSA | DBSA | DBSA | Recipient |
| ESMAP | World Bank | PMU (hosted by WB) | World Bank |
| AWF | AfDB | AWF PMU | AfDB/Recipient |
| DEVCo | DEVCo Trust (IFC) | IFC Advisory Services | IFC Advisory Services |

### 2.2.1. Hosting

It is quite common for PPFs to be hosted within public financial institutions such as MDBsor other development finance institutions. The primary advantages of this model are that these institutions provide a high fiduciary standard and a strong management talent pool to organize and oversee implementation. In addition, their lending activities provide access to a pipeline of origination and disbursement opportunities. Even when hosted within an MDB, PPFs are setup as separate operations to increase flexibility (not being tied to lenders) and be responsive to the needs of grant recipients and to enable grant resources to be pooled in the corresponding contributors to have an adequate role in the facility. In other cases, PPFs have been setup outside MDBs to work more directly with the private sector and to bypass specific issues and/or more generally the bureaucratic and political nature of many MDBs.

### 2.2.2. Fund management

This includes setting the PPF's strategy, engaging stakeholders, marketing the fund, monitoring results, and overseeing advisors to conduct task execution. Responsibility for these activities is often folded into program management units, which are separate from both task execution and the broader MDB.

### 2.2.3. Task execution

This covers the day-to-day work required to deliver project's deliverables (e.g., reports, analysis). This can be undertaken by the same organization responsible for the fund management, other development institutions, or a grant recipient. This work is usually heavily supported by specialist advisors engaged under specific terms of reference.

While a broad range of PPFs are in operation (Figure 3), they largely lack the scale to support the development of a strong project pipeline.

**Q: What key challenges do PPFs face in the day-to-day execution of project preparation?**

*A: Coordinating and maintaining stakeholder commitment are common challenges.*

Transaction advisors at PPFs housed with MDBs frequently indicate numerous issues as reasons for project delays and failures in the context of PPPs.

- ***High-level government support/consistency:*** The government becomes unwilling or unable to commit to subsidies or is unconvinced or uncommitted to private sector participation.
- ***Managing the "client" (local government body):*** Issues typically include "champion" changing, unrealistic expectations (e.g., risk allocation, need for subsidy), changing objectives and project scope, slow and unpredictable decision making, inadequate communication and feedback, difficulty getting the "off-taker" onboard, and overcoming preferences for a preferred bidder.
- ***Managing external consultants:*** It can also be a challenge to manage third-party consultants, especially local firms in frontier markets, where it is sometimes necessary to redo work to deliver meaningful results.

**Figure 3. Sample Overview of PPFs[32]**

| | World Bank | | PIDG | African Development Bank | |
|---|---|---|---|---|---|
| | Public–Private Infrastructure Advisory Facility (PPIAF) | DevCo | Technical Assistance Facility (TAF) | NEPAD IPPF | African Water Facility (AWF) |
| Objective | • Focus on enabling environment and concept development | • Funds advisory work on PPPs; largely captive to IFC | • Supports technical assistance and capital grants | • Focuses on preparing regional infrastructure projects | • Established to attract investment to meet water sector targets |
| Stages | | | | | |
| Enabling environment | | | | | |
| Project definition | | | | | |
| Project feasibility | | | | | |
| Project structuring | | | | | |
| Transaction | | | | | |
| Post Implementation | | | | | |
| Grants | | | | | |
| Founded | 1999 | 2003 | 2003 | 2004 | 2004 |
| Total funding | $260 m | $82 m | $30 m | $46 m | $178 m |
| Projects supported | 1,000 | Not known | 50 | 48 | 72 |
| Avg. grant size | $0.20 m | Not known | $0.23 m | $1.0 m | $1.5 m |

Key function of PPF

Not a key function of PPF

# 3. Implications for a New Financial Institution

The above-cited challenges facing PPFs have several implications for the manner by which a new development bank might structure a PPF.

