

The background of the page is a grayscale photograph of a construction site. It shows a large tower crane on the left and a complex steel truss structure on the right, possibly part of a bridge or a large industrial building. The image is faded and serves as a backdrop for the text.

**Unleashing Private Capital Investments for Sustainable  
Infrastructure Greenfield Projects**  
Scoping Study regarding the Early Stage Project  
Preparation Phase

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## Partners



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## 12 Abbreviations

ADF	African Development Fund
ADB	Asian Development Bank
AFD	Agence Française de Développement
AfDB	African Development Bank
AFFI	Arab Financing Facility for Infrastructure
Africa50	Africa50 Infrastructure Fund
AusAID	Australian Agency for International Development
AWF	African Water Facility
BNDES	Banco Nacional de Desenvolvimento Econômico e Social
C40	C40 Cities: Climate Leadership Group
CDIA	Cities Development Initiative for Asia
DAC	Development Assistance Committee of the OECD
DBSA	Development Bank of South Africa
DevCo	Infrastructure Development Collaboration Partnership Fund
DFI	Development finance institution
DFID	UK Department for International Development
EAIF	Emerging Africa Infrastructure Fund
EBRD	European Bank for Reconstruction and Development
EDF	European Development Fund
EIB	European Investment Bank



ESMAP	Energy Sector Management Assistance Program
FC	Financial Close
FMO	Development Bank of the Netherlands
FS	Feasibility Study
G20	Group of Twenty
GDP	Gross domestic product
GIB	Global Infrastructure Basel
GIZ	Gesellschaft für Internationale Zusammenarbeit
IBRD	International Bank for Reconstruction and Development
ICA	Infrastructure Consortium for Africa
ICLEI-	Local Governments for Sustainability
IDA	International Development Association
IFC	International Finance Corporation
IIPDF	India Infrastructure Project Development Fund
IISD	International Institute on Sustainable Development
IIU [SADC]	Initiative Implementation Units
InfraVentures	Global Infrastructure Project Development Facility
IPPF	Infrastructure Project Preparation Facility
IsDB	Islamic Development Bank
JASPERS	Joint Assistance to Support Projects in European Regions
MDB	Multilateral development bank
MENA	Middle East and North Africa
NEPAD	New Partnership for Africa's Development
NIIS	National Infrastructure Information System
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
PIDA	Programme for Infrastructure Development in Africa
PIDG	Private Infrastructure Development Group
PMU	Programme management unit
PPDF	Project Preparation and Development Facility
PPF	Project Preparation Facility
PPI	Private Participation in Infrastructure
PPIAF	Public Private Infrastructure Advisory Facility
PPP	Public-private partnership
Pre-FS	Pre-Feasibility Study
R20	R20 Regions of Climate Action
SADC	South African Development Community
SECO	Swiss State Secretariat for Economic Affairs



SEFA	Sustainable Energy Fund for Africa
Sida	Swedish International Development Agency
SNTA	Subnational technical assistance
SPV	Special purpose vehicle
TAF	Technical Assistance Facility
USAID	U.S. Agency for International Development
WBG	World Bank Group
UNDP – GEF	United Nations Development Programme - Global Environment Facility



## 2 Executive Summary

There is a growing demand for infrastructure around the world, estimated at USD 5 trillion per year through 2020. Infrastructure is a key component of a functioning economy and the basis of good livelihoods. Moreover, the sustainability-oriented features of infrastructure largely determine the demand for resources (thus influencing climate change mitigation, biodiversity and water) as well as the capacity of infrastructure to address social needs (including alleviation and social inclusion).

Only a fraction of these sustainable infrastructure needs will be funded by public financing from state budgets and international cooperation programs. The mobilization of private capital for infrastructure financing is therefore of utmost importance. Since early stage project development is the most capital-starved segment of the infrastructure funding cycle, the development of new (in financial terms: greenfield), bankable projects should be promoted. This is the main prerequisite for unleashing private funding for sustainable infrastructure. Therefore, the starting point of this study is the assumption that there is a "Valley of Death" for early stage infrastructure projects. This study attempts to identify the main reasons why sound project ideas very often cannot make it through this valley. The main questions are:

- Is there a lack of information concerning feasibility study financing and is there a need for and overview of financing choices? or
- Are the funding possibilities not sufficient? Is there an existing lack of financing options?

After analysing the existing landscape of Project Preparation Facilities (PPFs) and Advisory and Infrastructure Funds that invest in the early stage of the project cycle, Global Infrastructure Basel (GIB) Foundation has identified three main areas in need of improvement:

(I) There is a need for accelerated and massively expanded investment in project preparation in order to create a robust and diverse pipeline of sustainable infrastructure greenfield projects ready for investment. This is the case particularly for feasibility and bankability studies for projects in rapidly growing cities. Particularly there is no generally applicable PPF that uses a distinct set of comprehensive sustainability criteria as a gatekeeper for assuring the sustainability of potential infrastructure investment cases at an early stage, before bankability study funds are deployed. (II) Concurrently, there needs to be an overview of existing funding sources, support for finding them, and better coordination between them. (III) Furthermore, the local capability to prepare and implement bankable projects capable of attracting private investors should be improved. There is a need for advisory support for subnational (and national) governments, an issue which is being addressed by capacity building activities such as the GIB Summit (as such, measures to address this need will not be discussed in this study).

To address those gaps GIB suggests two main measures in this scoping study:

- A Sustainable Infrastructure Project Bankability Facility aims to close the first gap. GIB Sustainable Infrastructure Grading can be applied to scrutinise, preselect and potentially also redesign projects before bankability studies are conducted. This process can not only improve the sustainability of a project, but also attracts potential investors by de-risking their



investment. The envisaged facility would be designed as a revolving fund with a blend of philanthropic and commercial capital.

- To address the second gap, a database providing an overview of existing opportunities for financing the early stage of infrastructure delivery would help project originators to find existing financing opportunities and potentially save transaction costs. It could concurrently also foster communication between project preparation facilities. Such a database could possibly be established in cooperation with or by expanding the scope of the existing ICA Fund Finder for Africa.



### 3 Background

#### 31 Facts and Figures

There is a huge demand for infrastructure around the world and particularly in developing countries. It is estimated that a yearly total of USD 5 trillion in infrastructure investment is needed over the next 20 years to support a future global population of 9 billion people. There are additional incremental investment needs of at least USD 0.7 trillion per year to meet the climate-change challenge. This investment is needed for clean energy infrastructure, low-carbon transport, energy efficiency and forestry to limit the global average temperature increase to 2°C above pre-industrial levels (World Economic Forum, 2013).

