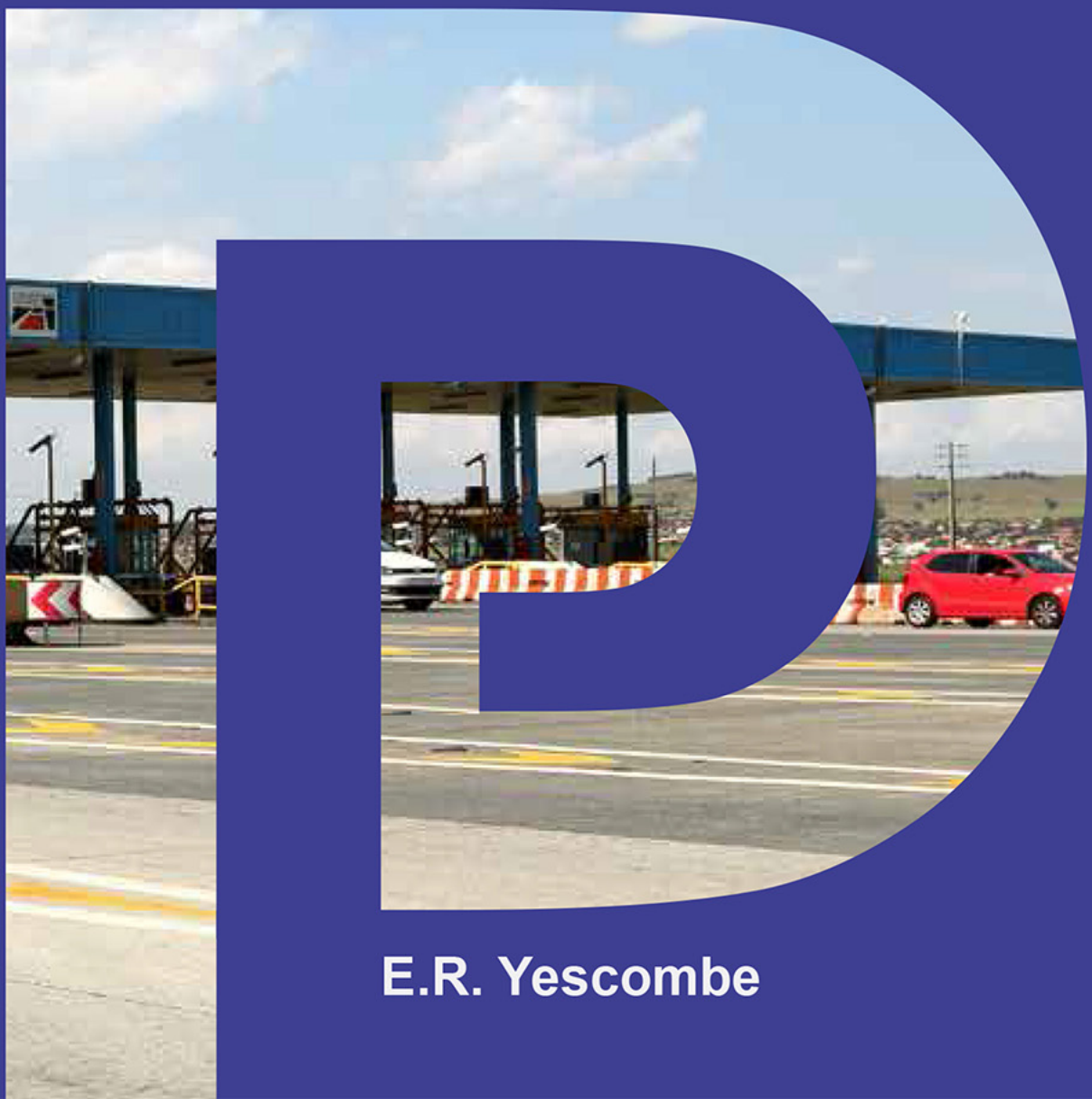
Public-Private Partnerships in Sub-Saharan Africa

Case Studies for Policymakers

2017



E.R. Yescombe

Public-private partnerships (PPPs) for infrastructure involve the private sector in designing, building, financing and operating public infrastructure in sectors such as power generation, transportation (e.g. toll roads or railways), utilities (e.g. water supply), social infrastructure (e.g. hospitals) and government accommodation. Unlike privatisation, infrastructure procured through a PPP remains a public-sector asset. The growth in PPPs has been attributed to several reasons, including increased efficiency in project delivery and operation; reinforcing competition; access to advanced technology; and reducing government budgetary constraints by accessing private capital.

The development of PPPs in sub-Saharan Africa has been relatively slow compared to other parts of the developing world but is now gathering pace. These case studies are intended to give policymakers in sub-Saharan Africa an insight into the 'real world' of PPPs in the region. The case studies illustrate some of the key policy issues that have to be considered, and obstacles that have to be overcome, both when procuring a PPP and while managing the PPP contract over its life. Lessons learned from these case studies can be used to shape more effective PPP policies.

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ISBN 978-9976-9913-2-1

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Published by:
Mkuki na Nyota for UONGOZI Institute
P.O. Box 4246
Dar es Salaam
www.mkukinanyota.com

ISBN 978-9976-9913-2-1

Suggested Citation: Yescombe, E.R. (2017), Public-Private Partnerships in Sub-Saharan Africa: Case Studies for Policymakers, Dar es Salaam: UONGOZI Institute, Mkuki na Nyota Publishers.

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INTRODUCTION

Public-private partnerships (PPPs), *i.e.* private finance for public infrastructure, are now emerging as a viable source of infrastructure investment in developing countries. A successful PPP arrangement capitalises on the strengths of both the private and the public sector to provide a better and more cost-effective public service, and speed up the rate of its implementation or coverage. The growth in PPPs has been attributed to several reasons, including increased efficiency in project delivery and operation; reinforcing competition; access to advanced technology; and reducing government budgetary constraints by accessing private capital. Although there are many successful PPP projects worldwide, there are also examples of costly failures that have negatively affected development. The question then arises as to under what conditions do PPPs create win-win situations as a result of mutual benefits or socioeconomic symbiosis.

The 10 cases that are the subject of this study are intended to give public-sector policymakers in sub-Saharan Africa an insight into the many practical policy issues that arise in real-world PPP projects. The projects are from a variety of countries and sectors, as shown in the table below:

Project name	Country	Sector
Bujagali Hydropower	Uganda	Power generation
Cenpower	Ghana	Power generation
DTI Campus	South Africa	Government accommodation
KivuWatt	Rwanda	Power generation
Lekki Expressway	Nigeria	Toll road
Mbombela Water	South Africa	Water & sewage distribution
Platinum Highway	South Africa	Toll road
Rift Valley Railways	Kenya/Uganda	Railway
Songas	Tanzania	Power generation
Tšepong	Lesotho	Social infrastructure (hospital)

Despite the projects' varied sectors and geographical locations, there is much in common in the policy issues that occur in them. The Case Studies provide significant lessons for African governments wishing to implement successful PPP projects, many of which are cross-cutting between different projects. Examples of some of the conclusions that can be drawn from the Case Studies include:

General Issues

PPPs versus public procurement. PPPs are perceived as complex to procure, whereas conventional public procurement is quicker and simpler. It is true that PPP procurements are complex, the reasons for this being mainly that the procurement covers not only the construction of the infrastructure, but also its operation and maintenance for a long period of time, and that the requirements of private-sector investors and lenders have to be taken into account. However, a carefully-structured PPP procurement is often likely to produce a better result than conventional procurement precisely because a lot of time and trouble has been spent on it. For example, PPPs are far less likely to suffer cost overruns or completion delays, and far more likely to be maintained properly over the long term. Moreover, a PPP can be delivered quickly when the government's budget is too tight for an immediate public procurement, thus accelerating economic or social development.

Political support. It is essential for a PPP programme to have strong political support, as well as the consensus of opposition parties. This support is needed from the highest level, *e.g.* to ensure that civil servants or other employees of public entities do not obstruct progress because they fear for their jobs. Similarly, if the opposition parties attack PPPs this will make investors and lenders uneasy, as they will be concerned that they will face difficulties if these parties become the government. And of course, the government has to sell the PPP programme to citizens in general.

Political interference. At the same time, government should resist the temptation to interfere with a PPP project—for example, putting pressure on a toll-road concession not to increase its tolls even though this is allowed in the concessions agreement.

Sectoral reform. A PPP project does not exist in isolation, and may face difficulties if the sector in which it operates is not soundly based. For example, a sophisticated new hospital may get overwhelmed with patients if primary clinics and local hospitals are not properly resourced. Similarly, a programme of private-sector power generation is likely to face problems if electricity users do not pay the full cost of power, so leaving a state power company short of resources to pay for the power.

Project Structuring

Affordability. This has been one of the main obstacles to development of social-sector PPPs (*e.g.* schools and hospitals) in the region. Government budgets can be predicted for only a relatively short term, but a social-sector PPP needs to be paid for over a prolonged period. Similarly, in the case of a toll-road, the tolls have to be affordable for drivers.

Risk transfer. Transfer of risk to the private sector is a key element of PPPs. But all risks can never be completely transferred, since the private sector will take on only the risks it can control, such as construction, but not those it cannot control, such as land acquisition for a new road.

Procurement

Governance. PPP procurements require an appropriate governance structure. This is typically on three levels:

- a project team consisting of civil servants and their advisers (including someone from the country's central PPP unit) working on the project on a day-to-day basis, preparing specifications and the PPP contract, negotiating with bidders, and so on;
- a project board consisting of senior civil servants at or near permanent secretary level from both the line ministry, the ministry of finance and other relevant government bodies, which supervises the team;
- the project board reports to ministers and in due course seeks their approval to proceed with the project when the procurement is finalised.

Pre-qualification. This is usually necessary in a PPP procurement because the investor group has to include parties with financial capacity and a track record of undertaking PPPs successfully. This is likely to mean combinations of local and international investors in the early stages of a PPP programme.

Unsolicited bids. The success rate of PPPs derived from unsolicited bids is quite low: contracts are often awarded to bidders that have little hope of pulling together both the financing and the expertise, and such bids divert government personnel away from a running a well-managed PPP programme.

Finance

Currency risk. Most PPPs generate revenues in local currencies, but typically (with the exception of South Africa and perhaps Nigeria), local financing markets cannot provide the long-term finance required. This means borrowing in foreign currencies, but investors and lenders are not usually prepared to take the risk of depreciation of the local currency, and so the host country has to assume this risk in some way.

Construction phase

Risk transfer. This is usually the high-risk phase of a PPP, and some of the Case Studies show that significant losses, *e.g.* resulting from unexpected ground conditions, can be incurred by the private sector, so illustrating that real risk transfer is taking place.

Operation phase

Monitoring. Monitoring throughout the PPP contract is essential to ensure that a PPP produces the required outcomes. Budgets, staffing (probably including the continued employment of external advisers for some years) and training all need to be organised by the public-sector side well before the negotiations are complete, to ensure a smooth transition.

Handback

Asset reversion. When most PPP contracts come to an end the infrastructure asset is returned to public-sector control. (PPP assets usually remain in the ownership of the public sector throughout the term of a PPP contract.) Appropriate provisions are needed in the PPP contract to ensure that the asset is returned in a well-maintained condition.

-oOo-

These Case Studies are a mixture of success and failure, and lessons can be learned from both. But they have all been successes in the sense that they resulted in investments in public infrastructure that most probably would not otherwise have taken place at the time they did, if at all. In each of the case studies it is worth considering the counterfactual: what would have happened if a PPP had not been used to build this project? Would it have been possible for the public sector to build it? Would it have been built quicker by the public sector? Would it have been cheaper? Would the final result have been better?

-oOo-

PUBLIC-PRIVATE PARTNERSHIPS – A BRIEF OVERVIEW

Defining PPPs

The term 'public-private partnerships', or 'PPPs' has a number of quite different meanings, so it is necessary to begin by defining it for the purposes of these Case Studies, as follows:

- A long-term contract* between a public-sector entity† (the 'public authority') and a private-sector entity (the 'project company'‡), involving significant risk transfer to the private sector.
- Under this contract the project company is responsible for the design, building (or upgrading), finance, operation and maintenance of public infrastructure (the 'asset').
- The private-sector financial investment is repaid from revenues generated by the asset under the terms of the PPP contract, payable either by users of the asset (*e.g.* a toll-road concession) or by the public authority (*e.g.* government accommodation), or a combination of the two.
- At the end of the PPP contract,§ the asset usually remains in, or reverts to, public-sector ownership. (Thus, a PPP is not the same thing as privatisation.¶)

PPPs can be divided into three main types:**

- *Process-plant projects*. These were the first type of PPP to be developed in emerging markets. The public authority pays the project company to process something—the most common example is a power-generation project, in which the public

* A PPP contract may be known by a variety of different names, depending on the sector, such as 'concession contract', 'project agreement' or 'power-purchase agreement' (PPA). However, the principles behind all these types of contract are similar.

† The public-sector entity may be a central government ministry or department, a state agency, a state-controlled company, a provincial government (or one of its ministries, departments or agencies) or a county or municipal government.

‡ The project company may be referred to as the SPV (= special-purpose vehicle), because it has been set up for the specific purpose of undertaking the project, and undertakes no business unrelated to the project. Other terms such as 'contractor' or 'private party' may also be used.

§ PPP contracts typically run between 15 and 30 years.

¶ PPPs are therefore potentially useful for introducing private-sector finance into infrastructure sectors that it is not considered appropriate to privatise.

** Other terminology is also used for projects involving private finance for public infrastructure such as 'BOT' (build-operate-transfer), 'BOOT' (build-own-operate-transfer) or 'BLOT' (build-lease-operate-transfer), 'DBFO' (design-build-finance-operate). However, these are usually just PPPs, as defined above, by another name.

authority pays the project company to process a fuel to produce electricity.* Other examples include power transmission, bulk-water supply, waste-water treatment and oil or gas pipelines.

- *Concessions*. The user pays for using the asset. The most common example is toll roads, where payments are made by drivers. Other examples include railways, ports or airports where the project company is paid by corporate users (*e.g.* a shipping company paying port fees) or water-distribution or sewage-treatment projects where payments are made by individual households.
- *Availability-based PPPs*. The public authority pays the project company for making the project available. Examples include social-infrastructure projects such as schools and hospitals, and government accommodation.

All three types of PPP are represented in these Case Studies.

PPP Contract – Payment Structure

Payments under a PPP contract,† whether by the public authority or by users, have to be calculated to cover

- the project's operating and maintenance (O&M) costs
- the debt service (*i.e.* interest payments and principal repayments)
- the investors' required return on their investment.

However, this applies only if the project's construction is completed on time and on budget (payments usually begin when the construction of the project is complete, so if the project is completed late the project company will usually lose revenue), and the project operates as required under the PPP contract. If it does not operate or provide services as agreed, deductions are usually made from the PPP payments. These deductions are often based on 'Key Performance Indicators' (KPIs), *i.e.* targets for service provision or other aspects of the project; if these KPIs are not met, the PPP contract specifies levels of deductions for these failures.

Financing PPPs

The methodology used for financing most major PPPs is known as 'project finance'.‡ This is a specialised form of finance that relies primarily on the cash flow of the project rather than a corporate balance sheet or the value of physical assets. There are usually two sources of finance in a project financing:

* These are commonly known as 'independent power projects' (IPPs) because power is generated by a private entity independent of the state-owned power grid or electricity distributor. The fuel may be a commodity such as gas or oil, or a natural source of energy such as water, wind or the sun. IPPs are the most common type of PPP in sub-Saharan Africa.

† Again, there are a variety of names for these payments, including tolls for a road concession, tariff for a power-generation project and 'unitary fee' for an availability-based PPP. The latter term, which reflects British usage, means that a single (or unitary) payment is made both to repay the capital costs of the project and its continuing O&M costs.

‡ Project finance is used for wholly private-sector projects as well as PPPs, *e.g.* power generation in a privatised electricity market.

- *Investors*. Investors develop the project (or bid for it in a competitive procurement).* They receive a relatively high rate of return if a project goes well,† but are the first to lose money if a project goes badly. Investors usually finance 15–40% of the total project cost.‡
- *Lenders*. Lenders receive a fixed rate of return, meaning that if the project goes well they do not receive any extra benefit, but if the project goes badly they lose money. Hence, lenders are more conservative about taking risks inherent in the project than investors. Lenders usually finance about 60–85% of project cost (the lower the risks the greater the percentage of finance they will offer.)§

Investors may be financial institutions (typically life-insurance companies or pension funds that have long-term liabilities that they can match with the long-term cash flow from a PPP project); these either invest directly in the project company, or *via* investment funds run by specialist infrastructure fund managers. Construction or maintenance contractors, or equipment suppliers, may also be investors as a way of securing business from the project. Development-finance institutions (DFIs)¶ may also be investors, either directly or *via* investment funds.

Lenders may be private-sector commercial banks, DFIs, export-credit agencies (ECAs), or infrastructure debt funds. DFIs and ECAs may provide guarantees to private-sector lenders rather than lending directly to a project.

Risk Transfer

PPPs are not merely an alternative way for the public sector to borrow money. A key benefit of PPPs is the transfer of risk from the public to the private sector, which adds value to a PPP from the public-sector point of view (because there is value in avoiding risks).