## 3.1. Partnerships

Partnerships are critical for achieving scale and efficiency.

### 3.1.1. Governments/RECs

PPFs need to focus on becoming relevant to governments as strategic partners, not simply as service providers with access to donor funding, working on a project-by-project basis in a reactive manner. This means working with governments to plan and prioritize programmatic initiatives to bolster the project pipeline at origination. This may necessitate focusing on several specific initiatives, such as transportation corridors or a state-wide rollout/replication of rooftop solar panels.

This approach would also help PPFs to plan their resource and capacity ramp-out and focus on project identification, prioritization, and preparation as opposed to "winning business" on an ad-hoc basis, as well as in escalating issues and delays within the government's scope of influence.

### 3.1.2. Other PPFs

Given the sheer volume of project preparation effort required and capacity constraints hindering efforts to address it, PPFs should question the need and value of competing with one another for mandates, and instead explore partnership opportunities to make the best use of available resources. Many PPFs employ generalist models, seeking mandates in all sectors and across the value chain within each sector (though not necessarily across all project preparation phases). Instead, they could work together to map sector needs and opportunities; evaluate their internal capabilities, experience, and relationships; and develop complimentary value propositions for governments. This could involve sharing information on different opportunities and working together by dividing project work by phases.

### 3.1.3. Information and intelligence sharing

A large proportion of the underlying analysis for feasibility, due diligence, and strategic options is conducted by outside service providers on a project-by-project basis (and very often paid for with technical assistance funding). These reports contain a broad scope of information that could be relevant beyond a single specific project, including information on demand drivers, risks, the regulatory landscape, experience in other countries, unit costs and so on. In an age of open access, where raw information is rapidly being commoditized, this intelligence could be made public (even if to a limited audience) to avoid duplicating efforts and reduce costs for future project preparation. There may even be opportunity for PPFs to establish a common fact base or inventory of reports to more efficiently scope consulting studies.

## 3.2. Leveraging the Private Sector

The private sector can be instrumental in the identification, funding, and implementation of project preparation. The challenge will be in structuring their support and involvement in a way that does not compromise the competitive tendering process or create perceptions of favoritism. This can be done via several approaches:

- ***Identification:*** In the developing world, where the origination capabilities within governments can be lowest, the private sector initiates a significant number of PPPs. Furthermore, governments tend to focus on originating projects based on their economic and social potential, overlooking projects with commercial potential. How should a new PPF harness the private sector's opportunism, scale, and potentially superior sector knowledge?[33]
- ***Funding:*** Private operators and commercial lenders tend to be willing to spend money on due diligence only once bankability has been reasonably established. Later stage preparation activities, occurring after bankability has been established, constitute close to half of total preparation costs. How can a new PPF setup a mechanism where eligible private sector parties collectively front funding for later stage preparation until the project is awarded and the costs are reimbursed by the winning bidder?
- ***Implementation:*** Some governments have delegated public works contract preparation, implementation and supervision to specialist, private sector implementation agencies. For example, the Agencesd' exécution des travauxd' intérêt public agencies (AGETIP), mostly located in Francophone West Africa, were originally established to manage donor funding, but now primarily handle national funds and have become instrumental in rural sectors where administrative skills are weakest.

## 3.3. Establishing Strong Portfolio Management

Project preparation is costly and risky. On average, only 50% of PPP projects make it to financial close, and this can vary widely by sector and geography. Lengthy delays are common. A significant amount of time and money is wasted in partially preparing projects that do not contribute to closing the infrastructure gap.

PPFs have been addressing these issues with increased emphasis on (1) "quality at entry" assessments to confirm political/government support, likely financing options, investor interest, economic/social benefits and so on.; and (2) phase 0 high-level feasibility studies prior to undertaking full project preparation mandates.