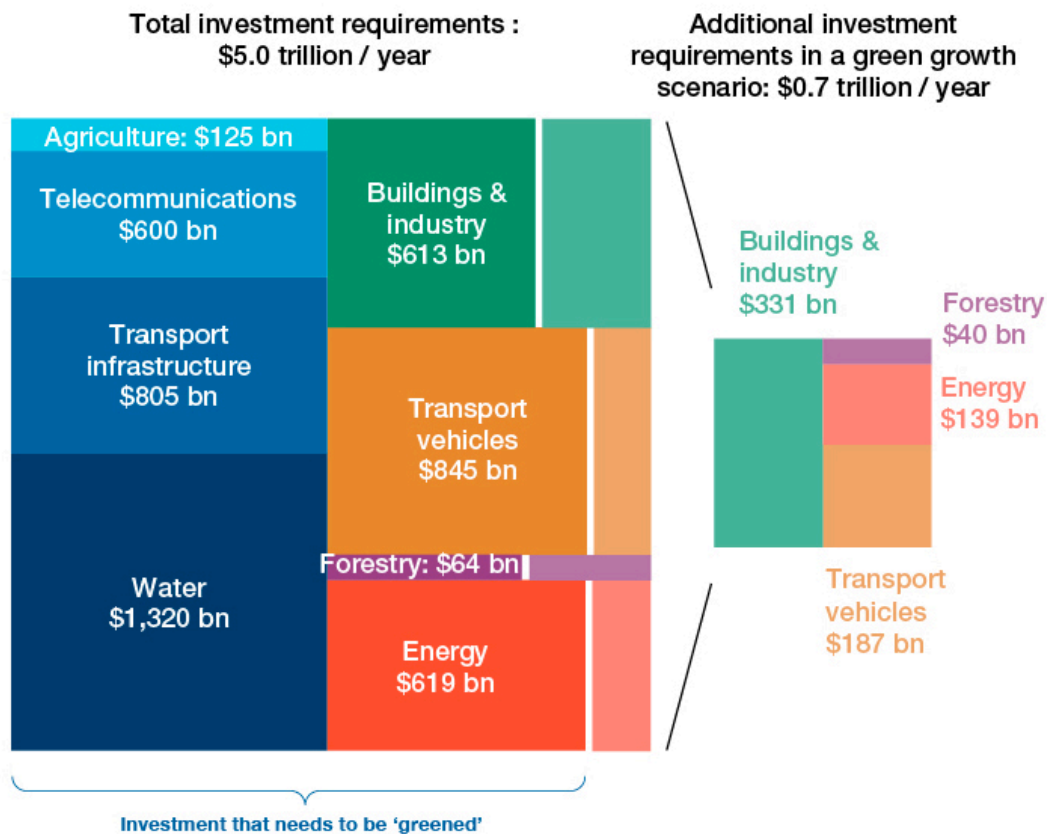


Figure 1: Total est. business-as-usual investment requirements and additional investment under a 2°C scenario. (World Economic Forum, 2013)

While greening investment is one aspect of the challenge, the key is to secure financing for infrastructure needs in general. Approximately USD 24 trillion is earmarked to be spent on infrastructure before 2030, falling short of the cumulative USD 60 trillion needed. At the same time, public spending has decreased. In the third phase of the financial crises (2013-2015), widespread financial contractions are underway, especially in the developing world where 68 countries are projected to cut public spending by an average of 3.7% of GDP. There will therefore be even more need for pri-



vate financing and grants, specifically in the field of infrastructure (Alexander, 2013). Early stage project development is the most capital-starved segment of the infrastructure project development process (Srinivasan, 2013). At the same time it is the most crucial time to make a project pipeline available for private investors.

The work with Sustainable Infrastructure Projects of Global Infrastructure Basel (formerly Global Energy Basel) in the last three years has made it apparent that there is a need for project owners to get a good overview of existing possibilities for the financing of feasibility studies, business plans and transaction advisory in the early phase of their project cycle.

## 32 The Valley of Death

The valley of death is a financing gap encompassing both debt and equity finance in which neither one is available to early-phase commercial projects in sufficient amounts. The study borrows the term from the clean tech sector, where “a funding gap is created when expensive, emerging technologies exhaust high-risk venture capital but remain unattractive to traditional debt providers with stringent risk requirements, leaving a frequently fatal gap known as the commercialization valley of death” (Scharfenberger, 2010).

Projects not only in developing countries but also in emerging economies are prone to getting stuck in the “valley of death” between a good idea/needs assessment and the financing of feasibility studies/business plans as a step of the project cycle and its scale up. As presentations of projects at the GIB Investment Forums have shown, investors immediately ask for completed feasibility studies, including business plans, while project owners need to be equipped with the knowledge of how to present these first results and calculations to an investor. A feasibility study is the basis for the implementation and the bidding/procurement process. According to the Infrastructure Fund of the Intra-American Development Bank (IDB), “Project Preparation is one of the major obstacles to infrastructure investment” (C. Federico Basanes). The main problems are: low institutional capacity, difficult political and economic conditions, scarcity of financial resources, and the fact that project preparation is not given adequate importance. The funding for well-structured projects is available. Investing in project preparation is thus key to transforming “needs” into projects that can be financed.

The Asian Development Bank (ADB) also states in a workshop paper with the OECD that “experts see market failures affecting infrastructure investment in a number of areas, particularly in developing countries, but critical shortfalls are in:

- Public sector capacity for quality project development;
- Availability of long-term funding for infrastructure constrained due to perception of political risks and lack of enabling frameworks in capital markets;
- Global contraction of credit markets and commercial banks quitting the project finance business;
- Availability and capacity to access risk-management instruments (e.g. credit guarantees);

- Lack of credit ratings for developing market sub-sovereign project owners (e.g. municipal governments);
- Effective dissemination of relevant knowledge among project sponsors, financiers and regulators; and
- Effective dialogue and coordination on policy issues at sub-national, national and international levels particularly between public and private sectors” (OECD, ICC, ADB, 2013).

Studying a project's feasibility is a process of "de-risking" a project concept. Project financiers often sell project rights before they are constructed. They need a well-understood basis for valuing a project at any point in the process.

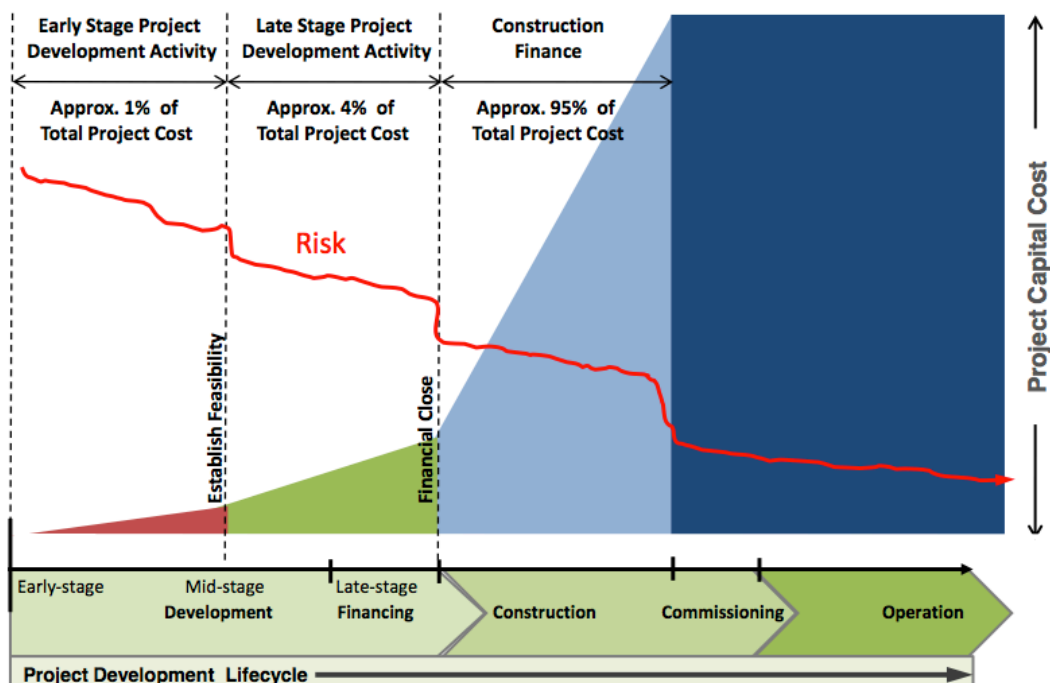


Figure 2: Project Development and Allocation on Project Capital Spend, (UNEP, Aequero, 2011)

### 33 Aim of Study

The working assumption of the study is that the valley of death is a reality for the infrastructure sector as a whole, not only for the clean tech sector. The aim of this study is to find out what could bridge the gap in early phase project financing. Is it a fund database to give the project owner an overview of his financing choices, such as a fund finder, because there is a lack of information? Or is there a need for a feasibility study facility with an independent revolving fund for financing feasibility studies because there is a lack of financing? Or is it the combination of both? A related question which needs to be answered is whether conditions placed on early phase financing limits the free choice of public project owners to find better investment opportunities elsewhere/on a competitive market.