The basic principle behind risk transfer in PPPs is that the public authority should transfer risks to the private sector if the private sector can handle the risk, and it is cost-effective to transfer the risk (*i.e.* if the private sector charges more for taking on the risk than the public authority considers it is worth, it may be better to retain the risk in the public sector).

Project risks can be classified under a number of categories, *e.g.*:

- *Construction risks*. The risk that a project may not be completed on-time, on-budget and to the required specification.
- *Usage risk*. The risk that the project is not used to the extent projected.
- *Revenue risk*. The risk that a project's revenue is lower than projected.

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* The lead investors who develop or bid for the project are known as sponsors.

† One common measurement of return for investors is the internal rate of return (IRR) on the funds invested, derived from the project's cash flow, known as the 'equity IRR'.

‡ Investors invest in the shares of the project company. Alternatively, theyA large proportion of this investment may invest mainlybe made through shareholder loans that are subordinated to the lenders' debt (for tax or accounting reasons).

§ The external lenders are often called 'senior lenders', reflecting the fact that if there is a shortage of cash flow or the project is terminated, their debt will be paid before any subordinated debt provided by the investors. 'Mezzanine' loans also found in some cases. These are loans that rank in between the senior and subordinated debt in terms of payment.

¶ DFIs include multilateral DFIs such as the World Bank or the African Development Bank (AfDB) or bilateral DFIs based in one country, such as Development Bank of Southern Africa (DBSA).

- *Operating risk*. The risk that the project does not perform as expected or that O&M costs are higher than projected.
- *Macro-economic risks*. Risks such as currency exchange-rate movements (where a project has revenues in one currency but debt in another), interest-rate fluctuations, or inflation.
- *Regulatory risk*. The risk that there may be a change in law or regulations that affect the project's viability.
- *Political risk*. The risk of inappropriate government interference with the project, or of civil unrest or war.

As mentioned above, the project company's lenders are conservative about risk. Therefore, where possible they wish to see the project company transfer risks to other parties. For example, construction risk is usually transferred by the project company to a construction subcontractor through a turnkey contract, under which the latter quotes a fixed price for design and construction and pays penalties if the project is not completed on time and to specification.* In the same way, O&M risks are often transferred, partially or wholly, to an O&M subcontractor. Some risks are not so easily transferred this way, *e.g.* the usage and hence revenue risk for a toll road, and so may be retained by the project company. In such cases the public authority may give a guarantee (*e.g.* of the minimum level of traffic using a toll road) or similar support to reduce the risk.† Similarly, in an availability-based PPP such as a government office, the public authority has to pay for all the space in the building even if its space requirements are reduced later on, and hence the public authority takes the usage risk.

PPPs and Public Procurement

The procurement of a PPP is challenging for public officials, because it requires them to do things that are not usual in conventional public procurement (and for which they may not have the skills, unless they are provided with capacity-building support):

- As a PPP involves not just the construction but also the long-term operation and maintenance of public infrastructure, the PPP contract, and hence the procurement, has to take into account the long-term performance, maintenance and other operating requirements of the asset.
- As part of this process, project risks need to be analysed in great detail and decisions must be taken on the allocation of risk between the public and private sector.
- PPPs use external finance rather than the public budget, and hence the procurement has to take the requirements of external investors and lenders into account.

The result is that the planning and preparation process for a PPP procurement is significantly more complex than for a conventional procurement.

* Typical names for this type of contract are a 'design & build' (D&B) contract where it relates primarily to civil works (such as a road), or an 'engineering, procurement and construction' (EPC) contract where it includes a large proportion of equipment, such as a power station.

† Based on the principles of risk allocation outlined above, the argument for the public authority to retain, say, traffic risk, is that the project company can do little to influence the amount of traffic on a toll road, which is a function of such things as the general state of the economy, its connection to the rest of the road network and the price of fuel.

Why Use PPPs for Public Infrastructure?

As this brief overview suggests, PPPs are complex. The obvious question for a public authority is, 'Why do we need to do this?' There are a number of possible answers to this question:

- Budgetary and borrowing constraints may mean that this is the only way the project can be procured in the near future. This is probably the most common reason for using PPPs in sub-Saharan Africa.
- Developing the project in the near future, rather than later on when there is a budget for it, accelerates overall economic development.
- Using PPPs for infrastructure development frees up government resources for other uses (including other infrastructure for which a PPP is not suitable).
- Private-sector efficiency and innovation may produce a better result. The incentives for good project management and the penalties for bad management are stronger in the private sector than in the public sector.
- The public sector is forced into long-term thinking and budgeting. The detailed analysis that has to be undertaken should ensure that all aspects of the project are considered in great depth, making it more likely that the procurement will succeed.
- A PPP can avoid the construction-cost and time overruns typical in many public projects.
- A PPP ensures that long-term maintenance is always carried out, as this is built into the PPP contract. The public sector is notoriously bad at maintaining its infrastructure.

Of course, there are arguments the other way—a PPP is not a simple either-or decision.

- 'The government can borrow the money cheaper' is an argument often used against PPPs. This is true, but that is because a lender to the government is not taking any risk on any particular project. However, the risk does not disappear; it is just being taken separately by the government. Therefore, the cost of this risk should in effect be added to the cost of government borrowing before comparing its cost with that of a PPP.* But it is difficult to decide what the cost of a risk should actually be, and any such calculation must depend on assumptions that can easily be challenged.
- Also, a PPP may be too complex for public-sector officials to handle, both during the procurement stage and in monitoring the contract thereafter. If so, its benefits, such as risk transfer, may be lost.
- It may be claimed that in a PPP the public authority is unnecessarily locked into a long-term contract. But if an asset is built by the public sector is still has to be used for a long period of time if its original cost is not to be wasted.
- Lack of flexibility is another argument against PPPs, and it is certainly true that making major changes in a PPP contract may be expensive.† The problem here

* This calculation is known as a public-sector comparator (PSC). Another factor to be taken into account when comparing public-sector procurement with a PPP is that the latter usually pays more tax.

† Procedures for minor changes, and the costing of these, can be set out in the contract. A procedure for major changes can also be documented, but it is unlikely that the costs of these can be agreed in advance.

is that, realistically, it is impossible to anticipate all the circumstances that may arise over the life of a PPP contract and provide for them in advance.

› The main political argument against PPPs is that private companies should not be making profits out of public assets. But private companies do this all the time. If a public authority builds a new road it will employ a private contractor—who will, of course, make a profit.

Those shaping public policy on infrastructure investment, therefore, have the task of balancing arguments such as these against each other.

THE CASE STUDIES

The Case Studies reflect a cross-section of the different types of PPP project discussed above, in various different countries in the region:

Project name	Country	Sector	Type of PPP
Bujagali Hydropower	Uganda	Power generation	Process-plant (IPP)
Cenpower	Ghana	Power generation	Process-plant (IPP)
DTI Campus	South Africa	Government accommodation	Availability-based
KivuWatt	Rwanda	Power generation	Process-plant (IPP)
Lekki Expressway	Nigeria	Toll road	Concession
Mbombela Water	South Africa	Water & sewage distribution	Concession
Platinum Highway	South Africa	Toll road	Concession
Rift Valley Railways	Kenya/Uganda	Railway	Concession
Songas	Tanzania	Power generation	Process-plant (IPP)
Tšepong	Lesotho	Social infrastructure	Availability-based

The Case Studies were developed initially from desk research, followed, as far as possible, by interviews with the key project parties on both the public- and private-sector sides of the table. Draft versions of the Case Studies were later sent to those interviewed (and in some cases to other project parties not previously interviewed) for comment. This process depended on the goodwill of many people, as recognised in the acknowledgements on page 17.

Each Case Study is divided into four sections:

- a narrative history of the project up to late 2016
- a series of Policy Points setting out the key policy lessons from the Case Study
- a Fact Sheet setting out schematic information on the project, including the key parties involved (with links to their websites*), a summary of the financial structure, key events in the project's development and historical exchange rates for the local currency against the US dollar ($)†
- a Bibliography of printed and online sources of further information on the project (set out in date order).

PPP case studies often stop at financial close, *i.e.* the point at which all the project documents have been signed, financing is in place and construction can begin, or the commercial operation date (COD), *i.e.* when the project is complete and ready to begin operating. But this is only the beginning of a project—it may take years to gauge its

* For readers of the hard copy of this book, a pdf version with the hyperlinks can be downloaded from www.uongozi.or.tz.

† N.B. '¢' in the Case Studies refers to US cents; 'm' = millions; 'bn' = billions; *p.a.* = yearly.

true successes or failures, and the lessons that can be learned from these. Thus, some of these Case Studies relate to projects that reached financial close and COD years ago, while others deal with projects that reached financial close more recently but had a long and complex development history. (And of course, the story is not at an end for the projects that are the subject of this Case Study. Readers may like to do an internet search for any updated news on them.)

Despite the projects' varied sectors and geographical locations, there is much in common in the policy lessons that can be gleaned from them. These are summarised in the matrix in the table below:

Policy points	Bujagali Hydropower	Cenpower	DTI Campus	KivuWatt	Lekki Expressway	Mbombela Water	Platinum Highway	Rift Valley Railways	Songas	Tšepong
General issues										
PPPs *v.* public procurement			X			X			X	
Political support	X			X						
Political interference					X				X	
Sectoral reform	X								X	
Legal/institutional framework		X			X	X				
Capacity building		X		X						
Bi-national project								X		
Project structuring										
Affordability			X							X
Contract scope								X		X
Risk transfer	X			X	X					
Stakeholder consultation					X	X	X			
Transfer of staff						X		X		
SME involvement			X							
Excess demand							X			X
Excessive optimism							X			
Interface risk		X							X	
Network connections	X			X						X
Old & complex systems								X		
Sub-sovereign risk					X					
Procurement										
Marketing								X		
Procurement governance								X		
External advisers					X			X		
Sponsors/pre-qualification	X			X				X		
Development risk		X							X	

Policy points	Bujagali Hydropower	Cenpower	DTI Campus	KivuWatt	Lekki Expressway	Mbombela Water	Platinum Highway	Rift Valley Railways	Songas	Tsepong
Procurement (Contd.)										
Africanisation		X					X			
Unsolicited bids		X							X	
'Deal creep'			X							
Split procurement	X									
Cancelling a procurement								X		
Finance										
Financial-market development					X		X			
Lender requirements		X								
Guarantee not the 'first way out'		X								
Interest-rate risk		X					X			
Currency risk	X	X		X	X			X	X	
PPP contract/debt profiles	X			X			X			
Capital grants						X			X	X
Debt guarantee					X	X	X			
DFI support									X	
Inflation indexation			X			X	X			X
Refinancing							X			
Sale of shareholdings	X	X	X				X			
PPP with no private finance									X	
Construction phase										
Currency risk										
Late completion		X		X						
Operation phase										
Monitoring			X			X				X
Long-term maintenance			X				X			
Change in law						X	X			
Long-term flexibility			X							X
Continuous investment						X		X		
Cost cutting	X									
Handback										
Asset reversion			X						X	

Explanations of and discussions on the issues set out in the matrix above will be found in the relevant cases' Policy Points.

ACKNOWLEDGEMENTS

These Case Studies depended on many people being generous with their time, whether by making themselves available for interviews, providing introductions to project parties, providing information not otherwise available, answering supplementary questions by phone or email, or reviewing drafts of the Case Studies. UONGOZI Institute and the author are most grateful for this help.

The names of some of those who helped in these ways are set out below. Those listed have no responsibility either for the contents of the Case Studies or the conclusions drawn. Some other people preferred not to be acknowledged publicly.

James Aiello, Senior Project Advisor, PPP Unit, Government Technical Advisory Centre, Pretoria

Nazir Alli, Chief Executive Officer, South African National Roads Agency, Pretoria

Oliver Andrews, Executive Director & Chief Investment Officer, Africa Finance Corporation, Lagos

Orli Arav, Director of Investments, Soros Economic Development Fund, London

Emuobo Ayoade, Associate Director, Head FBN Capital Agency Services, FBN Capital, Lagos

Graeme Blewitt, Chief Executive Officer, Bakwena Platinum Corridor Concessionaire, Centurion Bujagali Energy Ltd personnel

Juliet Byaruhanga, Private Sector Operations, African Development Bank, Kampala

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BUJAGALI HYDROPOWER (UGANDA)

Introduction

The Bujagali Hydropower plant straddles the River Nile some 8 km downstream from Lake Victoria. Completed in 2012, it is a run of the river* 250 MW plant that provides up to 50% of Uganda's energy demand. The plant has maintained a high level of reliability: its availability has been in excess of 99%. It operates as base load in the Uganda electricity system with an average plant factor† of 67%, but the full 250 MW may be required during the evening peak hours. This was the first independent power project (IPP) in sub-Saharan Africa and remains one of the largest, with an investment of some $900m.

Project Development

The success of the plant today belies its notorious and lengthy development history: it took well over 20 years for it to reach financial close. This history can be divided into two distinct phases:‡

- **Bujagali I (1994–2003)**. Studies in the 1980s concluded that large-scale hydropower using the River Nile was the most cost-effective way of increasing Uganda's electricity generation. These led to the US power developer AES Corporation (AES) making an unsolicited bid to construct the project in 1994, following which AES and the Government of Uganda (GoU) signed a memorandum of understanding. In 2003, however, having spent $75m on project development, AES pulled out of the project. There were various reasons behind this: AES itself was under financial pressure following the collapse of Enron Corporation; there was opposition to the project on environmental and social grounds and there were accusations of bribery. The site, works and some plant and equipment reverted to GoU.
- **Bujagali II (2003 onwards)**. Following AES's withdrawal, the project in effect started again, albeit with the advantage of the technical, design and costing work done for AES. A competitive procurement process took place and the project reached financial close in 2008 and began operations in 2012. This Case Study relates primarily to Bujagali II.

In the mid-2000s most of Uganda's electricity was generated by hydro sources, in particular, two dams with a notional capacity of 380 MW but an actual output well below

* *i.e.* it does not require a large dam but only a comparatively small holding reservoir. However, this reservoir inundated Bujagali Falls, a tourist attraction that was also said to have some religious significance to local people, and it slows down the rate of water flow upstream back to Lake Victoria.

† *i.e.* the ratio of output over time to its rated capacity.

‡ In fact, the history goes back a lot further: the. The Bujagali project was first proposed in 1957 and originally approved by GoU in 1965. However political unrest in Uganda, and limited interest from DFIs, meant that no progress was made at that time.

this, exacerbated by 40% distribution losses. Uganda therefore had developed a serious deficiency in generation. Rolling blackouts were the norm and expensive temporary diesel generation had to be brought into the country, resulting in consumer tariff increases making retail tariffs in Uganda amongst the highest in Africa.* It was vital to revive Bujagali after AES withdrew as the best long-term solution to this situation, and to avoid a real constraint on Uganda's economic development.

Power-Sector Reform

One result of the previous work on Bujagali I was a major reform of the electricity industry in Uganda in 2001. The aims of the reform were to reduce subsidies and hence free up finance for other development needs, and to improve efficiency by bringing in private-sector participation. The state-owned Uganda Electricity Board was split into separate companies covering generation (Uganda Electricity Generation Company Ltd [UEGCL]), transmission (Uganda Electricity Transmission Company Ltd [UETCL]) and distribution (Uganda Electricity Distribution Company Ltd). A regulator (Electricity Regulatory Authority [ERA]) was created to supervise the industry.

UEGCL's two existing hydropower plants are operated by a subsidiary of Eskom (South Africa) under a 20-year concession from UEGCL signed in 2002. The distribution network is operated under a concession with UETCL by Umeme Co. Ltd, originally owned by Eskom and Globeleq (see **Songas**), then by Globeleq alone. It was floated on the Nairobi and Kampala stock exchanges in 2012. Umeme's consumer tariffs are based on full cost recovery. UETCL remains state-owned, and is the public authority in the Bujagali project.

Bujagali II: Procurement

When the project was restarted after AES's withdrawal, GoU had no choice but to continue to pursue the PPP route. The government did not have access to funding on the scale required, partly because the International Development Association (IDA) had imposed a limit of new funding of $200m *p.a.* A PPP, even with the government guarantees described below, did not count against this borrowing limit. But apart from the budgetary reason for pursuing this project as a PPP, another key reason for GoU doing the project in the private sector was that GoU felt it would be done better: investors had equity stakes that they needed to protect by managing it well; incentives for good management in the public sector are not as strong.

GoU's procurement approach for Bujagali II was unusual, being undertaken in two stages. The first stage was procurement of the investors who would develop the project, and the second the procurement of an EPC contractor. The electricity-sector reforms benefited the tender processes as they clearly placed the Bujagali project in a far more financially-sound environment.

In the first procurement stage (beginning in 2004), following a pre-qualification stage bids by prospective investors were evaluated on only four criteria—the bidders' proposed development costs, required level of equity return, the cost of supervising the construction of the transmission line, and the O&M costs. These four factors are the main aspects of an IPP project's costs that a developer can control directly. Other costs

* As a further result, Uganda also had one of the lowest *per capita* consumption of electricity in Africa.

such as that of the EPC contract, or the cost of finance, are mainly determined by the market. Thus, the EPC contract and the debt were procured separately.*

The winning bid, with a required equity return of 19%, was made by a consortium led by an affiliate of the Aga Khan Fund for Economic Development (AKFED), already a significant investor in East Africa, with Sithe Global Energy (Sithe) a successful US power-project developer.