Nevertheless, once projects are in the preparation pipeline, robust portfolio management/monitoring could go a longer way in helping to

- Identify and escalate issues as soon as the project falls behind schedule. This is more likely to occur if projects are publically tracked against a pre-set schedule. This also maintains a sense of urgency across all stakeholders;
- Terminate projects at an early stage before they waste resources. Some projects have good cause to be terminated, and project team leaders may need assistance and higher-level support to come to this conclusion at the earliest possible juncture; and
- Segment the portfolio by riskiness (likelihood of success and likely extent of delays), and use this to inform decisions on new mandates.

Speed of execution is important for various reasons:

- *Staying relevant:* The longer a project takes to complete, the more likely is a change in project sponsor and/or government decision makers, resulting in further delay or the mandate being abandoned.
- *Staying accurate:* Costs estimates can become obsolete if there is an extended delay between the time they are prepared and when they are tendered and awarded.[34]
- *Improving efficiency:* Longer mandates increase the likelihood of staff rollover and require staff to work on more projects, with less focus, simultaneously. Both these factors reduce preparation efficiency and increase costs.
- *Setting an example:* PPFs need to maintain a sense of urgency if they expect government stakeholders to do the same.

# 4. Possible Project Preparation Models for a New Financial Institution

## 4.1. Funding Project Preparation

One of the first questions to be answered concerns how to fund the launch and ongoing activities of a project preparation function? Any financial arrangement ought to be setup to align stakeholder objectives as best as possible.

As discussed earlier, project preparation, while critical importantly a catalyst to strengthen the infrastructure pipeline, is expensive (5%–10% of total project costs) and risky in that many projects are deemed infeasible, due to technical, environmental, legal, regulatory, or economic reasons, and therefore end up being completely written off.

This gives rise to numerous inter-related funding issues:

- *Risk pooling and cross subsidization:* Should returns from successful projects that move forward into implementation be used to offset losses on projects that do not?
- *Government accountability:* Governments play a major role in whether the project is successful and therefore ought to be held accountable. Many projects are aborted during the preparation phases for reasons within a government's influence (e.g., bureaucratic inertia, changing government priorities, and uncertain regulatory regimes). Would a greater upfront financial contribution on the government's part mitigate these issues and strengthen the government's buy-in? To what extent is this feasible given budgetary constraints?
- *Private sector responsibility:* Private sector sponsors are hesitant to front early stage investigations while it remains unclear whether the government will proceed with the project. However, collectively they benefit from a robust project pipeline. Therefore, what is a fair mechanism and level of financial contribution on the part of private sector sponsors both as a collective body and individually once the project has been awarded?
- *Aid agencies:* Many favor direct, project-specific investments. However, project preparation can act as a catalyst for far greater investment. How can aid agencies play a greater contributory role in funding project preparation?

Some of the above issues are discussed in a recent paper by Brookings Institution, which provides policy recommendations to the G-20 endorsing the expansion of the New Partnership for Africa's Development (NEPAD) Infrastructure Project Preparation Facility (IPPF) fund. The authors recommend establishing a revolving fund whereby project sponsors reimburse the fund's incurred expenses at financial close or over a repayment period thereafter.[35] Additionally, they call on a mindset change in using aid as catalytic funding as opposed to for direct costs. The policy paper suggests that a US$1 billion revolving fund for preparation could hopefully catalyze investment of up to US$32 billion, implying a multiplier effect through recycling funding (Box 3).

## 4.2. Possible Engagement Models

The next major question is how to structure and launch the project preparation function/service. A new financial model has a unique opportunity to both "start from scratch" and leverage the lessons learned from other institutions.

The project preparation function's organizational structure and setup ultimately need to stem from and support the institution's objectives and mandate in terms of target geographies and priority sectors; targeted collaboration with other institutions; and degree of emphasis on development impact, climate change, and reach goals.