## 4 Binding or non-binding

GIB's work with projects during the preparation for the GIB Summit's Investment Forums has shown that there is a lack of independent financing of

- pre-feasibility/feasibility studies and
- business plan development, including transaction advisory

for infrastructure project initiators (e.g. municipalities), particularly in developing countries. The funding of feasibility studies should, in these cases, not be linked to any further obligations of the project owner towards the provider of that seed money. The project provider should be free to choose the funding source and method of the following project phases, e.g. by procuring it through a tendering process.

There is a certain degree of binding, as some grant money is tied to the donor countries: "Frequently, the 'tied aid/credit' approach to infrastructure development requires recipient countries to purchase goods and services from the donor or creditor country" (Alexander, 2013). Or as a representative from Africa50 put it: "Financiers, commercial and DFIs, do not finance a project 100%. Investors usually obtain financing from a number of financiers for their projects. Therefore, facilities for feasibility studies are usually untied. Some facilities tie their utilization to rule of origins, meaning donor countries require hiring their nationals to conduct feasibility studies. This rule creates an obstacle most of the time. Africa50 will also not provide full financing for a particular transaction and, thus, we always seek to engage with co-developers and co-financiers. Given our close ties to African Development Bank, it is possible that the Bank and Africa50 will co-finance projects, but even when acting together the need to engage with other financiers will remain" (Anvaripour, 2013).

The interviews showed, however, that there is a variety of independent funding, and that most project preparation facilities actively try to get out of the project as soon as possible, at the latest at financial close. Only a minority of the analysed Project Preparation Facilities (PPFs) try to keep a stake in the project after financial close in order to participate in a potential success.

It is also worth stating that over the next decade a different infrastructure landscape will emerge. New players and priorities will arise as new sources of long-term capital shift from older to fast-emerging economies. Such sources could include Chinese Ex-Im bank, Banco Nacional do Desenvolvimento (BNDES – the Brazilian Development Bank), and emerging institutions such as the 'BRICS-bank' (Private Infrastructure Development Group PIDG, 2011).

## 5 Methodology

GIB has contacted and held talks with about 50 individuals, including representatives from multilateral banks and donor agencies, practitioners in the field and representatives of municipalities and city networks. These contacts were in the form of guided interviews by telephone or in person, during workshops, meetings and informal talks. The content of those interviews was transcribed, categorized and analysed.



At the same time GIB undertook a preliminary analysis of 56 infrastructure funds and facilities to get an overview of the existing landscape for early-stage financing of infrastructure projects globally. These multilateral and governmental initiatives and facilities are involved in project preparation financing alongside financing in other project phases. From among those, the ones with a focus on pre-feasibility and feasibility studies were highlighted.

These findings have been put into the context of the existing literature and the information gathered in the interviews.

## 6 The Feasibility Study

### 61 Definition

A feasibility study for infrastructure projects is an analysis of the ability to complete a project successfully, taking into account legal, economic, social, environmental, technical, scheduling and other factors. A feasibility study is the prerequisite for writing a business plan.

### 62 Why Feasibility Studies?

In the context of Sustainable Infrastructure, as in other sectors, there exists an abundance of virtual projects, but not enough bankable ventures that dispose of a feasibility study or a business plan supporting a project start. But why does a project need a feasibility study? Is there a strict line between pre-feasibility, feasibility and business plan? Or is it sometimes not practical to draw this distinction?

Undertaking a feasibility study is highly complex, as the respective sector, technology choices, socio-economic situation, financial structure, and political geography all have an influence. The requirements of feasibility studies are, in the end, directly related to the project's financial structure. Neside Tas Anvaripour from Africa50 says: "Working in the private infrastructure sector in Africa, we regularly find that the feasibility studies for a project can be a very burdensome early cost to a project. In private sector infrastructure projects, traditionally, the cost of the feasibility study has been borne by the sponsor, or the equity investors. In some cases, private investors are able to blend grants obtained from different agencies. Through our experience with external sponsors, we often find that this had led to corners being cut at the feasibility stage, resulting in higher, or un-planned costs later in the project cycle. The larger issue that needs to be understood here is that project development does not equate only to feasibility studies but, instead, encompasses a myriad of milestones that incrementally add to the bankability of a transaction and that finally bring a project to financial close, which includes: pre-feasibility, feasibility, recruitment of project advisors (technical, legal, financial, project manager), tendering process (if applicable), contractual agreements (off-take agreement, EPC Contract, O&M Contract), project commercial structuring, establishment of the Special Purpose Vehicle (SPV), and equity/debt raising."



The question needs to be raised of how a project develops after having handed over a feasibility study. It is important that the developer stays with the project for the long term to assure success. Sometimes even the financial close does not get the project out of the initial stage, because there is not enough investment.

In some cases it may be sufficient to have a business study rather than doing a full feasibility study. For example, it may help to bring private sector investors in at this early stage, because some of them will request a business case rather than a feasibility study to decide upon funding.

The arguments for and against the various documents and studies a project needs in order to become bankable are partly contradictory. This might be caused by different demands arising from the geographical location, the needs of the investor and the capacity of the public project owner. A facility that aims to promote the bankability of projects in the early phase should therefore serve all those purposes. Project bankability is a broad term and should include all the various steps that finally lead to financial close.

## 63 Cost

In some cases feasibility studies could be multi-million dollar studies guided mostly by conceptual and pre-design engineering analysis and driven by the institution which finances the project in the end. Such undertakings can get very technical very quickly.

A Project Development budget can consume 3-5% of the total cost of the project. In emerging/frontier markets, this number often reaches 10% of the total project cost. Developing a project and bringing it to financial close can take two to five years. The process is typically funded by the developers, and the risk of not reaching financial close is very high (Srinivasan, 2013). "The bottom line is that infrastructure project owners and investors must accept that it takes a significant investment simply to bring a project to a point where an informed decision can be made. In a typical case, this may require 2 to 5 per cent of the eventual capital cost to be put on the line before a fully informed 'go/no-go' decision can be made. Given the lack of experience in large infrastructure projects in Africa, it is essential that governments and developers go into them with eyes wide open. Africa simply cannot afford to waste capital and skills constructing infrastructure assets that do not provide the very best returns" (Shaw, 2013).

An average cost of a preliminary technical/feasibility study could be anywhere from USD 50,000 to over USD 1 million, depending on the complexity and the amount of work that needs to be done. (Srinivasan, 2013).

## 7 On-going studies on existing Project Preparation Facilities

### 71 MDB Working Group on Infrastructure submission to the G20

The MDB (Multilateral Development Banks) Working Group on Infrastructure has made the topic “Project Preparation” a priority in its report to the G20. “The issue of efficient Project Preparation has made its way in the approach taken by all MDBs, principally because it contributes to enhanced quality at entry leading to quicker development results and increases the attractiveness to alternative sources of capital, in particular from private investors. MDBs are assessing ways to reserve a greater portion of the funds allocated to infrastructure financing in developing countries to project preparation” (Infrastructure Action Plan).