In the second procurement stage in 2004–2005, the project company, Bujagali Energy Ltd (BEL) set up by AKFED and Sithe ran an international tender for the procurement of an EPC contractor, which was won by Salini of Italy. This procurement was on an open-book approach, *i.e.* with all information provided to UETCL. It could be cynically suggested that BEL had no interest in the outcome, since the costs would be effectively borne by UETCL. However, there was no reason for BEL not to run a competitive and fair procurement and this seems to have been the case.

Salini priced its bid in euros, which meant that it went up in US dollar terms before financial close, when there could be no hedging of this currency risk (because Salini could not be certain when or even whether financial close would be reached). Thereafter currency hedging fixed the price in US dollars.

Power-Purchase Agreement

Key terms of the power-purchase agreement (PPA) signed between BEL and UETCL included:

- BEL was responsible for the design, construction, finance and operation of the project.
- The PPA term was 30 years from the completion of construction.
- The tariff primarily consists of a capacity charge reflecting the fixed costs of construction under the EPC contract and agreed O&M costs.
- The current tariff is about 11.5¢/kWh.† It will reduce to about 6¢ when the debt is repaid.
- UETCL assumed the sub-surface (geotechnical) risk relating to building on the river bed.
- UETCL also took the hydrology risk, *i.e.* the availability of sufficient water (which has not been a problem for the project so far). UETCL has the right to terminate the agreements and purchase the hydropower plant in case of an extended period of extremely low hydrology.
- Despatch risk remains with UETCL, *i.e.* the tariff is paid whether or not the power is needed.‡
- At the end of the PPA the plant can be purchased by GoU for $1.
- UETCL's obligations are guaranteed by GoU. It should be noted that GoU also counter-guarantees the political-risk insurance provided by International Development Association (IDA; the World Bank Group's provider of concessionary finance to least-developed countries) and the Multilateral Investment Guarantee Agency (MIGA; the World Bank Group's investment-guarantee arm).

* To undertake this first stage of the procurement, for developers, GoU obviously needed a financial model of the project that made assumptions about the EPC and finance costs and terms, and hence how much equity the project would require.

† kWh = kilowatt hour

‡ As is normal in IPP projects, as it is UETCL that decides whether to despatch the plant or not.

- BEL was also given a tax holiday, *i.e.* it was exempted from corporate taxes for the first 10 years of operations.

In addition to the Bujagali project itself, BEL also managed a series of works on behalf and at the cost of UETCL to ensure that the power could be effectively used in the Uganda electricity system. These consisted of the construction of approximately 100 km of 132 kV transmission line, sub-stations and related works.

Equity Structure

AKFED and Sithe had different objectives on the equity structure that needed to be reconciled. Sithe did not want to make an investment of less than $100m,* which would have given it the largest equity share, but Sithe's business model made it a comparatively short-term investor, since it wanted to sell its shareholding after the project was completed and operating successfully. AKFED, as a long-term investor, did not want to see Sithe controlling the project. A compromise was reached whereby Sithe ended up with a $115m shareholding compared with AKFED's $65m (plus a further $20m for GoU in return for providing the land for the project, making $200m of equity in total), but AKFED's class of shares had greater voting rights than those of Sithe. The lenders required that Sithe should not sell its shares until three years after the commercial operation date. It was announced in 2016 that Sithe's shares were to be sold to Statkraft Norfund Power Invest AS (SN Power), a Norwegian state-owned investor in hydropower projects, and an AKFED affiliate.

Debt Finance

Raising $700m of debt for the project was a major exercise. This came from three sources:

- three major multilateral DFIs (MDFIs): International Finance Corporation (IFC; the World Bank Group's private-sector lending arm), the European Investment Bank (EIB; the European Union's DFI) and the African Development Bank (AfDB)
- bilateral DFIs from the Netherlands, France and Germany
- two private-sector commercial banks, with a political-risk guarantee from IDA.

The overall cost of the debt, including fees, was about 6.5% *p.a*. Most of the debt is repayable over 16 years, with some mezzanine debt repayable over 20 years.

In addition, MIGA, provided political-risk insurance for Sithe's equity investment.

While the involvement of the MDFIs was certainly essential, it also gave non-governmental organisations (NGOs) and other entities objecting to the project a forum to raise these objections. This Case Study does not attempt to evaluate the social and environmental issues raised†—all that can be said is that they led to a lot of extra cost and staff time for BEL, not least because each of the three MDFIs was approached in succession and undertook separate social and environmental reviews in sequence.

* Its owner, Blackstone, had a target of investing $500m in power projects worldwide and wished to limit the number of individual investments.

† See Bibliography. BEL provided $20m for investments in housing, education, health, water supply, environmental resources and business development for those affected by the project. The French DFI Agence Française de Développement (AFD) also provided funding for extension of the electricity-distribution network into rural communities near the project.

Construction

Financial close was reached in 2007. The main issue that arose during construction related to the element of construction risk left with UETCL, namely the sub-surface (geotechnical) risk. This was because the ground condition under the River Nile was not fully evaluated in advance (and more work should probably have been done on this). This risk actually materialised, and as a result there was a $50m cost overrun: however, lower interest rates than budgeted largely offset this cost. Overall, the final cost of the plant came in 5% over budget: BEL paid this excess and the tariff payable by UETCL was increased to compensate for this.

Project Operation

BEL reached its commercial operation date in 2012. The company has eight staff, covering billing, accounts, finance and government interface. Although Sithe could have undertaken the O&M rôle, it was always intended to this should be carried out by a third party. After a competitive procurement process, Gas Natural Fenosa of Spain was selected. It has about 40 people onsite, of whom three are expatriates. As said above, the plant has continued to operate smoothly since 2012. Equally, payments from UETCL are made on time and there have been very few disputes between the parties.

UETCL relies on revenues from Umeme to make its payments to BEL. Umeme's tariffs, and hence its payments to UETCL, are fixed in Ugandan shillings, whereas UETCL's obligations to BEL are in US dollars. When the project began ERA only allowed Umeme's tariffs, and hence its payments to UETCL, to be adjusted for foreign exchange movements on an annual basis, leaving UETCL with a large currency exposure. ERA now allows quarterly adjustments.

Cost of Power

BEL brought down the average cost of power considerably as it substituted for the diesel plants, whose cost was in excess of 35¢. Arguably BEL's 11.5¢/kWh is still high when new mini-hydros are being offered at a feed-in tariff of 8.5¢, but in the view of UETCL this represented a fair rate at the time and created trust in Uganda as a country for investment, completely changing the environment, so project developers now are content with much lower returns than was the case in BEL. (Moreover, as mentioned above, in due course the cost will reduce to 6¢.)

In 2015 there was some discussion in GoU circles about buying this 'expensive' project back, but this was ruled out on the grounds of not being cost effective, and diverting funds from necessary new projects to one that was already in existence.

Another approach was taken by GoU in 2016: President Museveni announced a target of reducing BEL's cost to 5¢ for industrial users to make Ugandan industry more competitive.[7] Various suggestions were made to achieve this:

- to continue the corporate tax exemption for a further period (without the exemption the tariff would rise to 13.5¢). This is easy to do if GoU wishes, but it reduces tax revenues that are needed for other purposes.
- to reduce the cost of the debt. The debt costs are comparatively high, reflecting rates at the time of their commitment around the time of the 2007–2008 financial crisis. The weighted cost of the debt seems to be about 6.25% *p.a.* However, if the

lenders funded themselves with long-term fixed-rate debt to provide these loans, reducing the cost now could create a loss for them.

- to extend the repayment of the debt.* If the debt is repaid over a longer period its annual cost will go down, even though more interest will be paid in the end. There may be some room for manœuvre here, but the tariff will reduce anyway once the debt is paid off on the original schedule.
- to reduce the 19% rate of return for equity investors. However, they would expect some compensation for this. According to press reports GoU was looking for a reduction of 5–7%. This was not agreed, and Sithe's share sale was held up as a result.

Investors and lenders have discussed these proposals with GoU, but little progress seems to have been made.

Inauguration

The project was officially inaugurated in October 2012 by President Museveni and the Aga Khan, in the presence of other regional leaders. The President said that the project was a milestone in Uganda's development efforts because it would spur more investment, which would in turn translate into jobs for Ugandans. The Aga Khan noted that Bujagali was not only a transformative development in the economic life of Uganda and the continent but also an inspiring model of how such change can be best accomplished. 'We had planners and financiers, engineers and architects, scientists and government officials, suppliers and contractors, consultants, construction workers and community leaders. And we had President Museveni and his government,' he said, adding, 'In a project of this complexity, there are surprises that occur. And when you have a number of participants working together for a five-year period, those surprises have to be addressed by consensus'.

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* This could theoretically be done through a refinancing (*cf.* **DTI Campus**).

Policy Points

General

- **Political support**. Buy-in by all relevant public-sector entities, a product of the strong political support for the project, was key to its successful implementation. There were as many as 20 people on the government side of the table at negotiation meetings, including representatives of the Ministry of Energy, UETCL, Ministry of Finance, and the ERA. Often these were at permanent secretary level. Some participants did not say a word throughout the negotiations, but when their organisation was needed it was ready. For example, when the time came to issue the generation licence, the ERA was fully informed and prepared. (But *cf.* **Rift Valley Railways** for a discussion on a more standard approach to procurement governance.)

- **Sectoral reform**. Given its size in relation to the Uganda electricity market, it would have been impossible to bring the Bujagali project to fruition without major reform to the sector, including cost-plus power distribution. Had this not been done the output from the project could probably not have been paid for. In this, as in other cases, a PPP project cannot be viewed in isolation: the sector of the economy in which it operates has to be ready to receive it.

Project Structuring

- **Risk transfer**. It does not make sense for a PPP to attempt to transfer risks to the private sector that the latter cannot easily control or pay for. In this case if GoU had required BEL to take the geotechnical risks on the river bed or the hydrological risk, the EPC contractor in the former case and BEL itself in the latter case would have added a considerable contingency margin to their pricing that most likely would have been more than GoU has actually had to pay (*cf.* **KivuWatt**).

- **Network connections**. It would have been pointless to build a power station that was unable to despatch its power because of poor grid connections. In any PPP project, it is important to make the necessary investment 'outside the fence' to ensure that the project's output can be absorbed in the system within which it operates. In this case, by dealing with the sub-station and grid upgrade in parallel with the main project, BEL ensured that the power station did not become a stranded asset' *i.e.* unable to operate to its full capacity (*cf.* **KivuWatt**, **Tšepong**).

Procurement

- **Sponsors**. There was a good balance of investors in BEL—a combination of AKFED, a highly-respected regional investor, and Sithe, with its technical experience and strong track record in IPPs. This had a multiplier effect: it gave EPC contractors confidence, hence creating greater competition and a better EPC price; and then the quality of the EPC contractor gave lenders confidence, making it easier to raise finance on good terms, which of course benefited UETCL.

- **Split procurement**. The separate procurement of the investor-developers and the EPC contractor was unusual and clearly required a high degree of trust in the developers, but GoU (and the DFIs) appears to have been satisfied with the result. One benefit of this approach was that delays associated with public procurement were avoided. Similarly, the first procurement stage (for the sponsors) was much simpler, quicker than is usually the case, and transparent, and hence was also less open to challenge from losing bidders.

Finance

- **Currency risk**. This is one of the most difficult problems for PPPs in sub-Saharan Africa (other than those in South Africa and countries whose currencies are linked to the rand, such as Lesotho). The issue is that most of the finance for PPP projects has to be in US dollars or another major international currency because the local financial markets cannot provide either the volume or the term of finance required. But the revenues of the project are in the local currency. The only exception to this is if the project's revenues, albeit in local currency, are in some way linked to US dollars (*cf.* **Rift Valley Railways**.) So, in this case, if a dramatic decline of the Ugandan shilling *versus* the dollar takes place Umeme will probably not be able to increase its tariffs quickly enough to compensate UETCL for its US-dollar-based payments to BEL and still maintain public support. This was what happened to Indonesian IPPs in the Asian crisis of 1998.The Indonesian rupiah declined rapidly from 2,000 to 14,000 to $1, and IPP projects collapsed as this huge increase in rupiah costs could not be passed on by the state electricity-distribution company to consumers. As can be seen from the historical exchange rates in the Fact Sheet, depreciation of the Uganda shilling has somewhat accelerated in recent years.

- **PPP contract/debt profiles**. BEL has a 30-year concession, but senior debt for only 16 years (plus some subordinated debt for 20 years). This could imply that the concession is too long (*cf*. **KivuWatt**, **Platinum Highway**). However, in this case the tariff is reduced after the debt has been repaid.

- **Sale of shareholdings**. *Cf.* **Cenpower**, **DTI Campus**, **Platinum Highway**. In this case, it was the lenders rather than the public authority which restricted Sithe from selling its investment, but the aim was the same; namely, to ensure that the project is completed and operating as expected before allowing the key technical partner to exit.

Operation Phase

- **Cost-cutting**. A public authority may wish to cut the cost of a PPP contract for affordability reasons when it has been operating for several years, either because it is costing more than anticipated (*cf.* **Tšepong**), or its own anticipated budget has declined, or there is a need to cut the cost for end users, as in this case. But the scope for cost-cutting is usually limited. A PPP is a long-term commitment. What are the choices?

  - The cost of equity and debt might be reduced, as discussed above, but investors and lenders cannot be expected to give up returns that were freely agreed, and whatever happens the public authority has got to pay back the capital cost of the project. Of course, the public authority may ignore the terms of the PPP

contract and pressurise them to accept reductions or even losses, but this short-term solution will certainly affect its ability to procure further PPP projects (*cf*. **Lekki Expressway**).

- Operating costs might be cut down. This is difficult to do if, as in this case, they have been part of a competitive bid, so they will have been made as low as possible anyway.
- Maintenance might be reduced. This is a short-term solution that just makes costs greater in future; moreover, the public authority would effectively take back risk from the private sector since later issues caused by lack of maintenance will probably become its problems, not those of the project company as they should be.
- Part of the project might be mothballed, and hence the O&M costs relating to this part reduced—but this can only apply to projects that can be separated into parts in some way, which is not the case here.
- Capital expenditure might be delayed—but this is unlikely to be feasible, unless this expenditure is a continuing process (*cf*. **Mbombela Water**, **Rift Valley Railways**), rather than being largely paid up front, as is the case here.
- The existing tax benefits that BEL receives, which are due to expire, could be extended, on condition that the tariff is reduced to reflect this.
- Better monitoring of the project may ensure that the public authority does not pay costs that were not due, or is able to charge penalties for poor performance. But again, in this case there seems to be little scope for this.
- Similarly, there seems no scope for claiming the project is default and can thus be terminated.
- The PPA can probably be terminated at UETCL's option. However, savings from reduced operating costs are likely to be limited (see above). Moreover, the PPA probably provides for compensation based on the market value of the project, which would again leave little room for savings. This was obviously the analysis that led to GoU not pursuing such a termination.

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Fact Sheet

Project Name	**Bujagali Hydropower**
Country	Uganda
Project summary	250 MW hydro-electric power project on the River Nile, 10 km from Lake Victoria, plus management of the construction of approximately 100 km of 132 kV transmission line, sub-stations, and related works on behalf of UETCL (the interconnection project). Includes creation of a 3.88-km reservoir inundating Bujagali Falls.
Public authority	Uganda Electricity Transmission Company Limited (UETCL)
Project company	Bujagali Energy Ltd. (BEL)
PPP contract type / term	Power-Purchase Agreement (PPA) / 30 years from commissioning
Project cost / funding	$902m / equity $200m (22%); mezzanine (subordinated) debt $68m (8%); senior debt $634m (70%)
Investors	Sithe Global Power (Sithe) (owned by Blackstone Group) — $115m — covered by MIGA political-risk guarantee Aga Khan Fund for Economic Development (AKFED), including its affiliates Industrial Promotion Services (Kenya) Ltd and Jubilee Holdings (an insurance company) — $65m Government of Uganda (GoU) — $20m — for land contribution **Total equity — $200m** In 2016 Sithe announced that it was to sell part of its shares to Statkraft Norfund Power Invest AS (SN Power), a joint venture between Statkraft and Norfund (the Norwegian DFI) that invests in hydroelectricity projects, with the balance being purchased by AKFED's affiliate Jubilee Insurance.
Lenders	International Finance Corp. (IFC) — $128m — of which $30m subordinated European Investment Bank (EIB) — $136m African Development Bank (AfDB) — $110m **Total multilateral DFI debt — $374m** FMO (Dutch DFI) — $82m — of which $28m subordinated Proparco / AFD (French DFIs) — $72m — of which $10m subordinated DEG / KfW (German DFIs) — $59m **Total bilateral DFI debt — $213m** ABSA (Barclays Africa Group) — $58m — Covered by International Development Association (IDA) PRG Standard Chartered (UK) — $58m **Total commercial bank debt — $115m** **Total debt — $702m** Senior debt: 16 years; subordinated debt: 20 years
EPC contractor	Salini Costruttori SpA; Alstom (main subcontractor)

Project Name	**Bujagali Hydropower**
O&M contractor	Gas Natural Fenosa
Public-sector support	GoU Implementation Agreement grants right to construct and operate the project & guarantees UETCL's payment obligations
Project development	Bujagali I 1994 Unsolicited bid from AES Corporation and signature of letter of intent 2000 Bujagali PPA approved by parliament, despite objections that a project at Karuma would be more cost-effective. World Bank withdrew from project twice, once after NGO objections and once because of bribery accusations. 2003 AES withdrew from project just before Financial Close. Bujagali II 2004- New international competitive bidding process selected Sithe / AKFED 2005-7 Negotiations with EPC contractors, environmental review, resettlement - 2007 Financial close - 2012 Commercial operation

Historical exchange rates: Uganda shillings per US$1.00 (Annual, as at 1 January)	Year	Rate	*Change*	Year	Rate	*Change*
	2007	1740		2013	2683	*-9%*
	2008	1700	*+2%*	2014	2523	*+6%*
	2009	1943	*-14%*	2015	2765	*-10%*
	2010	1894	*+3%*	2016	3372	*-22%*
	2011	2310	*-22%*	1 Sep 16	3373	
	2012	2470	*-7%*			

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(N.B. relates only to Bujagali II)

(* = internet download)

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CENPOWER (GHANA)

Introduction

Electricity generation has been closely linked to the economic development of Ghana since its independence from colonial rule. At the heart of this is the 1,020 MW Akosombo Dam, operated by the state-owned Volta River Authority (VRA) since 1965. Originally, VRA's primary customer was Volta Aluminium Company Ltd (Valco), initially owned by Kaiser and Reynolds Metals, USA, which took up to 60% of its output. VRA also served a number of industrial customers as well as other domestic customers through its sales to then Electricity Corporation of Ghana (ECG),* which was set up to be the primary electricity distributor in Ghana. A further substantial part of VRA's output was exported to neighbouring countries. Domestic prices were kept below marginal costs, subsidised mainly by export sales.