Depending on the strategic decisions referred to above, the appropriate organizational design can be crafted from the following critical elements/considerations:

- ***Greenfield setup:*** Setting up an entirely new facility, including hiring staff and establishing an office. This option provides the highest degree of control over

## Box 3. Potential Logic of a Revolving Fund

**Logic**

- Funds are allocated for project preparation;
- A proportion of the projects are deemed unviable and abandoned in-progress (or close to the end of the preparation process); these preparation funds are sunk;
- The rest of the projects are successful such that a successful dollar deployed in preparation results in many more dollars in infrastructure assets;
- The winning bidders/sponsors reimburse the preparation funds, which are in turn reallocated;
- The cycle repeats itself until the funds available for allocation runs to zero.

**Results**

An initial allocation of US$1 billion, recycled in a revolving fund, produces

- US$2 billion in preparation funding for successful projects;
- US$1 billion in preparation funding for unsuccessful projects;
- US$28.5 billion in infrastructure deployed.

*(Unit = US$, m)*

| Allocation | Gross Infra | Success % | Net Infra | Deployed | Sunk | Retained | Recouped | Cumulative Net Infra |
|---|---|---|---|---|---|---|---|---|
| 1,000 | 14,286 | 50% | 7,143 | 500 | 250 | 250 | 500 | 7,143 |
| 750 | 10,714 | 50% | 5,357 | 375 | 188 | 188 | 375 | 12,500 |
| 563 | 8,036 | 50% | 4,018 | 281 | 141 | 141 | 281 | 16,518 |
| 422 | 6,027 | 50% | 3,013 | 211 | 105 | 105 | 211 | 19,531 |
| 316 | 4,520 | 50% | 2,260 | 158 | 79 | 79 | 158 | 21,791 |
| 237 | 3,390 | 50% | 1,695 | 119 | 59 | 59 | 119 | 23,486 |
| 178 | 2,543 | 50% | 1,271 | 89 | 44 | 44 | 89 | 24,758 |
| 133 | 1,907 | 50% | 953 | 67 | 33 | 33 | 67 | 25,711 |
| 100 | 1,430 | 50% | 715 | 50 | 25 | 25 | 50 | 26,426 |
| 75 | 1,073 | 50% | 536 | 38 | 19 | 19 | 38 | 26,962 |
| 56 | 804 | 50% | 402 | 28 | 14 | 14 | 28 | 27,365 |
| 42 | 603 | 50% | 302 | 21 | 11 | 11 | 21 | 27,666 |
| 32 | 453 | 50% | 226 | 16 | 8 | 8 | 16 | 27,893 |
| 24 | 339 | 50% | 170 | 12 | 6 | 6 | 12 | 28,062 |
| 18 | 255 | 50% | 127 | 9 | 4 | 4 | 9 | 28,190 |
| 13 | 191 | 50% | 95 | 7 | 3 | 3 | 7 | 28,285 |
| 10 | 143 | 50% | 72 | 5 | 3 | 3 | 5 | 28,357 |
| 8 | 107 | 50% | 54 | 4 | 2 | 2 | 4 | 28,410 |
| 6 | 81 | 50% | 40 | 3 | 1 | 1 | 3 | 28,451 |
| 4 | 60 | 50% | 30 | 2 | 1 | 1 | 2 | 28,481 |
| 3 | 45 | 50% | 23 | 2 | 1 | 1 | 2 | 28,503 |
| 2 | 34 | 50% | 17 | 1 | 1 | 1 | 1 | 28,520 |
| | | **Total** | **28,520** | **1,996** | **998** | | | |

**Assumptions**

- Preparation costs = 7% of the total asset value → drives the scale-up effect;
- Success rate = 50% of projects are successful → drives magnitude of funds sunk;
- Retention rate = 50% of preparation funds for unsuccessful projects retained (e.g., projects abandoned before budgets are exhausted) → drives funds sunk;
- Recoup rate = 100% of preparation funds recouped for successful projects → drives reallocation amount in subsequent cycle.