It stresses the fact that high fragmentation of existing project preparation facilities (PPFs) remains a challenge for beneficiaries and donors alike. MDBs and the OECD have continued to expand and strengthen regional Public-Private Partnership (PPP) practitioner networks according to the Working Group. Resources and knowledge-transfer from G20 members would further strengthen experience in PPPs.

The Fellowship Programme recommended by the UN High Level Panel (HLP) on the Post-2015 Development Agenda will, once implemented, reinforce local capability to prepare and implement bankable projects that are attractive to private investors.

The HLP believes that adequate funding could be made available for bankable projects in low-income countries. It is the lack of a strong pipeline rather than funding which is perceived to be the key constraint. The MDB Working Group therefore recommends building local capability to prepare bankable projects by:

- 1) Using local PPP units in developing countries to concentrate expertise and improve coordination
- 2) Establishing a fellowship programme supported and managed by the private sector, to be launched immediately
- 3) Supporting the proposal made in the MDBs Action Plan to establish regional practitioner networks to support capacity building
- 4) Developing standards for PPP documentation
- 5) Reviewing the size and range of project preparation facilities, restructuring them on a more sustainable basis and placing greater emphasis on the ability to recover the costs of project preparation (MDB Working Group on Infrastructure, 2012).

### 72 Infrastructure Consortium for Africa (ICA) Report

One of the outcomes of the above-mentioned recommendations was the “Assessment of Project Preparation Facilities (PPF) for Africa” by the Infrastructure Consortium for Africa (ICA). The assessment looked into facilities with the following criteria:



Including:

- Only funds with more than USD 5 million ring-fenced

Excluding:

- Programmes where funds have been allocated
- Advances on Development Bank credits
- Special purpose bilateral trust funds (climate change mitigation)
- More generic, multipurpose project preparation/technical assistance, which lacks a substantive focus on infrastructure.

In contrast to the ICA report, the aim of the GIB study is to give special emphasis to the aim of establishing sustainability within infrastructure. Therefore, special purpose bilateral trust funds are also of interest to this study.

## **721 Conclusions of the ICA report**

The conclusion of the ICA report is important for this study and paves the way for further developments. As mentioned above the focus of GIB study is different because the main focus is sustainability and it is not limited to one geographical region. The following are the most important conclusions of the ICA report:

- A „Tunnel of Funds“ is needed: The Provision of support to sequential phases of the project cycle by different PPFs requires much more co-ordination amongst PPFs, involving greater sharing of information. They also need to interface with other Development Fund recourses. (ICA - The Infrastructure Consortium for Africa, 2012)
- Governments are a major source of infrastructure project preparation, especially in South Africa.
- Project preparation facilities that are hosted by MDBs are strongly influenced by the policies and competences of their hosting institutions. (MDB Working Group on Infrastructure, 2012)
- Governments need advisory support to help them negotiate transactions that have been originated by the private sector.
- Pertaining to future PPF models, the „use of grants needs to be revisited as regards which parts of the project cycle should be supported by grants and which by repayable recourses.“ Another idea concerns redeemable grants, which can be repaid by projects at financial close, so that flexible funding can be recycled. The new facility has to be an independent entity and unnecessary duplication of existing facilities should be avoided.
- A new revolving fund could be a possible solution.
- Syndication for existing PPFs would be of benefit.
- It is important to have a clear focus of the activity and advantage of a facility. (ICA - The Infrastructure Consortium for Africa, 2012)



### 73 Heinrich Böll Foundation: Recommendations for the G20

The Heinrich Böll Foundation also gave recommendations for goals to the G20's study group which go in a similar direction but additionally stress the establishment of a triple bottom line for facilitating project preparation and financing, improving the investment climate; and helping to generate long-term financing for infrastructure investments.

The recommendations emphasize not only improving the effectiveness of project preparation facilities but also possibly creating a global network of them (Alexander, 2013).

The paper encourages infrastructure development that achieves a "triple bottom line"<sup>1</sup> and to that end recommends a "Value for Money" (VfM) approach to infrastructure financing. The VfM approach is defined as "what a government judges to be an optimal combination of quantity, quality, features and price (i.e. cost), expected (...) over the whole of the project's lifetime. They stress the importance of standards, which can help to ensure that infrastructure projects contribute to inclusive and sustainable development." Standards should be fundamental components of project identification, design and implementation. The best option would be to establish international standards for social and environmental responsibility in infrastructure development.<sup>2</sup>

Especially concerning the last point of establishing international standards there is strong accordance with the establishment of the GIB Sustainable Infrastructure Grading as an international standard for the assessment of sustainability of infrastructure projects in the early phase. There are also other governance-related concerns raised by NGOs concerning the G20 High Level Panel, like the heavy emphasis on large-scale, centralised projects and the private sector, the excessive focus on Public Private partnerships, inadequate risk-mitigation requirements, insufficient stakeholder engagement and financial concerns. These aspects are covered by the GIB Grading. (Berne Declaration, Birgit Zimmerle, 2013)

### 74 ADB's National Infrastructure Information System (NIIS)

The initiative of the Asian Development Bank encompasses the creation of standardized project design and loan templates for infrastructure projects. These standardized documents will facilitate assessment of the feasibility of projects as well as their aggregation into portfolios that can be presented for financing to multilateral development banks, sovereign wealth funds and other institutional investors. NIIS was launched by the ADB and has been in a developing phase for several years. Now other MDBs and private groups are working on further developing the NIIS project. During the last NIIS working group meeting, in which GIB participated, members of the NIIS working group expressed interest in using and implementing the GIB Sustainable Infrastructure Grading in order to reach a sustainability grading and validation of potential projects.

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<sup>1</sup> Including bottom lines not only for economic but also for social and environmental considerations.

<sup>2</sup> See also chapter 813

## 75 Conclusion

There are several conclusions of the different reports and studies that strengthen the background of this study.

1. There is a need for more financing for project preparation.
2. Regional PPP networks should be strengthened.
3. There is a need for a strong pipeline of projects.
4. The local capability to prepare and implement bankable projects attractive to private investors should be enforced through a fellowship programme. There is a need for advisory support for governments.
5. Existing PPFs should be restructured and be able to better recover costs. The creation of a revolving fund, which provides seed risk capital, could be a solution.
6. There is a lack of coordination between facilities and a lack of overview for funding seekers. Part of a solution could be to increase the network of existing facilities and to create an overview of existing funds.
7. Triple-bottom line and sustainability should be the fundamental bottom line of project life cycle.

## 8 Market Analysis

### 81 Analysis of public/grant funded feasibility studies

GIB aims to get a better understanding of how different development banks, multilateral financial institutions, donor agencies, foundations and private funds provide funding for feasibility studies. The study took the whole landscape of infrastructure financing and decided to narrow it with three filters.

First, the fund/facility should be a mostly independent entity with a clear focus on infrastructure, thus general donor programs were not included. The fund/facility should only focus on infrastructure, whereby a specification on sectors is possible. Secondly, initiatives, private equity and funds that are not explicitly focused on early stage investment were excluded. And thirdly, the facility/fund should focus on the early stage of the project cycle, namely before financial close.