Over time domestic consumption in Ghana increased, leading to a reduction in exports (even though these produced higher revenues than domestic sales). In 2004 the Government of Ghana (GoG) purchased a majority interest in Valco and the smelter closed down.† As consumers, now using a much higher proportion of the generated power, were not paying its real cost, this led to wasteful consumption, and in effect the more power it sold, the more ECG faced financial difficulties. Normalising of tariffs began in the mid-1990s but little progress was made because it was too political an issue (at a time when Ghana was returning to democracy). To meet increasing demand, in 2000 VRA completed Ghana's first major (330 MW) thermal power station at Takoradi.‡

As of 2015, with several other projects completed since Takoradi, the notional installed capacity in Ghana was 2,450 MW, but actual availability was around 2,000 MW. Factors behind this included the low level of water at Akosombo, meaning that it was operating at only 40% of its capacity. Load shedding had been taking place for several years.

Project Development

In the early 2000s it was already evident that significant further generation capacity was needed, and that the scale of investment required meant that private sector needed to get involved. In 2003 Reltub, a Ghanaian investment company, made an unsolicited proposal to GoG to build a 340 MW power plant, and set up Cenpower Generation Co. Ltd (Cenpower) to develop this independent power project (IPP).

At the same time, plans for the West Africa Gas Pipeline (WAGPCO), intended to distribute Nigerian gas to other parts of West Africa, were reaching fruition following the signing of an intergovernmental agreement in 2000. As it was intended that the new power station would use some of this gas, a project site was chosen in the Tema

* Now the state-owned Electricity Company of Ghana Ltd.

† It reopened in 2005 under government ownership, with Alcoa providing technical support.

‡ This was subsequently expanded to a 550 MW combined-cycle gas turbine (CCGT) plant in a joint venture with the US power developer CMS Energy.

industrial zone in the municipality of Kpone, some 24 km east of Accra, close to where the pipeline (completed in 2006) was to come onshore.*

In 2006, eleQtra, a UK-based developer acting on behalf of Infraco Africa (a newly-formed project-development fund owned primarily by European DFIs), became a development partner in the project. By 2007 the project site had been secured, technical studies and design work undertaken and a generating licence issued. A memorandum of understanding for a PPA was signed with ECG, covering 60% of the plant's capacity, the intention being that the balance would be supplied directly to mining companies. At that time, ECG had no external advisers, but these were later provided by USAID. The initial version of the PPA—for which there then was no standard form in Ghana—took two years of detailed negotiation thereafter and was signed in 2009.

Having reached this stage in 2009, with a considerable sum already spent in development costs, the original developers were obviously under some financial pressure. The recently-created Africa Finance Corporation (AFC), a DFI based in Nigeria, therefore took up the rôle of lead developer in 2010, paying its share of development costs to date (as well as in the future).

AFC made two major changes to the project:

- Firstly, it had become apparent that no gas would be available in the foreseeable future from WAGPCO. Although originally only 25% of its capacity was earmarked for VRA, supply was restricted because of a deficit of gas from Nigeria. (Gas was being exported elsewhere by sea.) Thus, all the gas available for Ghana had already been committed. On the other hand, in 2007 Tullow Oil made a significant discovery of offshore gas in Ghanaian waters, so it could be expected that in due course there would be gas for the project. AFC therefore took the project forward as a dual-fuel plant, using light crude oil (LCO) until gas becomes available.
- Secondly the mining companies lost interest in committing to a long-term PPA, since they considered it would be too expensive using LCO, and they believed that gas would be cheaper (which it would have been had there been a supply of gas).

AFC's involvement was valuable not only because it relieved the development-cost burden on Reltub and Infraco, but also because the arrival of a regional player made GoG more comfortable with the project. In particular, this resulted in an agreement that all the power from the project would be sold to ECG, and that GoG would provide a guarantee for ECG's financial obligations, which it had previously refused to do. However, it took another three years to renegotiate the PPA to ensure bankability.

The Power-Purchase Agreement

Key terms of the PPA, signed in 2012, included:

- Cenpower is responsible for designing, building, financing and operating the project for the 20-year term of the PPA.
- The power-sale tariff consists of three main elements:
  - A fixed payment, calculated to cover debt service and return on equity
  - A variable payment, indexed against a combination of engineering and wider economic indices, calculated to cover operating costs

* VRA's Tema thermal plants are in the same location, as is the 200 MW Asogli plant constructed by Shenzhan Energy Group of China (the latter is currently producing power on an irregular basis when it receives gas).

    - A fuel payment, calculated to cover the cost of fuel consumed, whether LCO, natural gas, or distillate. (As discussed below, ECG takes no risk on fuel supply, only the price.)
- The tariff is denominated in US dollars but payments are made in Ghana cedi.
- The initial tariff is approximately 22¢/kWh, based on LCO at $100/barrel.
- The tariff will reduce if there is a reduction in the price of LCO (and *vice versa*), or if the project is able to switch to using gas.
- Cenpower is incentivised to switch to gas within two years from the start of commercial operations as its return on equity then increases. Conversely, if this has not taken place after three years, Cenpower's return suffers until the switch is made.
- ECG took no risks on whether the project could be completed on-time, on-budget, or to the required specifications.* There are penalties due to ECG for late completion, supported by a performance bond.
- Similarly, if O&M costs are higher than expected this is Cenpower's problem.
- If the PPA is terminated because of a default by ECG (*e.g.* non-payment), ECG is required to repay the debt and compensate the equity investors.
- ECG has an option to purchase the plant for $1, plus any outstanding sums due to Cenpower, after 20 years.
- GoG guaranteed ECG's offtake and termination payment obligations.

The EPC Contract and Debt Finance

As a result of the change to a dual-fuel plant, the EPC contract was retendered. Luckily, this followed the 2008 financial crisis, when many projects were cancelled and bids were very competitive, so the EPC contract ended up some 30% cheaper than the previous estimates.

It was a key requirement of the bids that bidders should be in a position to offer debt finance for the project. The bid was won by Group Five, a major South African contractor. Export-credit finance was arranged by Rand Merchant Bank (RMB), with insurance from Export Credit Insurance Corporation of South Africa (ECIC). This was the first time that ECIC had provided cover for an IPP project. The RMB-arranged bank syndicate were insured 100% for political risks and 85% for commercial risks.†

Additional export-credit finance could have been obtained by Group Five's major subcontractors, the turbine supplier (GE, USA) and the boiler supplier (Siemens, Germany), but FMO (the Dutch DFI) had already arranged the balance of the financing required ($110m) from a syndicate of DFIs on attractive terms, and it was considered to be simpler to proceed with this rather than at least two other separate financings.

Interest-Rate Risk

The interest rate on the debt raised for the project was based on the short-term money-market rate (the London Interbank Offered Rate [LIBOR] for US dollars) because the lenders are using short-term funding. This means that the interest rate is reset to the

* As is normal. The private sector should generally be able to control such commercial risks.

† In this context, political risks include the expropriation of the project, war or political unrest, the availability of US dollars and the ability to transfer US dollars outside Ghana, and failure of GoG to pay under its guarantee of ECG. Commercial risks are simply the normal risks of any project (see page 9).

then-current market rate every six months. This is a standard way of providing long-term finance in US dollars* but it leaves the project company open to the risk that there could be an increase in interest rates that could jeopardise its financial stability. Lenders therefore generally require the project company to enter into interest-rate swaps to fix their interest rate, for which there is also an active market. The swap provider—usually a commercial bank that is also one of the lenders—pays the project company the difference between the fixed rate and the LIBOR rate if the latter is above the fixed rate, and *vice versa*. But this means that the swap provider has a credit risk on the project company if the swap fixed rate is above the LIBOR rate. This proved to be a difficult issue in Cenpower's case, as no-one was willing to take such a risk over the 20-year life of the project, given concerns on the credit of ECG, and the insurance from ECIC did not cover this swap risk. RMB finally stepped in to solve this problem by making use mainly of interest-rate caps instead of swaps. In an interest-rate cap the project company is paid the difference if the LIBOR rate goes above the capped rate, but does not pay anything if it is below the capped rate. The problem with caps is that, unlike swaps, the project company has to pay an initial lump-sum fee,† which of course adds to the project's initial costs, and hence its financing requirements, but this was the only realistic solution in this case.

Fuel Supply

Another key building block in the project structure was the fuel-supply agreement (FSA). The developers originally asked ECG to take responsibility for the supply of LCO, *i.e.* to sign a tolling contract, under which ECG would supply fuel and pay Cenpower for processing it,‡ but ECG felt unable to do this as it had no experience in this respect. (Had ECG done so it would have removed the problems over the fuel-supply arrangements set out below.)

So Cenpower concluded an FSA with Vitol Group (Netherlands), one of the world's largest oil traders. (Another key reason for appointing Vitol was that it is extensively involved with Ghana's prospective offshore gas fields.) The FSA is a take-and-pay agreement, *i.e.* Cenpower is not obliged to purchase LCO from Vitol, but if it does so it pays the market price (and ECG takes the risk on market-price movements).

But this apparently straightforward arrangement required considerable negotiations with the lenders, who were concerned about the certainty of the fuel supply, especially as Vitol was subject to limited penalties for failure to supply. (Given its limited profit margin on this type of contract, it would make no commercial sense for Vitol to accept a substantial liability for non-delivery, despite the adverse effect on Cenpower.)

The main requirement was for the construction of a fuel-storage facility holding 50 days' supply of LCO so that short-term interruptions in deliveries would not stop the project running. Such a major facility would not have been required for a gas-fired project supplied by a pipeline, and the project site did not have enough room to construct it. However, there is a tank farm immediately adjacent to the project site and it was agreed that the necessary storage would be constructed on this site. This raised some complex security issues, as the site did not belong to the project. Furthermore,

* DFIs such as the World Bank may provide financing at a fixed rate rather than this LIBOR-based 'floating' rate.

† Moreover, this fee will be wasted if the LIBOR rate does not go above the capped rate.

‡ This is a common structure in African IPPs.

the construction of the tanks was not part of the EPC contract, but was managed by Vitol on behalf of Cenpower.

This added significantly to the project's capital cost: not only did the cost of the fuel tanks have to be paid for, but the first fill of the tanks, and the LCO in transit, also had to be financed. (Thereafter the fuel used would be paid for through the tariff.) Moreover, the lenders required the cost of this initial LCO supply to be hedged, as otherwise, if the price had gone up, there would not have been enough finance available to cover the cost. This was done when the price of oil was around $100. The total additional financing required was $145m: FMO arranged a further DFI-funded $93m mezzanine loan (*i.e.* subordinated to the other debt), known as the Fuel Finance Facility, with the balance being covered by additional equity.

ECG Credit Risk

The other key concern was the credit risk on ECG as power purchaser. ECG's latest published financial statements, for 2014, show that its net loss before tax increased from GH¢22m in 2009 to GH¢148m in 2014. Like many other state power-distribution companies in sub-Saharan Africa, ECG was suffering from a combination of low tariffs, power theft and non-payment (including non-payment by the government, its largest customer). Recent government policy has begun to remedy this situation—as a result ECG made a small operating profit in 2014 for the first time for many years. It is understood that a commercially-functioning electricity sector is essential for economic development and there is a political consensus in this respect (instead of the opposition party always objecting to tariff rises). ECG's tariffs have therefore been substantially increased and are now not far below actual cost. GoG has also announced plans to inject private capital and management into ECG.

It is evident why lenders required a GoG guarantee of ECG's obligations—but such a guarantee should only be the second way out. The lenders were therefore concerned to build in cash-flow buffers to cover delays in payment by ECG. These took the form of a bank letter of credit, plus a cash reserve account (another addition to project costs) initially covering 125% of the next six months' debt service (principal repayments and interest payments).

So long as the project runs on LCO its cost to ECG is relatively high. It will reduce if the project switches to gas. However, when considering the cost of the project, the following must be borne in mind:

- Cenpower is building the sub-station, which would usually be built by the grid operator, which adds to the project's costs, as do the fuel storage arrangements.
- The estimated tariff of 22¢/kWh assumes LCO at $100 per barrel: the current price is well below that level, and if this continues the tariff will be lower.
- The alternative source of power would be temporary diesel-based generation, with a cost higher than Cenpower's.
- It is reasonable to expect that the conversion to gas-firing will take place in the next few years.

Financial Close

It took until 2014 for all these arrangements to be completed (including parliamentary approval of the GoG guarantee for ECG). At that point Infraco dropped out of the project and new shareholders came into the picture—Sumitomo Corporation of Japan (who will

operate and maintain the project in a joint venture with AFC and Cenpower's holding company), a South African infrastructure investment fund and FMO. The project is close to the schedule for completion in 2017. When operational, Cenpower will provide approximately 10% of Ghana's installed capacity and 20% of its thermal capacity.

PPP Bill 2016

In 2016 there was a slight cloud on the horizon for Cenpower, in the form of a PPP Bill that received its second reading in the Ghana parliament in July. The proposed PPP Act included 'transitional provisions' for PPPs signed after 2011, when the National PPP Policy (the Policy) was published—as is the case with this project. In such cases PPP's have to be in accordance with the Policy, or if not they need to be regularised by a new Ghana PPP Agency (the Agency).

The Policy is vague on the subject of unsolicited proposals, requiring that they should be considered only on the basis of guidelines 'to be issued', and should not relate to projects already on the relevant authority's project list. They are also subject to further criteria to be set out in a PPP Manual (not yet published).

The Ministry of Finance and Economic Planning issued an interim toolkit for unsolicited PPP proposals in 2012.* It reflects the Policy's requirements, but also includes a further requirement that unsolicited proposals should be subject to a competitive procurement process including the proposer (*cf.* **Lekki Expressway**, where this was done).

It therefore seems possible that if the PPP Bill is passed as currently drafted, the Cenpower project, which did not go through a competitive procurement, could be considered not to be in accordance with the Policy, and so could be subject to regularisation by the Agency. It is unclear what this means, but it could be interpreted as giving the Agency power to make changes in the PPA without Cenpower's agreement. Moreover, a project that is not regularised in the period specified by the Agency could be subject to a new procurement.

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* The toolkit is to be replaced in due course by detailed criteria for unsolicited proposals, but these criteria have not yet been published.

Policy Points

General

- **Legal/institutional framework**. The development of the project took longer than it might have done because the framework in which it was to operate was not settled. A lot of time was spent on complex negotiations with the mining companies, for example, that came to nothing. Similarly, specific parliamentary approval was required for the GoG guarantee for ECG's liabilities, which significantly delayed financial close.
- **Capacity building**. Negotiations were also prolonged because ECG had no experience in project finance, or of negotiating a PPA (although the USAID support helped to strengthen ECG's capacity in this respect). However, the experience gained has been used to good effect in developing a standard-form PPA that is being used in subsequent procurements.

Project Structuring

- **Interface risk**. It is usually difficult to develop a project that relies on the successful development of another. The initial decision to structure the project based on gas supply *via* WAGPCO was understandable, but flawed in this respect. In a similar way, the construction of the fuel storage tanks was not part of the EPC contract, and thus also raised interface risks (*e.g.* what would happen if they were not completed on time?), but fortunately, these risks were considered to be acceptably limited.

Procurement

- **Development risk**. It is important for public authorities to understand the high level of financial risk undertaken by project developers. This project took more than 10 years to develop and ran through development costs totalling $39m from three developers. This cost is not especially high considering the overall size of the project—$900m—and the length of time it took to develop. The developers also provided a substantial development bond, which would have been forfeited had the project not reached financial close. If the project had not been successfully developed the loss to the developers would clearly have been substantial, and the developers could not be sure that they would succeed until all the elements of the project were in place.
- **Africanisation**. One of AFC's key aims was to Africanise the project, so the majority of the equity and debt are provided by African sources; the EPC contractor is African; and similarly, the O&M Agreement provides for Sumitomo Corporation to train the local staff of the O&M company to enable the latter to gradually take a larger rôle in operation and maintenance.
- **Unsolicited bid**. There was no competitive pressure on the developers, which meant that ECG just had to swallow the development costs of the project as they mounted up, and increase the tariff accordingly. Had a competitive procurement

been undertaken ECG might have had more control on costs. However, the EPC contract—the largest element of the project cost—was procured on a competitive basis.