The results are highly sensitive to the retention and recoup rates. Assuming that these decline to 35% and 75% respectively, infrastructure deployed drops by nearly half (US$15.8 billion).

the projects to pursue for preparation, but entails the highest upfront investment and a potentially protracted implementation timeline.

- ***Franchisee/partnership cooperation:*** This approach, pursued either as an alternative or a compliment to greenfield entry, entails entering into a partnership with an existing facility for coverage of a given geography and/or sector (e.g., IFC in India, Asian Development Bank (ADB) in China), by providing funding. This option has the advantage of leveraging existing infrastructure and country presence to (almost) instantly channel funding into preparation. However, the degree of control is significantly lessened, and the project governance structure is essentially dictated by the partner facility (or their sponsoring MDB).
- ***Functional focus:*** A decision needs to be taken on whether to focus on "upstream" or "downstream" project preparation and, at a more granular level, which stage(s). PPF soften address multiple stages but rarely the complete lifecycle (Figure 2). This decision also needs to be aligned with the financing model. For example, a revolving fund with third-party private sector contributions is not as conducive to an "upstream" focus, as it is a "downstream" focus where the successes of discrete projects can be clearly quantified (and are increasingly likely the latter the stage of preparation).
- ***Geographical scope:*** The broadness of the geographic scope and particularly the jurisdictions for operation must be considered. It is important that the PPF is well known and considered relevant by government stakeholders, which may take months and years of relationship building and is ultimately reinforced through shared successes. Furthermore, project preparation content expertise can be fairly specific to individual regions or countries such that operating in multiple jurisdictions can detract from potential efficiencies. Both these factors that suggest a new facility (especially if undertaken as greenfield setup) should begin with a fairly narrow geographic focus and operate in geographies where close relationships exist with its institutional backers. Another factor influencing this decision is whether the degree of penetration of a given market is in line with the existing PPFs and the extent to which a "gap" in the market needs to be addressed.
- ***Sector specialization:*** A new facility must choose the sectors that need to be targeted within infrastructure sector, such as transportation (airports, ports, rail, road, bridges, and tunnels), energy, utilities (water and wastewater), communications, and social infrastructure (e.g., education, healthcare and so on.). This decision, like all the others to varying degrees, will be heavily influenced by the overarching strategic goals. For example, while transport projects tend to involve very lengthy preparation periods and have lower than average completion success rates, they have significant potential impact and reach if successful.

Setting up a new project preparation function could also take on a phased approach, that starts with franchisee/partnership cooperation in one or two jurisdictions and a narrow sector focus, and gradually evolves to other (possibly adjacent) sectors and/or geographies as funding, experience, and expertise grows.

## Endnotes

[1] World Bank (2010). "Africa's Infrastructure: A Time for Transformation."
[2] Based on Development Bank of Southern Africa figures, South African public sector infrastructure expenditure (for 2010/11) totaled more than 40% of the US$45 billion total spent continent-wide.
[3] To total US$83 billion / R850 billion over the three year period from 2012/13–2014/15.
[4] This assumes: PAP projects are all incremental to underlying historical spend; US$33 billion of SADC's RIDMP is incremental to PAP and includes a 39% increase to South Africa's historical infrastructure spend (US$7 billion / year) that continues through this decade.
[5] Sobratema (Brazilian Association of Technology for Equipment & Maintenance). "Principle Brazilian Infrastructure Investment until 2016."
[6] Latin Infrastructure Quarterly. "BDNES' Project Structuring Division."
[7] FICCI and Ernst & Young (2012). "India Infrastructure Summit 2012: Accelerating implementation of infrastructure projects."
[8] Urban Land Institute and Ernst & Young (2013). "Infrastructure 2013: Global Priorities, Global Insights."
[9] Indonesia Investment (2013). "Indonesia's MP3EI Master Plan receives IDR 647.46 Trillion in Investments." The total invested through July 2011 totals IDR 647.46 trillion, of which state-owned enterprises invested IDR 173.63 trillion, the private sector IDR 231.88 trillion, PPPs IDR 143.12 trillion, and the government IDR 99 trillion.
[10] Malaysia External Trade Development Corporation (2013). "Indonesia to Boost Infrastructure Investments in 2013 Budget."
[11] Indonesia's National Development Planning Agency (BAPPENAS) (2011). "Infrastructure Development Strategy in Indonesia."
[12] Morgan Stanley (2011). "Indonesia Infrastructure: A US$250bn Opportunity."
[13] InfraNews (2013). "How the Infrastructure Debt Market is Evolving to Accommodate a Growing Institutional Appetite."
[14] World Bank (2013). Issues Note (No. 6) for Consideration by G20: "Long-Term Financing of Infrastructure: A Look at Non-financial Constraints."
[15] Latin Finance (2010). "Infrastructure Investment: The Big Shortfall."
[16] SADC (2012). "Regional Infrastructure Development Master Plan."
[17] World Bank (2013). Issues Note (No. 6) for Consideration by G20: "Long-Term Financing of Infrastructure: A Look at Non-financial Constraints."
[18] UBS "Pension Fund Indicators 2012."