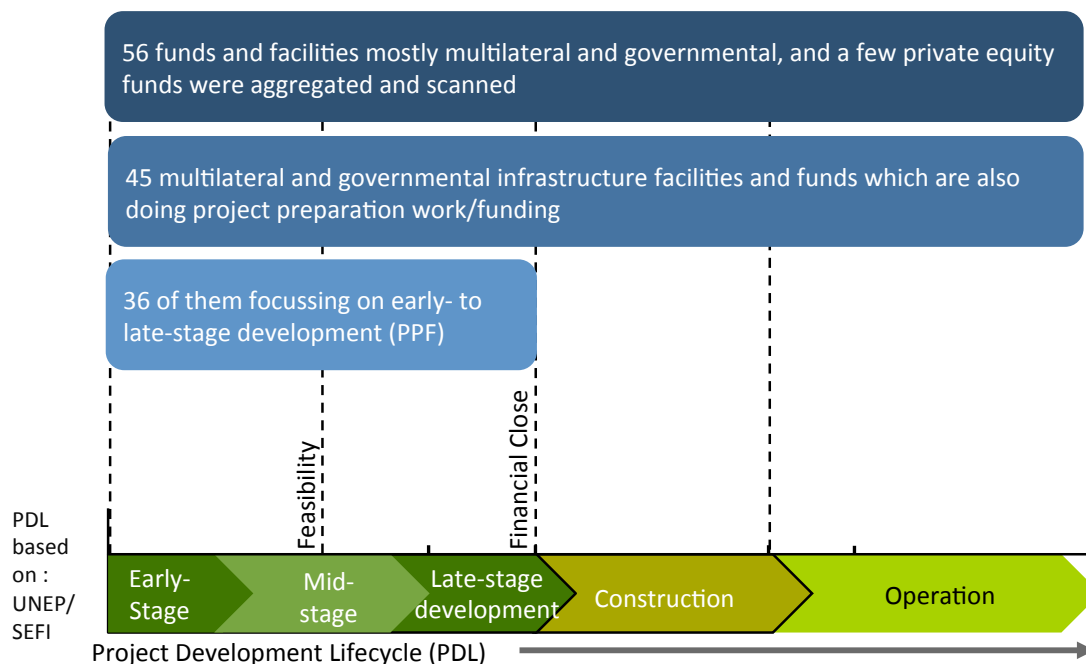


Figure 3: Distribution of analysed Funds and Facilities

Additional attention was paid to the sustainability aspects of the funds. The outcome is that there are a variety of project preparation facilities and funds available that offer technical assistance, financial assistance or a combination of both.

- There is a gap for a global facility that gives an overview/guidance of existing facilities and funds in form of a database (there is an existing fund finder for Africa, the expansion of which could be an opportunity for cooperation).
- There is no facility that has comprehensive sustainability as a driver and proactively promotes sustainability during project preparation.

## 82 Geographical distribution of funds

Our overview of 56 PPFs, which does not claim to be exhaustive, shows the following geographical distribution: one third of the analysed funds and facilities are strictly focused on Africa. Of those initiatives, one quarter operate only in certain countries (e.g. only South Africa). 14% of the listed PPFs are focused on Asia (with a majority of them being country- or region-specific). A minority of 9% of the analysed PPFs focuses on EU and North American States and 5% are dedicated to Latin America and/or the Caribbean. A majority of the analysed funds (43%) focus on multiple continents or groups of countries, such as the 48 least developed countries (LDCs), developing and emerging countries, Middle East and North Africa (MENA), etc.

We also included the South African Municipal Infrastructure Grant and the India Infrastructure Project Development Fund (IIPDF), both of which are governmental initiatives, in order to show that

these and similar initiatives exist as well. This study does not cover the national aspects of infrastructure funding in detail.

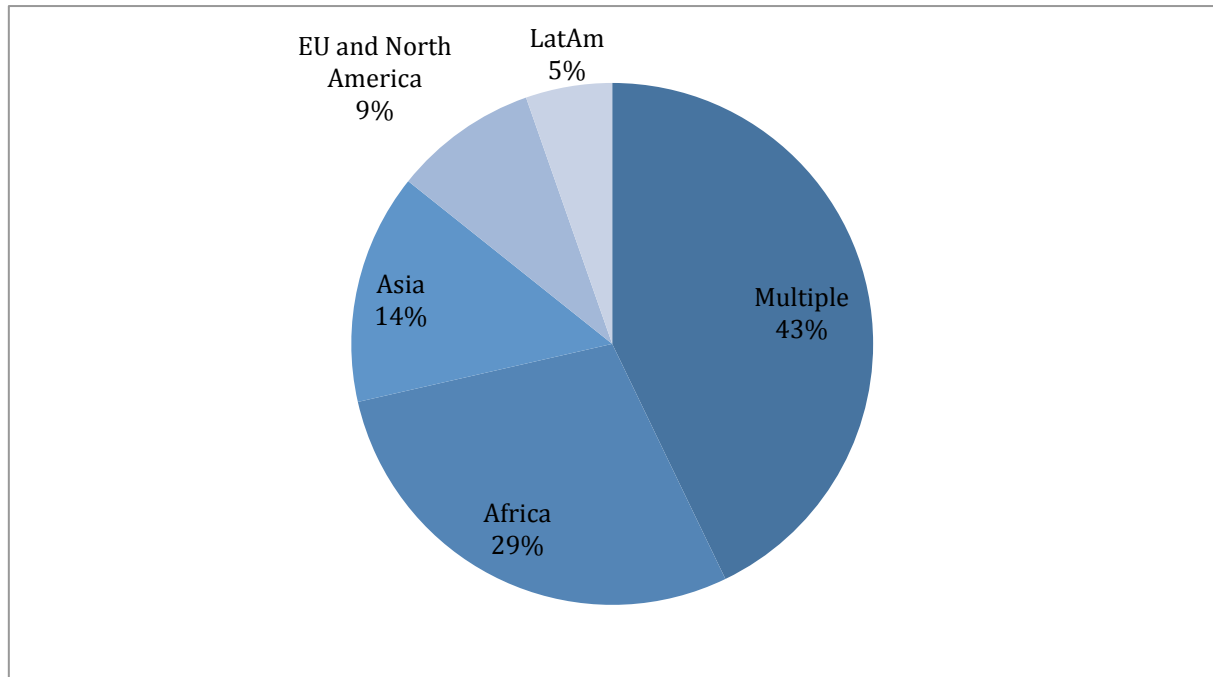


Figure 4: Geographical Distribution of analysed Funds and Facilities

There are several reasons for the larger proportion of PPFs located in Africa. For one, the infrastructure-financing problem needs most attention in Africa. In regard to infrastructure services such as water, transport, energy and telecommunications, Africa ranks behind all other developing regions. The need for infrastructure in Africa is evident and this not only due to a lack of funding but also because projects need better preparation and packaging (Public-Private Infrastructure Advisory Facility (PPIAF), 2007). Organizations like the African Development Bank (AfDB), the Development Bank of Southern Africa (DBSA), the Private Infrastructure Development Group (PIDG), the European Investment Bank (EIB) and many others are well aware of this problem and have taken measures to establish infrastructure PPFs. Due to this particularly high need in Africa and the corresponding focus on PPFs, there is better information access and also a higher density of PPFs in Africa than other developing regions (Public-Private Infrastructure Advisory Facility (PPIAF), 2007) (Meeting PPF ADB, 2013).

With respect to the owners or initiators of the PPFs, etc., one discovers the following tendencies:

- In Africa, AfDB and PIDG are very active in promoting infrastructure financing and have experienced teams on the ground.
- Initiatives active in Asia have mostly originated from an Asian specific entity (e.g. ADB)



- Not surprisingly, initiatives with multiple focuses have their roots in international organizations, such as World Bank, United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP) and European Bank for Reconstruction and Development (EBRD).