The other problem with unsolicited bids is lack of transparency, which makes them liable to attract attacks, especially after a change in government. It seems that Cenpower may be vulnerable in this respect, given the draft provisions of the 2016 PPP Bill.

Finance

- **Lender requirements**. As discussed in the Overview, the lenders are the parties with the most money at risk, and unlike the investors, they have no 'upside' if the project goes well, since they earn a fixed rate of interest only, but they do face a 'downside'—a loss on their loan—if it goes badly. Not surprisingly, therefore, the lenders are the most conservative party at the negotiating table. In this case, this resulted in significant extra project costs to satisfy the lenders' requirements relating to the fuel-supply arrangements and the credit risk on ECG. Ideally, the PPP contract and key subcontracts for construction and O&M should not be signed until they have been cleared by the lenders, since forced renegotiation of these to meet lenders' requirements is highly likely. This is exactly what took place in this project.

- **A guarantee is not the first way out**. The weak financial condition of ECG certainly makes a GoG guarantee of its payment obligations necessary, but it is not in the interest of either the project company or ECG or GoG for the guarantee to be the first way out (*i.e.* as soon as there is a shortage of cash to pay the monthly bill, the project company has to go straight to GoG). GoG may well have difficulty covering ECG's overdue payments at short notice. Hence the importance of the liquidity arrangements the lenders put in place, covering short-term payment problems.

- **Interest-rate risk**. Some DFIs may be able to provide projects with fixed interest-rate debt, but commercial banks, whose deposits and money-market funding are on a short-term basis, cannot normally provide long-term debt at a fixed interest rate. Interest-rate hedging (usually through an interest-rate swap) is usually needed to cover the risk of increased interest rates (but *cf.* **Platinum Highway**).

- **Currency risk**. *Cf.* **Bujagali Hydropower** for a discussion of the long-term currency risk inherent in pricing the tariff in US dollars whereas ECG's revenue is in cedi. As can be seen from the historical exchange rates between the US dollar and the cedi in the Fact Sheet, there has been a very large depreciation of the cedi in recent years. If this continues it could add an extra burden on ECG's already weak finances (although it has to be borne in mind that the weakness of the cedi will cause an increase in inflation, making it easier for ECG to pass this extra cost on to its customers so long as the cedi depreciates reasonably gradually).

  There is also a short-term currency risk between the time Cenpower bills ECG in GH¢ based on the US dollar exchange rate on the monthly billing date, and the time ECG pays the bill, as the exchange rate will probably have changed by then. This is dealt with by an adjustment to the following month's bill.

› **Sale of shareholdings**. Although acceptable in this case, given that the particular rôle of Infraco is as a DFI that takes the risk on developing projects, in general it is undesirable for sponsors/developers to be allowed to sell their equity investment, at least until construction is complete and it is operating normally. Developers are usually able to charge their development costs to the project company at financial close, as well as a development fee to compensate for their risk during the development phase. They should then be expected to continue as significant equity investors to ensure that has been no temptation to cut corners in the project development just to earn a development fee (*cf.* **Bujagali Hydropower**, **DTI Campus**, **Platinum Highway**).

Construction Phase

› **Late completion**. Should a PPP impose penalties and bonding for late completion, as in this case? In general, the main penalty for late completion of a PPP is that the project company loses revenue, and adding penalties and bonding to this just adds to the costs of the project. In this case, however, ECG could argue that if Cenpower does not come on stream when expected it may have to use more expensive power from other sources, and this marginal cost should be covered (*cf.* **KivuWatt**).

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Fact Sheet

Project	**Cenpower**
Country	Ghana
Project summary	340 MW power-generation project near Tema, 24 km from Accra and close to the landing terminal for the West Africa Gas Pipeline; the largest (and first 'green field') IPP in the country. Project scope includes a 161 kV sub-station, and delivery and storage facilities for the initial fuel, light crude oil (LCO). It is intended that plant will eventually convert to natural-gas firing.
Public authority	Electricity Company of Ghana (ECG)
Project company	Cenpower Generation Company Ltd (Cenpower)
PPP contract type / term	Power-purchase agreement (PPA) / 20 years
Project cost / funding	Senior debt $557m (62%) Mezzanine debt (fuel finance) $93m (10%) Equity $250m (28%) Total $900m
Investors	Pre-financial Close: Africa Finance Corporation (AFC) 46% Cenpower Holdings, owned by Reltub Company Ltd, Ghana 30% Infraco Africa (owned by Private Infrastructure Development Group (PIDG)), advised by eleQtra 24% Post-financial Close: – $250m equity provided by: AFC 32% Sumitomo Corporation 28% Cenpower Holdings 21% Mercury Power (owned by African Infrastructure Investment Fund II, (managed by African Infrastructure Investment Managers (AIIM), originally a joint venture between Old Mutual and Macquarie, from 2015 wholly-owned by Old Mutual) 15% Netherlands Development Finance Company (FMO) 4% In June 2016 AFC announced that it was to inject its shareholding in Cenpower into a new joint venture with Harith General Partners, a South African infrastructure fund manager.

Project	**Cenpower**
Lenders	(1) $446m 15-year commercial-bank tranche, insured by Export Credit Insurance Corporation of South Africa (ECIC), arranged by Rand Merchant Bank (RMB). ECIC provides lenders with 100% political-risk cover and 85% commercial-risk cover. (2) $110m 15-year DFI tranche, led by FMO, provided by: DEG, Germany; OPEC Fund for International Development; Industrial Development Corporation, South Africa; Emerging Africa Infrastructure Fund (owned by Private Infrastructure Development Group (PIDG); PIDG portfolio managed by Frontier Markets Fund Managers (owned by Standard Bank) until 2016, when it was transferred to Investec Asset Management); Development Bank of Southern Africa (3) $93m 15-year mezzanine fuel finance from same DFI lenders (with a 5-year grace period from the commercial operation date)
EPC contractor	Group Five, South Africa
Fuel supplier (LCO)	Vitol Group, Netherlands—also responsible for fuel storage
O&M contractor	Cenpower Operations and Services Ltd, a joint venture of AFC, Sumitomo Corporation and Cenpower Holdings
Public-sector support	Government of Ghana (GoG) Government Consent & Support Agreement covering ECG's financial obligations. (GoG was supported by USAID, which paid for its advisers)
Project development	2003 Original developer Cenpower Holdings made an unsolicited bid for the project 2006 Joined by Infraco Africa as development partner 2010 AFC became lead developer 2012 PPA signed 2013 Fuel Supply Agreement signed 2014 Financial close Commercial operation expected 4th quarter 2017

Historical exchange rates: Ghana cedi per US$1.00

(Annual, as at 1 January)

Year	Rate	*Change*	Year	Rate	*Change*
2008	0.96		2013	1.90	*-16%*
2009	1.27	*-32%*	2014	2.37	*-25%*
2010	1.43	*-13%*	2015	3.23	*-36%*
2011	1.48	*-3%*	2016	3.83	*-19%*
2012	1.64	*-11%*	1 Sep 16	3.96	*-3%*

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(* = internet download)

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DTI CAMPUS (SOUTH AFRICA)

Introduction

The offices of the Department of Trade and Industry (DTI) in Pretoria, completed in 2004, are a striking addition to the urban landscape in the Sunnyside district of Pretoria, in the City of Tshwane Metropolitan Municipality. There are seven low-rise buildings, connected by a weather-protected street, providing 43,000 m^2 of office space, along with basement parking space. Sustainability is an important part of the design, as is communication flow between the buildings as well as integration with the surrounding urban environment.

Before the DTI Campus was built the district suffered from urban blight, but the Campus was the keystone of the regeneration of the Mandela Development Corridor covering a large area of inner-city Pretoria.

Project Development

The DTI's previous offices were widely scattered and were not well-designed for collaboration between the department and its various stakeholders. The department could have moved into a standard office building, but wanted to develop its rôle as a knowledge enterprise in new premises designed on a form-follows-function basis for its specific needs.

The decision was taken to use a PPP structure to procure the building, rather than the DTI building its own offices, which would have been difficult given budget restraints at the time. A key aspect of this approach was that the DTI did not design the offices itself, but merely set out design principles and the outcomes required. It was then up to private-sector bidders to come up with innovative solutions that also ensured efficient construction and long-term maintenance.

This was the first government-accommodation PPP in South Africa,* but the institutional framework for PPPs was fully-established by the time procurement began in 2001. Successful PPPs had already been concluded in the road (*cf*. **Platinum Highway**) and water (*cf*. **Mbombela Water**) sectors. Based on this experience, a strategic framework for PPPs was published by the government in 1999. In 2000 the National Treasury issued regulations for PPPs under the Public Finance Management Act 1999 and a PPP Unit was established in the National Treasury.† During the period that the project was being procured the PPP Unit was also developing a PPP Manual and a standard form of PPP contract (based on the contract used in the British Private Finance Initiative (PFI) programme). These both came into effect in 2004. The PPP Unit provided support to DTI in its procurement.

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* Other central government departments followed this approach thereafter (the Department of Education in 2007, the Department of Foreign Affairs—now the Department of International Relations and Cooperation—also in 2007 and Statistics South Africa in 2014).

† The PPP Unit is now part of Government Transaction Advisory Services (GTAC), based in the National Treasury.

Procurement

The project was put out for competitive tender in 2001. A preferred bidder was chosen in 2002 but failed to reach agreement on a key risk issue in detailed negotiations. This was that part of the project site had been occupied by a petrol station and hence was contaminated with hydrocarbons. The preferred bidder wanted the DTI to take the risk that removing this contamination would cost more than had been budgeted, which the DTI was not prepared to do. As a result, the DTI turned to the second bidder, the Rainprop consortium, with whom it reached financial close only 27 weeks after negotiation had begun. In fact, to keep to the very tight construction timetable, Rainprop even began enabling works in February 2003, five months prior to financial close in August.

Finance

The project company, Rainprop (Pty) Ltd (Rainprop), was structured to include a majority ownership of historically disadvantaged individuals, as defined by South African black economic empowerment (BEE) legislation. BEE enterprises own 55% of its ordinary share capital, with the balance being held by the main construction contractor, WBHO, and various property-investment companies. Given that the ability of BEE enterprises to invest in the equity was limited, most of non-BEE equity investment was in the form of preference shares (*i.e.* shares with a fixed dividend, payable before those of the ordinary shares) and shareholder subordinated debt. Mezzanine debt (*i.e.* debt senior to the shareholders but junior to the bank loan) was also raised. Of the total financing required for the project, 90% or R455m of the total project cost of R505m, was provided by a 21-year senior loan arranged by the Standard Bank.

Project Agreement

The 25-year project agreement follows the standard approach for an availability-based PPP contract:

- Rainprop is responsible for design, construction, and facilities management (FM),* as well as for raising the necessary finance.
- The DTI pays a monthly unitary fee, originally R108m *p.a.* These payments are indexed against the South African consumer-price index (CPI).
- The payment mechanism in the project agreement sets out various categories of deductions that may be made to the unitary fee:
  - If any part of the buildings is not available—*e.g.* because the roof is leaking or air-conditioning is not working—DTI can make a deduction from the unitary fee based on a pre-agreed formula reflecting the importance of the space.
  - KPIs set out in detail the level of service to be provided, and maintenance standards are also set. If Rainprop consistently fails to provide the required level of building services this will also lead to deductions from the unitary fee and, in the worst case, to termination of the project agreement.
  - Certain categories of cost (*e.g.* electricity) are pass-throughs, *i.e.* the DTI pays the actual costs incurred by Rainprop (since Rainprop cannot control these costs).

* FM includes matters such as cleaning and security as well as building maintenance.

- The DTI can make changes to the required services but must pay any extra costs involved (or may benefit if costs reduce). If the changes require additional capital investment this may be financed by Rainprop, with the costs of finance passed on to the DTI, or financed directly by the DTI, with the unitary fee increased to cover this.

Construction

Rainprop engaged its shareholders WBHO (one of South Africa's major contractors), Rainbow Construction and Zwelinzima Holdings to construct the Campus, on the basis of a fixed-price date-certain design & build contract. There were no particular construction problems and the hydrocarbon issue has had no impact on the project to date. The Campus was handed over—on schedule—to the DTI in 2004.

Operation

FM services are provided through a special-purpose company, Experience Delivery Company (EDC), that has engaged BEE and other shareholders to carry out this work. The FM contract is at a fixed price indexed against CPI in the same way as the unitary fee. Should the FM service delivery not meet the required standards, the FM company will be penalised through a range of deductions that match those set out in the project agreement.

For various reasons, the DTI has issued numerous change orders, *e.g.*:

- The Campus had originally been constructed for 1,800 staff, but now houses 2,600. One reason for this is that two new ministries have been created—the Department of Small Business Development and the Economic Development Department—and these also occupy space on the Campus. This has meant, for example, Rainprop purchasing new smaller furniture to fit more people into the same space.
- There have also been changes in policy. Originally the whole Campus was to be freely open to the public, but the need for increased security has resulted both in work to close off access, as well as the engagement of extra security staff.

Rainprop itself employs five people, a CEO, CFO, FM manager, procurement manager and a personal assistant. There are about 24 people in the FM subcontractor EDC, with a larger number of staff in EDC's subcontractors providing the various FM services.

The DTI monitors Rainprop's (and EDC's) performance very closely. In fact, it could be said in this case that the PPP contract is somewhat over-monitored, as the DTI has a large number of staff involved in monitoring.

Land Ownership/Block G

The land on which the Campus stands belongs to the municipality, and it was leased for 25 years to Rainprop. At the end of the PPP contract the ownership of the land—and hence the buildings on it—will revert to the municipality: so, despite having paid for the buildings through the PPP, the DTI will not own them. There is clearly an issue here, to be resolved between the DTI and the municipality.

Before financial close the DTI found the project to be unaffordable and there was a need for a reduction in scope. This meant that although all seven buildings (Blocks A–G) were constructed, Block G was excluded from the PPP and its development was funded by Atterbury, one of Rainprop's investors. Over time, however, the DTI's staff expanded,

and Block G was taken over under a standard property lease arrangement. Discussions have taken place about bringing Block G into the PPP (since the DTI is paying rent for it anyway) as part of an overall refinancing of Rainprop's debt (*cf.* **Platinum Highway**.)

Policy Points

General Issues

› **PPPs *versus* public procurement**. In the current South African environment, PPPs of this type have somewhat fallen out of favour. One argument against the PPP approach is that having to follow the detailed procedures set out in the National Treasury's *PPP Manual* makes realising a project slow and complex, whereas a conventional public-works procurement is much quicker. The reality is rather different. It is unlikely that a conventional public procurement could have produced these buildings within three years, or done so without cost overruns, or, probably, that the end result would have been so innovative. The careful and structured approach to PPP procurement required by the National Treasury PPP Unit may appear slow and complex, but the end result is that the tortoise (the PPP) will overtake the hare (conventional public procurement).

Project Structuring

› **Affordability**. A key issue for a public authority planning an availability-based accommodation project is its long-term affordability—*i.e.*, can the public authority be confident that its budget over the life of the PPP contract will be adequate to pay the unitary fees? It is virtually impossible for a public authority such as a central government department like the DTI to be sure about this, since government budgets usually change year by year. Nonetheless, an estimate of affordability, however inexact, has to be made as part of the planning process. In this case, the DTI had decided what was affordable, and when the bids came in above this level it reduced the scope of the project (by excluding Block G) rather than push its affordability envelope too far (*cf.* **Tšepong**).

› **SME involvement**. One complaint against PPPs is that they are so large and complex it is impossible for small and medium-sized businesses to benefit from involvement in them. The South African BEE legislation, although not directly relevant to other African countries, does suggest how such businesses can be involved, *e.g.* as FM subcontractors. It may be possible to specify in bid documents that a certain level of involvement by small and medium-sized businesses as subcontractors is a requirement of the bid.

Procurement

› **Deal creep**. There is a danger, once a preferred bidder has been selected, of deal creep—*i.e.* as the preferred bidder is now a *de facto* monopoly supplier the terms of the bid are gradually changed in detailed negotiation to favour the private sector. In this case the DTI ensured this did not happen by keeping the second-place bidder on standby, ready to step in if agreement could not be reached with the preferred bidder (which turned out to be the case). It is preferable that a preferred bidder should not be appointed until the detailed PPP contract has been worked out, which means that the contract should form part of the documents provided to bidders, with their mark-up forming part of the bid.

Finance

- **Inflation indexation**. As explained in the Overview, the unitary fee is a regular payment calculated to repay the debt with interest, pay a return to equity investors and cover projected operating costs. Only the operating costs are affected by inflation: the debt and equity payments are (usually) fixed sums. Logically, therefore, only the portion of the unitary fee that covers operating costs (probably around 40% in this case) needs to be indexed for inflation. However, 100% inflation indexation can be attractive to the public authority because it reduces the initial unitary fee. For example, if the unitary fee is required to pay off a loan of 1,000 in equal payments over 10 years at an interest rate of 10%, the annual payments are 163. But if the annual payments are indexed against an assumed inflation rate of 6%, the first year's unitary fee is 129, but the tenth year's unitary fee is 218. However, the public authority is taking the risk that inflation may be more than 6%. This over-indexation of the unitary fee may be helpful in making the project affordable in the early years, and appropriate if the public authority expects its budget will always rise in line with inflation—but in reality, no public-sector entity can rely on this.