[19] The exception may be where mining and oil/gas sectors seek to build large-scale power and transport networks, which the government then needs to determine how to integrate these into public networks.
[20] World Economic Forum (2013). "Strategic Infrastructure in Africa: A business approach to project acceleration."
[21] Infrastructure Consortium Africa (2012). "Assessment of Project Preparation Facilities for Africa. Volume A: Diagnostic & Recommendations".
[22] Assuming project preparation costs 7% of total capital investment.
[23] The Institute for State Effectiveness (2012). Dissemination Note: "Infrastructure".
[24] According to research by the newspaper *Globo*, based on data from the Federal Budget Secretariat and the Brazilian NGO TrataBrasil. Out of the R$125 billion allocated for use under PAC from 2007–2011, only $R86.7 billion was spent.
[25] Jakarta Globe (2013). "Minister Admits Indonesia to Fall Short on Infrastructure Goals."
[26] World Bank (2013). Issues Note (No. 6) for Consideration by G20: "Long-Term Financing of Infrastructure: A Look at Non-financial Constraints."
[27] Infrastructure Consortium Africa (2013). "Infrastructure Project Preparation Facilities: User Guide – AFRICA."
[28] Infrastructure Consortium Africa (2012). "Assessment of Project Preparation Facilities for Africa. Volume A: Diagnostic & Recommendations."
[29] Infrastructure Consortium Africa (2013). "Infrastructure Project Preparation Facilities: User Guide – AFRICA."
[30] Infrastructure Consortium Africa (2012). "Assessment of Project Preparation Facilities for Africa. Volume A: Diagnostic & Recommendations."
[31] Source: Infrastructure Consortium Africa (2012). "Assessment of Project Preparation Facilities for Africa." Volume A: Diagnostic & Recommendations.
[32] Sources: International Finance Corporation; PPIAF; ICA (2012). "Assessment of Project Preparation Facilities for Africa"; NEPAD-IPPF Strategic Business Plan 2011–15.
[33] A recent report by Infrastructure Consortium Africa (ICA) indicates Malaysia's active and flexible involvement of the private sector as a contributing factor in the country achieving one of Southeast Asia's most developed infrastructure systems. Malaysia allowed infrastructure proposals to originate directly from the private sector, and did not place limits on the quantity or nature of proposals originated this way. As a result, private sector investment far out-paced that from the government during the 7th Malaysian Plan (1996–2000). This approach, however, needs to be combined with a rigorous evaluation processes that ensures projects are cost-effective and supported by sufficient demand to avoid project failures and stranded assets. See Infrastructure Consortium Africa 2012, "Assessment of Project Preparation Facilities for Africa. Volume A: Diagnostic & Recommendations".
[34] FICCI and Ernst & Young (2012). "India Infrastructure Summit 2012: Accelerating implementation of infrastructure projects."
[35] Kharas and Sierra (2011).