Funding types vary as well across continents, although no sharp line can be drawn. The vast majority of funding and Technical Assistance (TA) from PPFs is given in the form of non-redeemable grants. Particularly in Africa it has proven difficult to change this situation, although there are currently several steps being taken to change from funding based on non-redeemable grants to an approach where the TA and Funding is recovered through fees, interest or equity. Particularly the plans with Africa50, which with USD 3 billion in equity capital would become one of the largest PPFs in Africa, demonstrate such attempts. Funding types in PPFs with a wider focus in terms of geography vary greatly.

### 83 Inventory of existing Financing

GIB sees the need to streamline the information concerning facilities and funds that provide projects with the funding for feasibility studies. This could be in the form of a database. As there is currently no facility that uses a distinct set of comprehensive sustainability criteria as a gatekeeper, GIB also sees the need for a Sustainable Infrastructure Project Preparation Facility as a Revolving Fund. The GIB Sustainable Infrastructure Grading can help project providers to assess their projects at an early stage through the lens of sustainable development. It would also be suitable for prioritising projects for the selection of feasibility studies and business plans and would prepare them for financing.

## 9 Missing Capacity

### 91 Capacitating the public sector project owner

GIB's starting point for this study is the situation and the capacity in municipalities. Interviews with municipal representatives and practitioners in the field have shown that there is a strong need for capacitating the public sector project owner. As GIB is constantly doing workshops on capacity building with its GIB Sustainable Infrastructure Grading, this topic will not be discussed in detail in this study. Nevertheless, the topic embeds the other measures and explains the reasons why they are needed.

As one representative of a South African city put it: "There is no point in having money if one doesn't have the staff to run and manage the programmes and projects" (Meetings South Africa, 2013). This points to the fact that there is not enough skilled personnel to deal with developers and project transactions. GIB has done workshops and training sessions on Sustainable Infrastructure, mostly in China, but also in Morocco and during the GIB Summit for a global audience. These training



sessions could be enlarged to handle additional needs pertaining to the bottleneck in getting to a bankable deal, namely the governments. Resources that are in place are not sufficient to manage all the deals that are in front of them. Ed Farquharson, former Executive Director of PIDG, puts it this way: “As well as having non-promoter linked money available and known about to fund pre-feasibility work, it is also about capacitating the public sector project owner to manage this stage of the process and to be able to use such money well”.

### **911 Existing methodologies**

The UK Government has developed quite detailed methodologies for the public sector for the ‘strategic business’ case, the area between project concept and due diligence. It is called the Five Cases Model (Joe Flanagan) and consists of the following parts:

- Strategic case
- Economic case (Value for money)
- Commercial case
- Financial case
- Management case

The Sustainability case is missing, but the process has to be done alongside the HM Treasury’s Green Book guidance. It is intended to identify a preferred option, one which demonstrably optimises and maximises value for money.

### **912 Value for Money (VfM)**

As it includes both qualitative and quantitative aspects and typically involves an element of judgment on the part of government, a precise measure for value for money does not exist. Nevertheless, value for money can be defined as what a government judges to be an optimal combination of quantity, quality, features and price (i.e. cost) expected over the whole of the project’s lifetime. Thus, the VfM concept attempts to encapsulate the interests of citizens, both as taxpayers and recipients of public services. As such, value for money should in principle also be the driving force behind traditional infrastructure procurement. Therefore, any project, whether it is a PPP or a traditionally procured project, should be undertaken only if it creates value for money. PPPs and traditional infrastructure procurement are merely two modes of delivering the objective of value for money (Hawkesworth, 2011).

In the case of India, the Dept. for Economic Affairs (DEA) of the Ministry of Finance has taken notable steps to integrate Value for Money into requirements on the pre-tender feasibility study, formal request for proposals and bid evaluation, seeking also to increase VfM through mandatory requirements for environmental and social safeguards. The interpretation of VfM must take into account environmental and social costs, risks and gains across the project life cycle (International Institute for Sustainable Development (iisd), 2013).



## 10 Measures

There are two measures GIB recommends for further development: the creation of a Sustainable Infrastructure Project Preparation Facility as a Revolving Fund and the development of a fund finder.

### 101 Sustainable Infrastructure Project Preparation Facility as a Revolving Fund

#### 1011 Needs Assessment

The need for new and improved project preparation facilities has been established by different players and experts in the field. ICA states in its report: "Some donors, such as the World Bank, have suggested that the increase in preparation funding would be best addressed by allowing the regional IDA (International Development Association) allocation to be used for project preparation purposes and/or through the creation of a new 'revolving fund'" (ICA, 2012). The World Economic Forum makes the suggestion to "Increase the leverage of private investments: Scale up risk mitigation and co-investment funding structures to help close the infrastructure financing gap. G20 leaders should call on sources of public finance to move from a project-by-project approach to a portfolio one to ensure there is support for initial project and programme development" (World Economic Forum, 2013). The R20-Regions of Climate Action (R20) and the United Nations Office for Project Services (UNOPS) are in the process of creating a Pre-Investment Facility for clean energy projects. (R20 Regions of Climate Action, 2013)

There is also a recommendation to create an internal government-backed project development fund. Such a fund might only need between USD 50 and 100 million. After funding overhead, this could easily lead to commitments for 40 to 80 projects over a five-year fund life. The government fund might earn warrants or equity in the project. These warrants could be sold at financial close. Alternatively, the fund could be reimbursed its costs (and earn a return) from a development fee paid by lenders at financial close (Srinivasan, 2013). And Marcelo de Andrade (Earth Capital Partners) states "A new facility should be an independent international body (free from undue governmental control, but with government participation as part of the process), a private sector entity to avoid the failures of MDBs" (Andrade, 2013). There are even prospects for a BRICS-led New Development Bank (Alexander, 2013) and a Global Infrastructure Facility. GIB has been involved in initial meetings of the Global Infrastructure Facilities. Talks will resume in January 2014.

#### 1012 Bridging the Gap

**Lack of Bankability:** A look at existing funds gives a varied picture. The existing PPFs have primarily a grant approach with little or no aim of recovering funds. This approach is one of the reasons that the prepared projects are often not bankable and/or will not be implemented because the private investors' needs are inadequately planned for during the project preparation phase. Failures of MDBs are:

- Cumbersome and costly project preparation facilities;
- A risk-averse nature; and



- Inadequate capacity to crowd-in private investment or adequately assess risk-return profiles, deal with uncertainties of revenue streams and hold assets in appropriately diversified, large portfolios. (Amar Bhattacharya, 2012).

**Lack of Risk Taking and complex administration:** Most existing PPFs are financed, managed and structured by MDBs. Although this allows for relatively secure funding, it also comes with the natural constraints of MDBs. As MDBs ought to maintain highest possible credit rating, they are naturally somewhat risk averse and unable to act in the way an independent risk capital fund can.

**Recovering Investment:** Although there is now an increased understanding that PPFs should aim and be able to recover investments and costs, the large majority of existing PPFs are not recovering investments. This leads to projects that are more likely to be unprofitable during the whole project cycle and also after development. An early involvement of private investors and a drive to create financially sustainable projects allows for long-lasting projects during the whole life cycle.