- **Sale of shareholdings**. Most of the sponsors' equity investment in this project was in the form of mezzanine loans and preference shares, with a fixed rate of interest. This structure enabled the majority of the ordinary shares to be owned by BEE companies while leaving management control in the hands of the sponsors. Despite this, the sponsors retained their investment for a long time after the project was complete, so securing their continuing commitment to the project (*cf.* **Bujagali Hydropower**, **Platinum Highway**).

Operation Phase

- **Monitoring**. As can be seen from other cases (*cf.* **Mbombela Water, Tšepong**), monitoring the PPP contract is vital for the public authority. In this case, however, there seems to be over monitoring. The problem with this is that there may be a tendency to treat the Campus as a public-works building, and hence for the monitors to get too involved in the details of the services, even directing how they are to be carried out. This could result in effectively taking risks back from the project company, as if something goes wrong with the building or the services the project company may be able to blame the monitors and so claim it should not be penalised for unavailability or service failures.

- **Long-term maintenance**. It is notorious that the public sector tends not to maintain its infrastructure assets adequately. All too often, cutting the maintenance budget is seen as a way of saving money, whereas the reverse is usually the case. Another merit of PPPs is that they ensure that the maintenance is done, and that the assets concerned are handed back to the public sector in a good condition at the end of the PPP contract. In this case the KPIs and maintenance standards set in the project agreement should ensure that the building remains well-maintained.

- **Long-term flexibility**. Another criticism of PPPs is that they lock the public authority into an inflexible long-term contract. But a PPP contract is really no more inflexible than a conventional public procurement. If the public sector builds infrastructure, and later on major changes have to be made, costs will still

be incurred. The key is for there to be a flexible and fair change mechanism built into the PPP contract. In this case the DTI has been able to use such a mechanism to make large numbers of changes to the original service requirements.

Handback

› **Asset reversion**. In principle assets created by a PPP contract should always revert to the public authority at the end of the contract. As it currently stands the DTI is not entitled to this asset reversion as the land belongs to the municipality, although the DTI will have paid for the buildings. Although the public sector as a whole does not lose by this (*cf.* **Songas**), it is a flaw in the structure.

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Fact Sheet

PROJECT	**DTI Campus**
Country	South Africa
Project summary	Government offices, Pretoria. The first PPP for government accommodation in South Africa. The Campus consists of [seven] buildings (about 43,000m2), housing [2,400] staff.
Public authority	Department of Trade and Industry
Project company	Rainprop (Pty) Ltd
PPP contract type / term	Availability payments / 25 years
Project cost / funding	• Senior debt R455.0m (90%) • 16% mezzanine debt due June 2016 R35.5m • Preference shares • Ordinary shares / shareholder subordinated debt R15.5m Total R505.0m
Investors	Ordinary shareholders 55% of the ordinary shares are owned by Historical Disadvantaged Individuals ('HDI'), through Rainbow Construction (now insolvent) (10%), Prop 5 Corporation (20%), Zwelinzima Holdings (15%), WDB Investments ('WDB') and The Association for People with Disabilities ('APD'). (The 10% shareholding held by WDB and APD was funded by an interest-free loan from the construction joint venture, repayable from dividends) The remaining 45% shareholders are: Rebserve Facilities Management (20%), Transnet Property, a division of Transnet (20%), WBHO, Atterbury Property and Parkdev Preferred shareholders Infrastructural, Developmental and Environmental Assets ('IDEAS') fund, managed by Old Mutual (87%) Village Trust-Parkdev (6%) WBHO (6%)
Lenders	21-year senior debt arranged by Standard Bank.
Construction contractor	Joint venture of WBHO (47.5%), Zwelinzima Holdings (10%) & Rainbow Construction (42.5%)
Facilities-management contractor	FM is provided by a special-purpose company, Experience Delivery Company. Its shareholders are Prop 5 Corporation, Zwelinzima Holdings, Propnet Properties, and Mvelaphanda Services, to whom work is subcontracted.
Public-sector support	All payments under the PPP are obligations of the South African government

PROJECT	**DTI Campus**					
Project development	2001	Competitive bidding				
	2002	Negotiation with preferred bidder failed				
	2003	Reserve bidder Rainprop reached financial close in 27 weeks				
	2004	Construction completion				
Historical exchange rates: Uganda shillings per US$1.00 (Annual, as at 1 January)	Year	Rate	Year	Rate	Year	Rate
	2000	6.31	2006	6.06	2012	7.82
	2001	7.75	2007	7.21	2013	8.96
	2002	11.43	2008	7.49	2014	11.12
	2003	8.51	2009	10.21	2015	11.64
	2004	7.10	2010	7.62	2016	15.89
	2005	5.99	2011	7.19	1 Sep 16	14.59

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(* = internet download)

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KIVUWATT (RWANDA)

Introduction

A small power station stands on the shore of Lake Kivu, near Kibuye, in the west of Rwanda. It is producing 25 MW from three Wärtsilä gas-fired generators. There is nothing unusual about this—except that a line of floating buoys, carrying a submerged pipeline, runs from the edge of the lake to a floating barge in the distance. This is what makes this project unique. It is using methane gas from the depths of Lake Kivu as fuel for its generators. The barge draws methane mixed with water and other gases from the bottom of the lake some 350 m below the surface, then separates the gases from the water, removes carbon dioxide and other unwanted gases, and pumps methane onshore to be used to fuel the generators.

It has long been known that there are large quantities of methane in the lower depths of Lake Kivu. Decaying vegetation falls to the bottom of the lake, where bacteria create methane. The water is warmer near the bottom and because of the high saturation most of the methane is dissolved in the water. Higher up in the lake the water is cooler, so the saturation of gas dissolved in the water decreases and forms a layer that does not let any gas pass upwards.

However, this methane resource also poses a potential danger. If it continues to build up and is then disturbed, perhaps by volcanic activity, a large bubble could shoot to the surface of the lake, which would be dangerous to the lives of those on its shores. Thus, using the methane for power generation not only provides electricity at a competitive price but also reduces the danger of a gas eruption.

Project Development

The potential of the methane in Lake Kivu as an environmentally-friendly and sustainable fuel for power generation has long been recognised. Indeed, a brewery beside the lake began extracting small quantities of methane for its boilers in the 1960s and only ceased doing so in 2004. Until the 2000s there was no real need for the Government of Rwanda (GoR) to pursue this possibility as its electricity needs were met by hydropower generation, but low rainfall and declining river levels combined with rising demand meant that power shortages developed and the gap had to be filled by using expensive diesel generators.

In 2002 GoR signed a memorandum of understanding with a small Denmark-based developer, Dane Associates, followed by a Power-Purchase Agreement (PPA) and Gas Supply Agreement (GSA) in 2005, to build a pilot 5 MW power plant (Kibuye Power 1) beside Lake Kivu, to be followed, if successful, by a 35 MW plant. 30% of the cost was to be covered by GoR. This partnership broke up acrimoniously, partly because of the failure to meet the deadline of 2006 for completion of the plant, and partly because of a dispute about $3m of development costs that Dane Associates claimed from the project.

Thereafter GoR asked Emerging Africa Infrastructure Fund ('EAIF'),* and the World Bank's commercial lending arm, International Finance Corporation (IFC)† to help develop a 25 MW plant on the site originally designated for Dane Associates, to be expanded in due course to 100 MW.

The first stage was to procure a sponsor/equity investor for the project. Major oil and gas companies had little interest in being involved, as the project was small, technically complex and in a difficult location with limited local services. However, Wärtsilä, a major Finnish company specialising in power for the marine and energy market, introduced the project to ContourGlobal, a successful US-based developer, and a proposal from ContourGlobal was accepted.

Power-Purchase Agreement

In 2009 a PPA was signed between ContourGlobal's subsidiary project company, KivuWatt Ltd (KivuWatt), and Energy, Water and Sanitation Authority (EWSA) of Rwanda. No specific PPP law was in place at the time, and the contract was covered by general public-procurement legislation.

GoR was very committed to the project, with the then Minister for Infrastructure taking an active part in the negotiations, as it was badly-needed as a long-term solution to Rwanda's power shortages and had a good negotiating team. But GoR had no experience of negotiating a major PPP contract, and relied heavily on its advisers in this respect. The end result, however, seems to be a fairly market-standard PPA.

The key terms of the PPA are as follows:

- As is normal in any PPP, KivuWatt is responsible for designing, building financing and operating the project for the 25-year term of the PPA.
- The long-term tariff is 14¢/kWh. This is a fixed price, other than the portion covering O&M costs, which is indexed against US CPI.
- There is an option to develop a Phase II that would take output up to 100 MW and reduce the cost of the power to 11¢/kWh.
- EWSA took no risks on whether the project could be completed on-time, on-budget, or to the required specifications.
- EWSA took only a limited risk (with the first loss falling to KivuWatt) that the gas reserves would be adequate. Actually, the main risk was not whether there was enough methane in the lake, as this is well-established, but whether enough methane could be separated from the water and other gases to achieve the required power output.
- EWSA also took a second-loss risk for volcanic activity damaging the project.
- Damages were payable to EWSA if the project was completed late (backed by a bank letter of credit).‡
- GoR guaranteed EWSA's offtake and termination payment obligations under the PPA.

* See Fact Sheet for information on EAIF.

† IFC later dropped out of the project.

‡ This letter of credit was drawn on to pay damages for the late completion (see below).

Finance

$91m of 15-year debt was raised by FMO and EAIF from a DFI syndicate. Given the high risks of the project, and the lack of any precedents, private-sector banks had no interest in providing debt.

ContourGlobal contributed $51m of equity (covered by political-risk insurance from the World Bank's investment-guarantee arm, Multilateral Investment Guarantee Agency (MIGA). This insurance protected ContourGlobal against risks such as GoR failing to meet its obligations in respect of its guarantee of EWSA. Hence, the $142m project was funded with a debt:equity ratio of 64:36. The project was the single-largest investment in Rwanda's history and its first project financing.

Construction

Ideally for both ContourGlobal and the lenders, the risks involved in constructing the project on-time and on-budget, and that when complete it could operate to specification, should have been undertaken though a turnkey contract with KivuWatt by an EPC contractor that would be liable for damages should it fail in these respects. However, just as major international oil and gas companies had little interest in investing in the project, so too major international contractors also considered it too small and too high-risk to be worth pursuing.

A turnkey EPC contract for the power plant—the straightforward part of the project—was signed with Wärtsilä. One of the largest Kenyan contractors, Civicon Ltd, was appointed for the rest of the project—the construction of the barge and the gas-processing plant on the barge. As its name implies, the company is primarily involved in civil engineering, but it had successfully completed a 48 MW geothermal power-generation project in Kenya and undertook to bring in the expertise required to complete the barge end of the project, for which skills in completing offshore gas projects were required. The Civicon contract was not on a turnkey basis because of the novelty of the design.

The PPP tariff was based on the fixed price for the Wärtsilä contract and the estimated price for the Civicon contract—*i.e.* cost overruns on these were at KivuWatt's risk.

Construction: the Civicon Dispute

Financial close was achieved in 2011 and construction began, with completion scheduled for late 2012. There is a dispute between KivuWatt and Civicon about what happened thereafter, but in summary KivuWatt terminated Civicon's contract in 2013 on the grounds that it had failed to meet the required specifications for the construction of the barge and the 2012 completion date. In KivuWatt's view Civicon did not meet its undertaking to bring in the expertise required for this work.

KivuWatt needed to find another contractor to complete the construction of the project and Koch Engineering & Construction (of Portugal) took over as construction manager on a simple cost-plus basis. The combination of inevitable further delays, the need to undo and redo some of Civicon's work and the fact that after the termination of the contract Civicon detained one of the gas separators for the barge in its warehouse in Mombasa so another had to be procured, meant that the project was completed only in late 2015—three years late—and had by then run up a cost overrun of some $60m. Against the original project cost of $142m this was clearly a financial disaster.

In this disastrous situation ContourGlobal could have walked away from its initial $51m investment in KivuWatt (which was clearly valueless) and allowed the project to collapse. It chose not to do so, however, and injected a further $60m of equity to cover the cost overrun. Presumably its motives for doing this were the combination of a desire to avoid a large write-off of its initial investment, the knowledge that the project could still be profitable (albeit much less so), a hope that most of the $60m could in due course be recovered from Civicon,* the fact that any loss could in effect be spread into the larger Phase II and the need to protect its reputation.

The delay in completion also meant that the debt-service payments due after the expected completion in 2012 could not be paid as there were no revenues to do so. However, the necessary discussions about restructuring the debt presumably cannot reach a conclusion until it is clear what damages, if any, can be recovered from Civicon.

Project Operation

Since completion the project has run well. Fine-tuning the gas-extraction process brought the power output up to the required 25 MW and KivuWatt generates 30% of Rwanda's power demand. The low absolute level of demand reflects the lack of electrification in rural areas: as of 2015, 80% of Rwanda's population lacked a grid connection, but as these connections are being made demand is growing. There has been very little downtime at the plant. Payments from EWSA to KivuWatt are made regularly when due.

KivuWatt does not employ an O&M contractor. All operations and maintenance are carried out by its own staff. Some 80 staff are employed at the plant, 40 of whom are expatriates due to the lack of relevant skills amongst the local population. However, training is taking place and the number of expatriates should reduce over the next few years.

While it is not cheap, the cost of the power produced by KivuWatt is comparable to other available sources and it displaces diesel generation, which costs up to 45¢/kWh. (KivuWatt also pays a royalty on the gas.) Further investment needs to be made in the national electricity grid, as fluctuations in power supply during the evening peak remain a problem. The development of Phase II is under active discussion, and GoR has also signed a PPA with a developer aiming to construct another 50 MW plant elsewhere beside Lake Kivu.

Inauguration

In May 2016, the President of Rwanda, Paul Kagame, officially inaugurated the plant. 'Twenty-five megawatts won't address our energy problems', he said, 'but it is an indication of what is possible in trying to address these challenges'.

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* KivuWatt is pursuing Civicon for $60m in damages through an arbitration in Switzerland (and Civicon is also counterclaiming for its losses).

Policy Points

General Issues

- **Political support**. It is very important for there to be high-level political commitment to a PPP programme, especially in its early stages. This complex project would not have been possible without active support from GoR.
- **Capacity building**. GoR was handicapped by its lack of knowledge about PPPs in the negotiations for this project. Indeed, in retrospect ContourGlobal felt it should have spent more time explaining issues to the government, which could have made negotiations easier. (As an example of this lack of understanding, even at a later stage, when the additional $60m of equity was invested to save the project, GoR just criticised KivuWatt for being a bad contractor.) However, lessons were obviously learned by GoR, and subsequent PPAs produced for other projects reflect this. The only way to learn how to manage PPP procurements is by doing them, and the price for this is inevitably that some mistakes are made in early projects.

Project Structuring

- **Risk transfer**. In principle, the private sector should be the party with the expertise to assume project completion, technical and operating risks. The reality of the risks taken on by the private sector is well illustrated by the $60m construction-cost overrun and late completion. However, such risk transfer may not always be possible as there are other risks that are best taken by the government, because they cannot be managed by a private developer (*cf.* **Bujagali Hydropower**). Arguably, in this case, the assumption of completion risk was a risk too far for the private sector.
- **Network connections.** A power station that is not connected to the grid, or to a grid with enough capacity, is a white elephant—a prestige project that serves no (or a limited) purpose. In this KivuWatt is connected to the grid, but the grid capacity still needs to be upgraded. Connections to a project—transmission lines for a power station, side roads for a toll road, and so on—are part of the project and should not be neglected (*cf.* **Bujagali Hydropower**, **Tšepong**).

Procurement

- **Sponsors/pre-qualification**. ContourGlobal was able to save the project with its additional $60m funding only because it had the financial capacity to do so. A financially-weaker sponsor would probably have had no choice but to let the project fail, unless additional equity could have been raised from a new investor, which would obviously have been difficult in these circumstances. (Conversely Dane Associates, a smaller investor, seems to have run into difficulties on even the smaller KP1 plant that were at least in part due to its limited financial capacity.) The best way for a public authority to ensure that it procures a strong sponsor for its project is to set up appropriate pre-qualification requirements as to the financial and technical capacities of bidders (*cf.* **Rift Valley Railways**, which illustrates what can happen if this is not done correctly).

Finance

- **Currency risk**. The tariff payable by EWSA is denominated in US dollars, but its revenues are entirely in Rwandan francs. There is a fair margin between the cost of power to the EWSA (14¢/ kWh) and what EWSA charges users (33 ¢/ kWh). Moreover, the Rwanda franc has been reasonably stable against the $, albeit less so recently.* Nonetheless, if there is a rapid decline in the value of the Rwandan franc, there is a risk that EWSA will not have enough revenues to make its payments (*cf.* **Bujagali Hydropower**, **Cenpower**).

- **PPP contract/debt profiles**. In this case, there is a 25-year PPA, but the debt is due to be repaid after 15 years. Lenders require a 'tail' of, say, two years or so between the scheduled final repayment of their debt and the end of the PPP contract, to ensure that if the project runs into difficulty, as it has in this case, some additional cash flow is available to pay off the debt. However, a 10-year gap is above what would usually be needed. This might be justifiable if the tariff were reduced after the debt is scheduled to be repaid (*cf*. **Bujagali Hydropower**), but this is not the case here. The result is that after the debt repayment large amounts of free cash flow go to the investor, resulting in excess profits, and there is also increased scope for taking large sums out early through a refinancing (*cf.* **Platinum Highway**). So the term of the PPP contract should be governed, *inter alia*, by the term of debt available, rather than being fixed as an arbitrary number of years.