## References


Africa Finance Corporation (2011). Financing Long-term Projects: Solutions for African Sponsors. Africa Infrastructure Review.

The Brookings Institution (2011). "Time for a Big Push on Infrastructure in Africa: What the G-20 can do." Global View, Policy Paper, 2011–8.

Deloitte (2012). Delivering Successful Infrastructure Projects to Create Globally Competitive South African Cities.

EMEA Finance (2008). Financing Transportation Projects in Africa.

FICCI and Ernst & Young (2012). India Infrastructure Summit 2012: Accelerating Implementation of Infrastructure Projects.

Government of Brazil (2013). Projects, Financing Instruments, Opportunities. Ministry of Finance.

Government of South Africa (2012). 2012 Budget Review. National Treasury.

G-24 (2009). Sub-sovereign Bonds for Infrastructure.

Indonesia Investment (2013). Indonesia's MP3EI Master plan receives IDR 647.46 Trillion in Investments.

Indonesia's National Development Planning Agency (BAPPENAS) (2011). Infrastructure Development Strategy in Indonesia.

InfraNews (2013). How the Infrastructure Debt Market is Evolving to Accommodate a Growing Institutional Appetite.

Infrastructure Consortium Africa. Assessment of Project Preparation Facilities for Africa. (Volume A: Diagnostic & Recommendations, 2012).

Infrastructure Consortium Africa (2012). Infrastructure Financing Trends in Africa: 2012 Annual Report.

Infrastructure Consortium Africa (2013). Infrastructure Project Preparation Facilities: User Guide – AFRICA.

Infrastructure Investor (PEI and ICA)(2011). Africa: An Intelligence Report.

Jakarta Globe (2013). Minister Admits Indonesia to Fall Short on Infrastructure Goals.

Latin Finance (2010). Infrastructure Investment: The Big Shortfall.

Latin Infrastructure Quarterly. "BDNES" Project Structuring Division.

Malaysia External Trade Development Corporation (2013). Indonesia to Boost Infrastructure Investments in 2013 Budget.

Morgan Stanley (2011). Indonesia Infrastructure: A US$250bn Opportunity.

NEPAD-IPPF (2011). Strategic Business Plan 2011–15.

OECD (2012). G20/OECD Policy Note on Pension Fund Financing for Green Infrastructure and Initiatives.

OECD (2012). Mapping Support for Africa's Infrastructure Investment.

PIDA. Programme for Infrastructure Development in Africa: Interconnecting, Integrating, and Transforming a Continent.

PPIAF (2008). Grid Lines: The African Project Preparation Gap.

PWC (2013). Gridlines: Crunch Time for Brazilian Infrastructure.
Sobratema (Brazilian Association of Technology for Equipment & Maintenance).Principle Brazilian Infrastructure Investment until 2016.
Southern African Development Community (SADC)(2012). Regional Infrastructure Development Master Plan.
The Institute for State Effectiveness (2012). Dissemination Note: Infrastructure.
UBS(2012). Pension Fund Indicators 2012.
Urban Land Institute and Ernst & Young (2013). Infrastructure 2013: Global Priorities, Global Insights.
World Bank (2013). Issues Note (No. 6) for Consideration by G20: Long-Term Financing of Infrastructure: A Look at Non-financial Constraints.
World Bank (2013). Issues Note (No. 7) for Consideration by G20: Demand for Long-Term Financing of Infrastructure.
World Bank (2010). Africa's Infrastructure: A Time for Transformation.
World Economic Forum (2012). Industry Partnership Meeting for Infrastructure & Urban Development Industries. Strategic Infrastructure: African Context.
World Economic Forum (2013). Strategic Infrastructure in Africa: A Business Approach to Project Acceleration.



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