**Market approach:** This scoping study shows the urgent need for a sustainable, independent and revolving project preparation fund, which lessens the bottleneck in project financing. This approach is also shared by other similar PPFs that have been or will be launched. Two examples are:

(I) Africa50, which will possibly become one of the largest funds focusing on project preparation and development for regional projects in Africa. Although financed mostly by the AfDB, it will be an independent unit aiming to de-risk projects and accompany them until after implementation. The fund can also invest in brownfield and does not maintain comprehensive sustainability as its driver. Projects should generate financial returns.

(II) DBSA launched a venture capital PPF in the beginning of 2012. The approach is to invest in projects that are at an early stage and accompany them to financial close. Projects are selected based on their potential return and in relation to the core mandate of DBSA. "The likelihood of a project being financed for development is important, otherwise we will not consider them. The viability of a deal is crucial" Says Willi Myburgh, Manager Project Finance / PPP at DBSA (Myburgh, 2013). The PPF of DBSA usually invests USD 0.5 - 5 million and in some cases up to USD 7 million into the project preparation of a selected infrastructure project. Potential projects undergo due diligence in the form of (i) integrity of the organization and/or person providing the project and (ii) the financial, technical and institutional project details. DBSA examines the projects through internal specialists and will also include external specialist where needed. The fund is able to take on more risk than other MDBs as it does not use balance sheet money and thus affects the bank's credit rating less. The fund invests about USD 50 million per year, initially financed by returns from the DBSA and European funders – later on it should be self-sustaining. Expected ROIs of 200-300% on successful projects are calculated, while potentially unsuccessful projects need to be written off. The first projects getting to financial close and thus generating financial returns are expected to finalize by Q2 2014. The "early on equity mindset" is what makes their investments successful, emphasizes Willi Myburgh, and he adds, "we believe it is an opportunity to be involved in the early stage and regard commercial benefit from beginning on" (ibid.).





**De-Risking through Sustainability Approach:** Sustainability should not only be achieved in financial regards but also in a social and environmental sense. The GIB Sustainable Infrastructure Grading shows what projects ought to consider in order to secure a holistic sustainable approach. The research shows that there are barely any PPFs who see it as their driver to support sustainability in infrastructure. Nevertheless, it is precisely during the early stage of a project where the outcome can still be vastly influenced and overall sustainability can be achieved and secured for the whole lifecycle of a project. The well established, researched and tested GIB Sustainable Infrastructure Grading guides the understanding of sustainability. There is a lot of value in being involved in the project very early, particularly for ensuring sustainability in financial, social and environmental aspects, since it de-risks the projects. GIB's Sustainable Infrastructure Grading Process (in addition to the conventional due diligence) potentially

- Reduces political and related default risks;
- Lowers borrowing rates;
- Lowers transaction and running costs;
- Improves and smoothens cash flows;
- Thus improves credit quality and investor confidence;
- Spurs engagement/involvement/placement of investors;
- Mitigates inflation risk;
- Provides outstanding residual value.

### **1013 Concept of GIB Sustainable Infrastructure Project Bankability Fund (PBF)**

This PBF fosters sustainable infrastructure by fighting the “valley of death” through goal-oriented investments in the early stage of sustainable infrastructure projects. Projects will be pre-selected based on their sustainability through the well-proven and established GIB Sustainable Infrastructure Grading.

The risk capital fund aims for USD 50 to 70 million under management, which would be placed from philanthropic and private capital. Investments of USD 500'000 to 1'000'000 will be made per project.



After project application (1), the established GIB Sustainable Infrastructure Grading will be the pre-selection tool (2). Projects will potentially be redesigned based on the first results of the GIB grading (3). The funding for the bankability study takes place (including Financing Structure and Proposal for Bidding Process) (4). Due Diligence by Potential Bidders is done (5) and GIB accompanies bidding process (6) in order to ensure a good number of bidders (the bidding process incurs considerable complexity and financial costs for investors). Once the bankable project achieves financial close (7) GIB is compensated for its risks and investments with interest. In the case that a project falls through and does not achieve financial close, investments will have to be largely or fully written off.

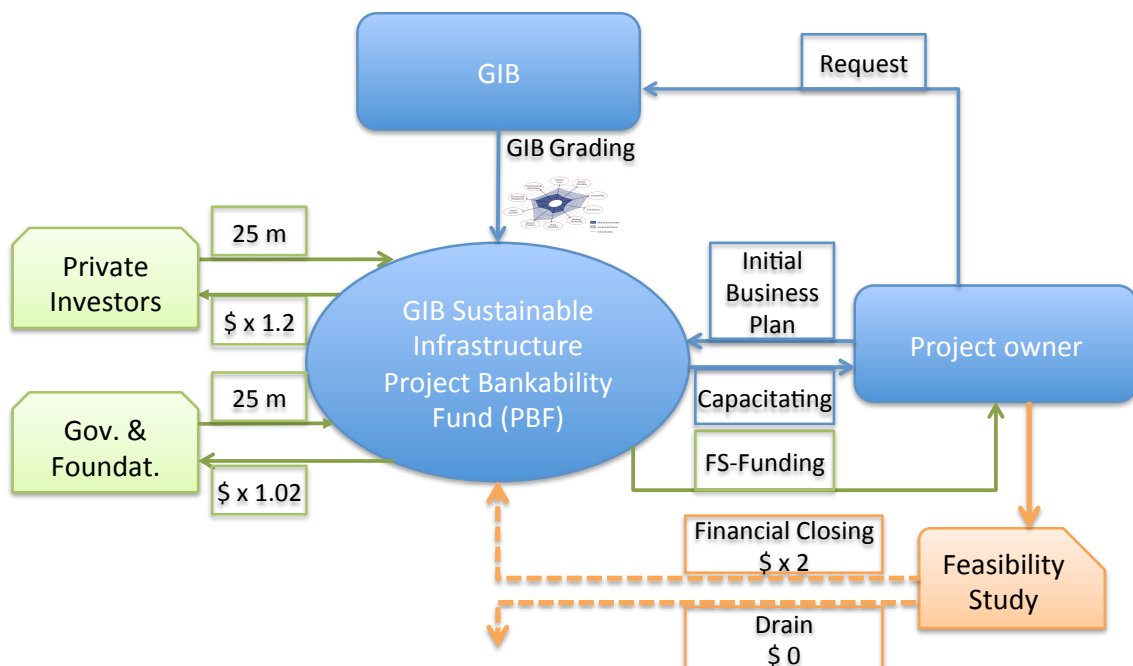


Figure 5: Process of the GIB Sustainable Infrastructure Project Bankability Fund (PBF)

The right side of the illustration above shows how the fund works in regard to the project side. Projects go through the GIB Sustainable Infrastructure (SI) Grading and are brought by GIB funding and support to a feasibility and bankability study and successful financial close. With the investment and support from the GIB PPF the project will be able to build a well-conducted bankability and feasibility study in order to attract private and public investors at financial close. Successful projects will pay back the investment from SIPBF including compensation. Expected investment timeframe is between three to five years until financial close.

The funding stems from private and public investors who will be compensated for their investments. There is great interest on the part of the private impact investors that GIB is in contact with to invest in a revolving, GIB-managed risk capital fund for the financing of feasibility studies and business plans.

#### 1014 Recovery within the revolving fund

The UN Habitat Guidelines on Revolving Funds in Madhya Pradesh, India states the following:

- In development cooperation, many revolving funds initially draw on donor funds, which is true of credit funds and of guarantee funds. In the majority of cases, users who provide financing are scarcely involved in enabling the fund. Although there are no technical objections to 100% financing, experiences show that the financial involvement of the target group is a major precondition for successfully achieving the aim of the fund. Participation in a revolving fund by a donor may be in the form of grants, interest-free advances, loans, combinations of any of these and guarantees. However, dependence on donor funding should be temporary and gradually phased out. As regards advances and loans to the

revolving fund, the multi-year financial prognoses relating to the fund should indicate when repayment will be possible and include the schedule for phasing out guarantees.