Construction Phase

- **Late completion**. GoR suffered from the late completion of the project since this meant that it had to continue using expensive diesel generation plant. It is not uncommon for the public authority to charge damages for late completion where it suffers a direct loss, but if this is not the case there is ample incentive for the project company to complete the project, as it will (usually) not earn any revenue until it does (*cf*. **Cenpower**).

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* See historical exchange rates in the Fact Sheet.

Fact Sheet

PROJECT	**KivuWatt**
Country	Rwanda
Project summary	Extraction and processing of methane gas from Lake Kivu, used to power a 26 MW independent power project; a second phase will increase capacity to 100 MW; first project in the world to use methane on such a large scale
Public authority	Energy, Water and Sanitation Authority (EWSA) of Rwanda
Project company	KivuWatt Ltd
PPP contract type / term	Power-purchase agreement / 25 years
Project cost / funding	$142.25m / Equity $50.75m (36%) + debt $91.5m (64%)
Investors	ContourGlobal (USA)
Lenders	FMO (Dutch DFI) $31.5m African Development Bank $25.0m Emerging Africa Infrastructure Fund (EAIF); owned by Private Infrastructure Development Group (PIDG); portfolio previously managed by Frontier Markets Fund Managers, a division of Standard Bank; portfolio management transferred in 2016 to Investec Asset Management. $25.0m BIO (Belgian DFI) **Total** $10.0m All loans are *pari-passu*, with a term of 15 years **$91.5m**
Other public-sector sup-port	Government of Rwanda (GoR) guarantees EWSA offtake and termination payment obligations
Other DFI support	MIGA political-risk guarantee for equity investment
Construction contractor	Civicon Ltd., a majority-owned subsidiary of the Kenyan conglomerate Trans-Century Ltd (*cf.* **Rift Valley Railways**); replaced in 2013 by Koch Engineering and Construction (Portugal). The power station uses Wärtsilä generators.
Fuel supply	Fuel supply is part of the project. Under the Gas Concession Agreement, GoR receives a royalty payment for the gas used.
O&M contractor	None; O&M is carried out by KivuWatt staff
Project development	2002 GoR signed MOU with Dane Associates 2005 GoR signed shareholder agreement with Dane Associates to build 5MW pilot plant Kibuye Power 1 ('KP1'), to be completed 2006; was to be followed by a 35MW plant 2007 GoR refused to provide a $18m loan and terminated agreement with Dane Associates (on grounds that they did not account for $3m development costs); then completed KP1 itself; it also took back the site for the full-scale plant.

PROJECT	**KivuWatt**					
Project development (contd.)	2008	EAIF and IFC appointed to arrange funding; ContourGlobal selected as investor; PPA negotiations began				
	2009	PPA signed				
	2011	Financial close				
	2015	Completion scheduled 2012, but did not take place until 2015 following dispute with and replacement of Civicon				
Historical exchange rates:	Year	Rate	*Change*	Year	Rate	*Change*
	2008	540		2013	617	*-2%*
Uganda shillings per US$1.00	2009	559	*-4%*	2014	678	*-10%*
	2010	571	*-2%*	2015	692	*-2%*
(Annual, as at 1 January)	2011	592	*-4%*	2016	748	*-8%*
	2012	603	*-2%*	1 Sep 16	799	*-7%*

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(* = internet download)

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LEKKI EXPRESSWAY (NIGERIA)

Introduction

The Lagos Metropolitan Area forms part of the State of Lagos, the smallest of Nigeria's states but probably the most economically important. (It would be the fifth largest economy in Africa if it were a country.) The notorious traffic 'go-slows' in the city of Lagos, Africa's largest conurbation, are partly caused by the huge increase in the city's population, but also by inadequate road infrastructure: the last significant investment in roads and bridges was in the 1970s.

The ARM Proposal

In 2000, Asset & Resource Management Ltd, a Nigerian asset-management company, approached the Lagos State Government (LASG) with an unsolicited proposal to upgrade various roads in Lagos on a concession basis. These included the road through the Lekki peninsula, a 50-km strip of land running east from Lagos Island, bounded in the north by the Lagos lagoon and in the south by the Atlantic Ocean. Although it is close to the central business district, the Lekki peninsula was comparatively underdeveloped, partly due to its poor road connections. The existing arterial road was too small (two lanes each way) and at the end of its design life of 25 years, while there were no motorable access roads linking the northern part of the peninsula to the south. The proposal was attractive to LASG because of budgetary constraints and the desire to use its budget on other more urgent projects.

At that time, there was no PPP or relevant procurement framework in LASG. In 2004 LASG therefore passed legislation to set up a Private Sector Participation ('PSP') Board to supervise PPPs in the transport sector including dealing with the ARM proposal. With subsequent amendments, this legislation formed the basis for PPP projects.

In 2003 LASG advertised the Lekki project in a competitive procurement. With the advantage of having done a lot of preparatory work on costing and traffic flows, not surprisingly, the successful bid was made by ARM's project company, Lekki Concession Company (LCC).

The Concession Agreement

The initial draft concession agreement was heavily based on a public-works approach and did not have many of the provisions required in a PPP. Therefore, this contract was revised based on the South African structure (*cf*. **Platinum Highway**). However, at this stage LASG did not have a full external advisory team,* nor even a financial model of the project.

The following were the key terms of the concession:

* LASG took advantage of South African experience in toll road concession contracts, and later employed advisers when dealing with the equity and debt buy-outs—see below.

- The concession was for 30 years.
- LCC was granted the right to upgrade, maintain and toll the Lekki Expressway (Phase 1 of the project) and to construct a parallel coastal road (Phase 2), as well as an option to construct a southern bypass.
- The upgrade involved widening around half of the road nearest to Lagos from two to three lanes each way, adding new features such as the Falomo On-Ramp,* pedestrian walkway bridges, drainage systems, street and traffic lights and underground infrastructure ducts, as well as rehabilitating the rest of the road.†
- The 49-km road was to be an open tolling system and three toll plazas were to be built (at 6 km, 15 km and 22 km from the beginning of the concession just east of Lagos), but drivers could avoid paying tolls by using alternative (but slower) roads around the toll plazas, which were to be constructed by LASG.
- Tolling rates were set out in the concession, indexed against Nigerian CPI.
- LASG was also responsible for matters such as providing and maintaining a clear right of way (as the road was being widened from its existing boundaries), other connecting and feeder roads, payment for the relocation of utilities, and drainage systems falling outside the scope of the Concession Agreement, as well as security and traffic management and maintaining law and order.
- Compensation was payable by LASG if it adversely affected the revenue or cost profile of the project, *e.g.* through design or other changes, causing delays in the construction of the road through not releasing land in time, suspending tolling or constructing a competing road.
- The concession did not have a detailed performance régime penalising LCC for failure to meet KPIs (*cf.* **Platinum Highway**).‡
- The senior debt was guaranteed by Lagos State if the project was terminated for default either by LASG or LCC. If termination occurred the lenders were to be repaid according to the original debt-service schedule. Thus, the lenders were not taking the risk of default by LCC.
- There is no minimum-revenue guarantee. Thus, unless the concession was terminated or the compensation events mentioned above occurred, the private sector was taking traffic risk.
- Lagos State's debt guarantee obligation was backed up by a Support Agreement from the Federal Government (see below).
- At the end of the concession period the road was to be handed back to LASG.

Raising the Debt

ARM's financial advisers (two South African banks, Rand Merchant Bank and Standard Bank) made initial approaches to prospective lenders in early 2005. They were concerned to raise as much of the required financing as possible in Nigerian naira (₦), to avoid a currency mismatch as LCC's revenues would all be in ₦.

* This is effectively a bridge that connects Victoria Island to the Expressway, removing a major traffic bottleneck.

† The final section of the road, running further east across the Lekki peninsula to the town of Epe, did not form part of the concession.

‡ The primary reason for the absence of the type of rigorous KPI-based performance régime as exists in South Africa was that there was very little history of operational and maintenance parameters in Nigeria, as well as a fairly chaotic road-user environment in Lagos, which made it difficult to establish KPIs on which experienced operators would be willing to take risks.

Nigerian banks had no experience in this type of project finance at that time, but were interested in developing their expertise since they could see that PPPs were potentially an important source of business in Nigeria. Most of the debt required (some $250m) could have been provided by the Nigerian market, but long-term debt was not available in this market: the best that could be offered were loans for five years. The project would not have been financially viable if its debt had to be repaid over such a short term, since the tolls would have been far too high.

Initially therefore the advisers worked on a 15-year 'mini-perm' structure. Under this structure, after the first five years the interest rate on the loan increased sharply and there were blocks on dividends to LCC's shareholders. This was intended to force LCC to refinance the loan at that time, effectively limiting the Nigerian banks' exposure to five years.* The same would happen after 10 years, so that overall there was a 5 + 5 + 5 structure. But there were problems with this structure:

- The Nigerian banks were concerned about the risk that the debt could not be refinanced after each five-year period, *e.g.* because of adverse market conditions.†
- The cost of the finance was high.
- Interest rates for the later five-year periods could not be fixed in advance, so if market rates increased LCC could face cash-flow problems.

LCC therefore looked for an alternative solution. African Development Bank ('AfDB') was interested in providing 15-year debt on attractive terms, but could only do so in US dollars. Standard Bank was able to solve this problem by providing AfDB with an innovative long-term currency swap between ₦ and US dollars. AfDB was also brought into the project because it was considered important to have a DFI lender, both to validate the project in development terms and to provide support should any difficulties arise with LASG. Standard Bank also arranged an international commercial-bank syndicate to provide additional 15-year US dollar debt.‡ The Nigerian banks also finally agreed to provide part of the financing with 12-year loans (a major increase in tenor for the Nigerian market), albeit at a floating (variable) interest rate.

Additional Equity Investors

Another Nigerian investor, Larue Projects, became an equity investor along with ARM. The equity side of the project was also significantly strengthened by bringing in Africa Infrastructure Investment Fund (AIIF) as the largest shareholder. AIIF was managed by African Infrastructure Investment Managers ('AIIM'), a leading PPP fund manager. AIIM was a joint venture between Old Mutual of South Africa and the leading Australian infrastructure fund manager, Macquarie.§ AIIM brought a conservative approach to the project, resulting in reductions in traffic forecasts and changes to the tolling strategy, which made the project more financially robust.

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* In fact, LCC's aim was to refinance the project at the end of the first five years anyway, had it gone as planned, as is normal when a project is completed and operating, and thus the initial project risks have been reduced (*cf.* **Platinum Highway**).

† FMO (the Dutch DFI) offered a standby facility to cover this risk, but LCC still decided that the other risks were too high.

‡ The US investment bank JP Morgan was originally mandated to place this debt, but later withdrew, causing some further delay to financial close.

§ It is now wholly-owned by Old Mutual.

Lagos State and Federal Government Support

However, AIIM's appraisal also reduced the debt capacity of the project, so in addition to the debt guarantee on termination mentioned above, LASG also agreed to provide a ₦5bn 20-year mezzanine loan (*i.e.* a loan subordinated to the senior debt provided by the banks, but senior to the equity investors) to fill the gap between the available equity and what AIIM considered was prudent to borrow against the projected project cash flow. The end result (excluding standby financing) was that the ₦50bn project was financed 24% by equity, 11% by LASG's mezzanine loan, and 65% by the bank loans.

The risk on LASG (especially in relation to its debt guarantee on termination) was a key concern for lenders, not least because a large part of LASG's budget came from the Federal Government. This led to another innovative aspect of the project, a Federal Support Agreement (FSA) between the Federal Government, LASG, LCC and the lenders' security trustee. Under the FSA, any shortfall in payments by LASG on any termination amounts would be made good from federal transfers of funds that are due to be made to LASG. (The FSA also granted various consents for the project, dealt with the interface with federal roads, and committed to availability and transferability of US dollars in return for ₦.) But because different political parties ran Lagos State and the Federal Government at that time, negotiation of the FSA took a considerable time. Although the concession was signed in 2006, financial close did not take place until 2008, when the FSA was signed.

Construction

After the concession was signed LCC went to the construction market for bids for a design & construct contract on the terms usually required for a project-finance structure, *i.e.* a fixed-price date-certain contract with significant penalties for delays in completion that are the contractor's fault (as this would impact on LCC's prospective toll revenues). This is a high-risk type of contract for construction contractors, and even though they could have charged more for taking these risks,* in general the Nigerian construction market was not interested in bidding (and there was no interest from major international contractors because of the perceived risks of construction in Lagos). The contract was awarded to a medium-sized contractor, Hitech Construction Company Ltd.

Hitech actually started construction of the first 2 km in 2006, before financial close. This was done under an agreement between LCC, the Nigerian banks, which provided the finance for this, and LASG, under which LASG guaranteed the finance for these works. A further increase in the guarantee once these works were complete covered additional preliminary works.

The whole construction programme was to have been completed by 2011, but there were delays caused by issues that were LASG's responsibility, such as the relocation of utilities (especially electricity transmission lines, mainly because of disputes between different government agencies on costs), the construction of alternative free routes and a request from LASG to redesign and realign approximately 8 km of the carriageway. LASG had to compensate LCC for the extra costs and loss of revenue resulting from all these issues.

* A turnkey contract of this type is typically at least 10% more expensive than a standard construction contract.

Tolling

Following completion of the first 6 km section in July 2010, tolls began to be collected at the first toll plaza, but almost immediately LASG asked LCC to stop collecting the tolls. The ostensible reason for this was that it had not had time to complete the alternative free route, but politics were also involved as an election was pending and there had been public protests about the tolls, at least partly fostered by the opposition party in the state. To compensate LCC, LASG paid shadow tolls, *i.e.* the traffic using the plaza was recorded and the tolls that should have been paid by drivers were paid by LASG. Tolling recommenced in January 2012 and tolls have continued to be collected at this plaza since then.

By 2013 LCC had completed the work on the second 9-km section and was due to start tolling at the same rate at the second plaza.*

The Equity and Debt Buy-Outs

LCC had built up substantial compensation claims against LASG:

- Loss of revenue and extra costs during construction mentioned above.
- LASG instructed that the third toll plaza should be relocated. (It was unclear where LASG wanted it to be moved.)
- LASG constructed a new bridge from the Lekki peninsula to Ikoyi (part of Lagos Island), which was opened in 2013, and diverted about 30% of the traffic from the first toll plaza.

In addition, tolls were also due to increase by 20%, reflecting inflation and currency movements.

A lengthy period of negotiations ensued. LCC was prepared to cover at least part of these claims by an increase in the tolls, but this was politically unacceptable. Finally, LASG and LCC's investors agreed a settlement that included LASG buying out the equity investors in 2014, leaving the debt in place.

LASG is said to have paid the equity investors ₦15bn which, at the then-current exchange rate,† was only slightly more than the original equity investment of $91m. This was not the contractual payment due to the equity investors, who should have been compensated for the full value of their investment, *i.e.* taking into account the loss of their future profits, but presumably the investors felt this was the best they could achieve in the circumstances.‡

But although the equity was bought out, the debt was left in place, presumably because the Concession Agreement provided that if the concession was terminated, LASG would pay the lenders back according to the original schedule (although technically the concession was not terminated).

LCC therefore continues as the concessionaire, but now owned by LASG. The third toll plaza was never completed, so that LCC only received direct toll revenue from the first plaza. This was sufficient to cover its operating costs but not enough to make the scheduled debt-service payments to the lenders. In 2015 the lenders were paid a lump

* For the reasons set out below, this plaza has never been tolled.

† See the Fact Sheet for historical ₦/$ exchange rates.

‡ AIIF had political-risk cover for its investment from Export Credit Insurance Corporation of South Africa (*cf.* **Cenpower**, where this insurance covered debt rather than equity), but did not make any claim, given that it had reached an agreed settlement with LASG.

sum as compensation for the third plaza not opening, but thereafter the remaining debt service depended on shadow-toll payments relating to the second plaza, which were not made regularly. As a result, the debt-service payments were consistently behind the required schedule.

Finally, in 2016 LASG agreed a buy-out deal with the lenders. The foreign lenders were paid ₦9.8bn, which represented a 'haircut' (a nice way of describing a loan loss) on their debt of 21%. Agreement was also reached with the Nigerian banks for a 12% haircut and for their reduced loans to be rolled over into a new loan at a lower interest rate (13.5%, compared to the previous rate of 18.5%). One can only speculate why the lenders also agreed to take less than what was due to them when they should have been able to call on the FSA if LASG did not pay them in full.*

Project Outcome

Some 70,000 vehicles pass per day pass through the first toll plaza. The Lekki Expressway has made a significant contribution to economic development of the Lekki peninsula, a substantial amount of new housing has been built and the road link is a key element in plans for the Lekki Free Trade Zone, and a new port and airport. Planting vegetation along the road has also improved the environment. Drivers benefit from investments in street lighting, breakdown assistance and an ambulance service.

In 2016 LCC was appointed by LASG to take over the electronic tolling of the Lekki–Ikoyi bridge mentioned above, integrating this with its own electronic-tolling system. However, traffic congestion has become an issue. In 2016 LASG announced it was going to remove roundabouts and install traffic lights to try to deal with this issue (probably the real answer is to build flyovers, which would be a lot more expensive). But despite all its problems, the Lekki Expressway has improved the lives of some three million people who live or work in the Lekki peninsula.