- By definition a revolving fund handles capital raised with a certain purpose that can be made available to the same users more than once. ‘Revolving’ indicates that the fund’s resources circulate between the fund and the users. Revolving funds are intended to be self-sufficient and sustainable.
- Revolving funds are established in order to achieve a particular purpose or assist a particular target group. This would be possible if the continuity of purpose and/or target group were guaranteed. However, conflicts may occur if the purpose cannot be achieved or the target groups can be assisted in some other way. It is important to consider whether the goal can be attained effectively by means of an independent revolving fund or through a revolving fund associated with the existing institutions. One has to analyse the situation in terms of risk factors, securities, profitability, institutional policies, past experiences, availability of funds, etc. and adopt appropriate solutions (UN-Habitat, 2006).

Recommendations of Interviewees:

- The fund can negotiate with project owners to bet on the success of the project so that the fund has a part of the income the project generates (3-5 years). The fund is thus connected to the success of the project.
- Risk concerning timing and amount of repayment: Agree on fixed repayment schedule, rather than one that is contingent on certain events occurring.
- Often when the developer changes you don't get the investment back. Make sure to work with one developer throughout the project.
- Negotiating repayment terms that give certainty over the timing and amount of repayment.
- By investing larger funds in multiple projects, there is a greater likelihood of receipts coming back to the revolving infrastructure fund sooner, which then enables earlier opportunities for re-investment (Homes and Communities Agency, 2012).

## 102 Database

One of the recommendations of this study is that a database of existing project preparation facilities and funds would facilitate understanding the performance of the existing facilities. It would also help the municipal project owner to get an overview of funding possibilities. The Infrastructure Consortium for Africa (ICA) Fund Finder, which was launched in September 2012, gives a good overview of existing project preparation facilities, funding and services in African infrastructure. Talks with the ICA representatives and people in charge of the ICA Fund Finder have shown that there is a substantial interest in cooperating and enhancing the existing Fund Finder together with GIB. The GIB scoping study recommends finding ways to cooperate with this platform to work on developing a global fund finder.

A fund finder is a lot of work and needs resources and a sustainable financing model. Earlier attempts of ICA to launch a market place for African Infrastructure (under the name Sokoni) were unsuccessful in part because the required investments were underestimated. It would be advisable to look into the proceedings of this platform to learn about quality control.

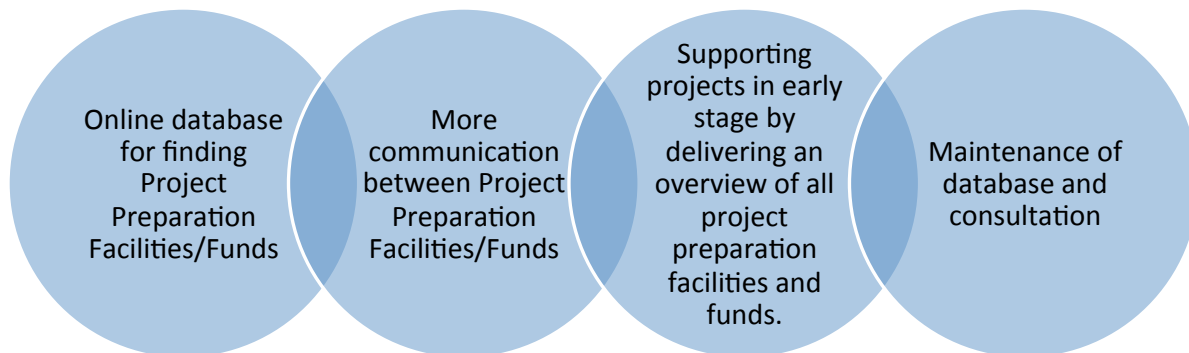


Figure 6: Major benefits of GIB Database

## 11 Conclusion

This scoping study provides a thorough overview and analysis of the existing situation in early stage project financing. It confirms the lack of a comprehensive sustainability approach, and of financing and capacity for projects that need to conduct pre-feasibility and feasibility studies. Feasibility studies form the basis for both the implementation of a project and the bidding and procurement processes. Additionally, they represent a critical moment for ensuring sustainability. Despite the importance of this step in the cycle of a sustainable project, many projects, particularly in developing countries, are stuck in the “valley of death” between a good idea or needs assessment and the financing of feasibility studies or business plans.

Moreover, it is difficult for projects to access financing from existing project preparation facilities because there is no simple way to get an overview of existing funding possibilities.

Existing early stage support does not apply a distinct set of comprehensive sustainability criteria for assuring the sustainability of potential infrastructure investment cases.

In response to those existing gaps, the study suggests a Sustainable Infrastructure Project Preparation Facility as a Revolving Fund, which invests in early stage projects and ensures the sustainability of a project in its initial stages. GIB Grading will be applied to scrutinise, preselect (and potentially also redesign) projects before bankability studies are conducted. This process will not only improve the sustainability of a project, but also attract potential investors by de-risking their investment. The facility will be designed as a revolving fund with a blend of philanthropic and commercial capital.

A second recommendation of this study is that a database of existing project preparation facilities and funds would facilitate a better understanding of the performance of the existing facilities. It



would also help the municipal project owner to get an overview of funding possibilities and aim to foster the communication between project preparation facilities and funds. Such a database could be established in cooperation with the existing ICA Fund Finder. First talks with the ICA have shown a substantial interest in extending the ICA Fund Finder into a global database.

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## 131 Questionnaire

This questionnaire was the basis for interviews with project development experts, donors, etc.

A. Please state the focus of your selection criteria

Geographical Focus

Infrastructure Sector

Technology

Max. Funding Amount for Feasibility Study

Beneficiaries

Financing Terms

Investment Criteria

B. Please state the steps of the submission process.

C. Terms and obligations of project owner

Please state conditions other than financial terms the project owners has to agree with to get funding for a feasibility study

Which obligations do the project owners have after receiving the funding for a feasibility study?

Is there pure grant funding for feasibility studies in your institution? If yes, what are the criteria for a grant?

Is the project independent concerning the financing and procurement of technology?

D. How would your institution like to get involved in a Feasibility Study Facility/Platform?

E. What is your main interest in funding feasibility studies?

## 132 Institutions contacted by GIB

The Adaptation Fund

Asian Development Bank (ADB)

Arab Financing Facility for Infrastructure (AFFI)

Africa50

Banco Nacional de Desenvolvimento Econômico e Social (BNDES)

C40 Cities: Climate Leadership

Cities Development Initiative for Asia (CDIA)

City of Aberdeen



City of Cape Town  
Development Bank of Southern Africa (DBSA)  
Earth Capital Partners  
European Bank for Reconstruction and Development (EBRD)  
EU-Africa Infrastructure Trust Fund  
Infrastructure Consortium for Africa (ICA)  
ICLEI- Resilient Cities  
IISD International Institute on Sustainable Development  
Inter-American Development Bank (IDB)  
International Finance Corporation (IFC)  
Kreditanstalt für Wiederaufbau (KFW)  
The New Partnership for Africa's Development (NEPAD)  
National Infrastructure Information System (NIIS)  
The Private Infrastructure Development Group (PIDG)  
UNDP - Global Environment Facility  
World Bank