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* One possibility is that the Standard Bank currency swap was probably terminated at a profit (as the ₦ had weakened significantly against the dollar) and this profit could have been used to cover some or all of the loan loss.

Policy Points

General Issues

- **Political interference**. The almost inevitable result of the initial public dissatisfaction with the concession was that political interference effectively destroyed the concession, which should otherwise have been perfectly viable. This lack of political support for a concession that was apparently transparently procured and freely negotiated will probably make it difficult to attract investors and lenders to future similar PPPs in Lagos State, and perhaps also in Nigeria as a whole.

- **Legal and institutional framework**. Lagos State understood the importance of a clear legal framework as a basis for developing PPPs.

Project Structuring

- **Stakeholder consultation**. Some of the public opposition to paying tolls on the road seems to have derived from a lack of communication and consultation with stakeholders on the part of LASG (albeit also played on for political reasons). For example, people did not understand why they had to pay tolls for a road that already existed, even though it was being significantly upgraded, nor why the private sector needed to be involved. There were also objections to the toll levels, and the concentration of the toll plazas near Lagos. Again, this was not adequately explained. In addition, communities living along the road objected to paying for driving within their community.

- **Sub-sovereign risk**. The project had to deal with sub-sovereign risk. International lenders are often reluctant to lend on a project being undertaken by regional or local government without central government support. If debt is being provided by local banks in the local currency this should not be such an issue—*cf.* **Mbombela Water**.) But if the central government provides guarantees for the regional or local government it is likely to interfere in the project. The approach used in this case, namely diverting, if necessary, part of the federal funding that would have been provided to LASG anyway, made it comparatively easy for the Federal Government to support the project without taking on any project risk. This was an innovative mechanism that had not been used before.

Procurement

- **External advisers**. LASG did not employ external legal, financial or technical advisers when negotiating the concession. This was a serious omission, especially considering that the project was the first of its kind in Nigeria. Similarly, LASG did not have a proper financial model of the project. This meant that LASG probably did not get the best possible terms, and probably also meant that LASG did not fully understand the obligations into which it was entering, and hence the implications of its actions in causing the compensation claims that LCC built up.

- **Financial-market development**. It is especially unfortunate that events have turned out as they have, because the concession triggered a significant development of the domestic-banking market, with Nigerian banks being prepared to provide project finance for a PPP for the first time, and also to lengthen considerably the maximum term of loan they previously had been willing to provide. Moreover, this innovative financing was closed in 2008, at a time of turmoil on the global financial markets.

- **Long-term currency risk**. As with other projects (*cf.* **Bujagali Hydropower**, **Cenpower**, **KivuWatt**) LCC only had revenue in ₦, but was forced to borrow in US dollars because the domestic-banking market could not fully satisfy its debt requirements. The Standard Bank currency swap, enabling AfDB to lend in US dollars—the first on such a scale and tenor—was also an innovative approach towards dealing with this problem. This cross-currency swap was also critical to the equity investors who wanted to hedge LCC's balance-sheet exposure in view of revenues being in ₦. It is therefore conceivable that the equity investors would have been reluctant to close the deal if such a solution had not been found.

- **Debt guarantee**. PPP projects in a new market in a developing country face a problem in raising debt, because lenders usually wish to see some kind of track record for such projects. Hence, it is often necessary to guarantee the debt, albeit the equity investors are still at risk. Unavoidable as this may be, the result is that lenders will probably not carry out the same level of due diligence as they would if they were 'on risk', and hence the project loses the benefit of this third pair of eyes. It also means that the lenders have little incentive to find a solution if the project runs into difficulty, whereas if their debt is at risk they have a very strong incentive to do so. Indeed, this capital at risk, not only from investors but also from lenders, is one of the merits of using the PPP structure. And in the end, despite the guarantee, the lenders appear to have made significant losses in this case.

Construction Phase

- **Land acquisition**. Although it was not a major issue in this case, delays in land acquisition by the public authority (often caused by ownership disputes because of a lack of title registration) is a major cause of construction delays for PPP projects in sub-Saharan Africa. It is important for the public authority to complete its land acquisition well in advance of financial close to avoid such delays.

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Fact Sheet

PROJECT NAME	**Lekki Expressway**
Country	Nigeria
Project summary	The first toll-road concession in West Africa. The 49-km road links the Lekki peninsula to the east of Lagos' central business district (Ikoyi).
Public authority	Lagos State Government ('LASG')
Project company	Lekki Concession Company Limited ('LCC'), advised by Rand Merchant Bank and Standard Bank
PPP contract type / term	Toll-road concession / 30 years
Project cost / funding	$382m, plus standby financing of $40m (₦50bn in total), funded by: • equity $91m (24%) • standby equity $10m • Lagos State mezzanine loan $43m (11%) • senior debt $248m (65%) • senior standby of $30m
Investors	Asset & Resource Management Company Ltd. ('ARM') 32% Larue Projects Ltd. 21% Africa Infrastructure Investment Fund ('AIIF') 46% (managed by African Infrastructure Investment Managers ('AIIM'), originally a joint venture between Old Mutual and Macquarie, from 2015 wholly-owned by Old Mutual) Export Credit Insurance Corporation of South Africa ('ECIC') provided AIIF with political-risk insurance for its investment. Hitech Construction Company Ltd. ('Hitech'), part of the Chagoury Group 1%
Lenders	International banks* $95m senior 15 years, 5 years' grace African Development Bank (AfDB) $85m senior 15 years, 5 years' grace Nigerian banks† $68m senior 12 years, 3 years' grace **Total bilateral DFI debt $248m** Nigerian banks† $30m senior standby Lagos State $43m mezz. 20 years, 10 years' grace * Arranged and underwritten by Standard Bank. † Co-arranged by First Bank of Nigeria & United Bank for Africa The international bank loan is at a fixed interest rate; other senior debt is on a floating (adjustable) interest-rate basis Standard Bank provided a currency hedge for AfDB, enabling its finance to be provided in ₦ rather than $
Design & build contractor	Hitech
Operation & maintenance / tolling contractor	Tolling services were originally provided by a South African company, Toll Infrastructure Services (Pty) Ltd, but O&M including tolling is now carried out by LCC.

PROJECT NAME	**Lekki Expressway**
Public-sector support	Senior debt repayable by Lagos State on early termination (*i.e.* debt guarantee); Federal Support Agreement: any shortfall in State payments made good from federal allocations of funds to LASG
Project development	2000 Unsolicited proposal made by ARM to LASG ARM initially appointed by LASG to provide advisory services and to carry out feasibility study 2003 Lagos State advertised project; only serious bid was from ARM consortium 2004 Lagos State Roads, Bridges and Highway Infrastructure, Private Sector Participation (PSP) Board Law passed to enable project to move forward 2005 Feasibility study and financing plan issued to prospective lenders 2006 Concession Agreement signed Hitech started early works on the first 2 km 2008 Federal Support Agreement signed
- Financial close	2008
- Post-financial close	2010 First 6-km road section completed, and tolling commenced at 1st plaza but stopped because of public protests; Lagos State paid shadow tolls (totalling ₦4bn) in lieu. 2011 Real tolling resumed at first toll plaza (and has continued since) 2012 Second road section (km 6-15) completed, but Lagos State did not allow tolling to commence; continues to be liable for paying shadow tolls in lieu. 2014 Lagos State bought out the equity investors by mutual agreement. LCC continued to operate concession under Lagos State control; debt initially remained outstanding. 2015 Lagos State made lump-sum payment to compensate for not opening third toll plaza 2016 Lenders agreed to repayment of all their debt at a discount.

Historical exchange rates: Uganda shillings per US$1.00

(Annual, as at 1 January)

Year	Rate	*Change*	Year	Rate	*Change*
2008	118		2013	156	*+4%*
2009	138	*-14%*	2014	160	*-2%*
2010	149	*-7%*	2015	184	*-13%*
2011	152	*-2%*	2016	199	*-8%*
2012	162	*-6%*	1 Sep 16	307	*-54%*

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(* = internet download)

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MBOMBELA WATER (SOUTH AFRICA)

Introduction

Following the first democratic election in 1994, major changes were made to local government boundaries in South Africa. The predominantly white cities were expanded to encompass the predominantly black townships and informal settlements by which they were surrounded. Nelspruit, the capital of Mpumalanga Province, increased more than eightfold in area to form the Nelspruit Transitional Local Council (the Council) and as a result the population increased from 24,000 to 230,000. But although the population had increased tenfold, the Council's revenue grew by only 38%.

In 1997 the Development Bank of Southern Africa (DBSA), a South African DFI, estimated that a Council investment of R250m would be needed to upgrade the Council's water and sanitation services. 44% of all households and almost 80% of informal households did not have access to a water-supply service. However, the Council's budget for water and sanitation (about one-third of its total budget) was R8.5m *p.a.*, and it was not allowed to increase by more than 6% *p.a.* It was thus evident that without some new source of finance it would be impossible for the Council to meet its responsibilities to the local population.*

Options Appraisal

The Council considered various possible options for raising the required investment:

- **Long-term debt**. The Council raises long-term debt to make the necessary investment. The Council retains full responsibility for the water and sewage system, and the associated risks of billing and collection as well as constructing, operating and maintaining the assets. However, the level of debt required was beyond the Council's power to borrow.
- **Service contract**, A private company provides various operational services to the Council, such as meter reading, billing and collection and operating the system. This is typically a short-term contract (one to three years) and the Council would still remain responsible for new investment, so this was not a viable solution.
- **Management contract**. This is similar to a service contract but gives the private company greater flexibility to make management decisions. Again, the Council would remain responsible for new investment.
- **Corporatisation**. The Council transfers its water and sewage assets into a new wholly-owned company to manage and invest further in the system. The advantage of doing this is greater flexibility, *e.g.* in financing, as well as transparency. However, as the company would have no track record it would not have been able to raise significant additional debt finance without a guarantee from the Council,

* It should be noted that this Case Study relates to a retail water/sewage system. There are also private-sector bulk-water suppliers in South Africa such as Rand Water. Such bulk supply can also be the subject of a PPP.

and such a guarantee was not possible because of the Council's limited borrowing powers.

- **Privatisation**. The water and sewage assets are sold to a private company that operates and invests in them thereafter. This was never considered as an option because South African municipal legislation did not allow it. Moreover, a system of independent regulation would have been required (to protect consumers as the private water company would have a monopoly), and this did not exist either.*
- **Concession**. The existing assets remain Council-owned but are transferred to a private company that takes over full responsibility for both managing the system and making new investments for an agreed period (typically 15–30 years, to allow recovery of investment costs). Lenders are prepared to provide project-finance based debt to such projects, based on the track record of the private company in similar projects.

It was evident from this analysis that a concession was the only realistic option to achieve the level of investment needed. In 1996, therefore, the Council resolved to explore this possibility in detail.

Procurement

The Council engaged DBSA to provide consulting advice on the PPP procurement, and based on this a Request for Proposals (RfP) was issued in 1996. DBSA, as a potential future lender to the project, then withdrew to avoid any conflict of interest, and the Council hired local and international advisers to take the procurement process forward. The Municipal Infrastructure Investment Unit, an independent entity set up with USAID funding and based in DBSA, provided grant funding towards the considerable costs involved in this process.

There was no detailed framework for PPPs at that time. The National Treasury's PPP Unit was only set up in 2000. However, in 1997 an interdepartmental group was set up to manage six pilot projects—two toll roads (including the **Platinum Highway**), two water projects (the other one being a smaller project on the Dolphin Coast north of Durban), and two prison projects (later cancelled after being found unaffordable).

The procurement procedure followed the standard two envelope system (*i.e.* the technical bids were assessed first and only if these bids passed the requirements were the financial bids opened). While this was going on Council officials attended various different PPP training courses and visited other municipal water and sanitation projects in South Africa.

There were eight potential bidders, of which five responded to the RfP; three bidders were selected for evaluation. In 1997 Biwater plc (Biwater), a British water company, in partnership with a BEE company, Sivukile Investments (Sivukile), was chosen as the preferred bidder.

However, the concession agreement was not signed for another two years. The reasons for this included union opposition, at first on the grounds of protecting the existing employees, and then, when this issue had been addressed, on the broader ideological grounds that it was not acceptable for a private company to make a profit out of delivering such an essential public service. Another factor that delayed the process was that the Council had not included a draft concession agreement in the RfP, so the contract had to be negotiated without an initial framework for it already in place.

* *Cf.* the further comments on water regulation on page 83

The African National Congress (ANC)-led South African government also had to take a final decision whether PPPs were an acceptable way to deliver public services, and in fact the procurement was put on hold for seven months following a direct instruction from the President's office. The principle of PPPs was then debated at the ANC electoral conference of 1999, and the go-ahead was given.

A further issue was that South African commercial banks that had initially expressed interest in providing the debt finance for the project became concerned about inconsistencies in legislation that could affect it:

- The Local Government Transition Act 1993 allowed local governments to enter into partnerships with the private sector, including in the water sector, but did not allow them to constrain their ability to set tariffs and collect revenues, the relinquishment of which was clearly fundamental to the concession.
- The Water Services Act 1997 also gave local governments the power to enter into PPPs, but at the same time gave the Minister of Water Affairs and Forestry wide powers to intervene in contracts and even to seize assets. There was a clear risk that a future minister hostile to PPPs could misuse these powers.

Finally, the commercial banks withdrew and all the debt finance was provided by DBSA. As a result, financial close was delayed until 2000.

The Concession Agreement

Key terms of the concession include:

- The concession is for a term of 30 years.
- The project company, Greater Nelspruit Utility Company (GNUC)* is responsible for operation, maintenance and management of the existing water and sewerage system (including billing and collection), as well as capital investment both to refurbish existing assets (*e.g.* sewage treatment) and to expand the system.
- The initial tariff is set out in the agreement:
  - GNUC takes the risk of its staff, operating and capital expenditure costs being higher than projected, and thus the part of the tariff relating to these is based on an initial fixed sum indexed against CPI
  - Costs that cannot be controlled by GNUC—*e.g.* raw water charges, electricity tariff and interest rates are pass-throughs, *i.e.* actual costs are paid through the tariff.
- The required capital investment for the first five years was R83m, of which 25% was to be financed by equity. The initial investment programme was also agreed.†
- All fixed assets are the property of the Council, and had to be returned at the end of the concession in a specified condition.
- The existing fixed assets were leased to GNUC against a payment of R11m *p.a.* for the first 10 years of the concession. (This covered the debt service on R59m of loans incurred by the Council relating to these assets.)

* Subsequently renamed Silulumanzi (Pty) Ltd. (Silulumanzi). 'Silulumanzi' means 'water bucket' in the local siSwati language. Following the takeover by Sembcorp (see below) the project company was renamed Sembcorp Silulumanzi (Pty) Ltd.

† This differs from the standard project-finance structure where all the debt is earmarked for a pre-agreed and comparatively short-term construction programme (*cf.* **Rift Valley Railways**).

- GNUC was to pay a concession fee of R200,000 on signing, and thereafter R1.25m *p.a.* (indexed against CPI). The purpose of the latter fee was to finance the Council setting up a contract monitoring unit (CMU) to monitor the contract.
- Services are to be provided to specified standards, based on KPIs set out in the concession (but subject to review, as above, every five years), with penalties on GNUC for failing to meet the KPIs.
- All municipal workers taken over by GNUC were to be employed on the same or better terms.*
- If the concession is terminated for default by GNUC, its debt becomes an obligation of the Council.
- A R8m performance guarantee (indexed against CPI) is intended to provide the Council with the resources to find a new operator that would take over the concession if there is a default by GNUC.
- The Council is responsible for providing the bulk water, and GNUC for processing it. The water is drawn from the Crocodile River that traverses Mpumalanga and similarly, treated sewage is discharged into the river.†
- GNUC's projected return on its equity investment is 18.5%.

Although the concession agreement is for 30 years, it was recognised that it was impossible to specify all its requirements in advance. Provision was therefore made to reassess the concession every five years. This would include rebasing the tariff for circumstances outside GNUC's control, and drawing up a new investment schedule for the next five years.

Sivukile was initially responsible under a subcontract with GNUC, for marketing and communications. Biwater's South African subsidiary, which owned GNUC, was responsible for operations and maintenance.

Creation of Mbombela Local Municipality

In 2000 the Council was amalgamated with other surrounding councils to form the Mbombela Local Municipality (the Municipality), thus doubling its population. There was discussion on whether Silulmanzi's concession should be expanded to the rest of the Municipality, but the decision was taken that the Municipality would provide services to the new areas on its own. So roughly half of the Municipality is served by Silulumanzi and half by the Municipality.

Free Basic Water

In 2001 the South African government passed legislation under which all households were entitled to free basic water (FBW), an amount of at least six m^3 per month per household (assuming eight people per household). This constituted a 'Material Adverse Government Action' (MAGA), for which GNUC was entitled to compensation under the concession agreement.

Furthermore, many poor households thought that all water usage had become free, perhaps partly because the new policy was oversold by local politicians, and partly because they could not easily understand how much six m^3 was: thus, non-payment

* This was a requirement of the South African Labour Relations Act of 1995.

† The river water is managed by the government's Department of Water and Sanitation, through Catchment Management Agencies, one of which covers the Crocodile River. Silulumanzi provides 20-year forward-looking water use plans every five years, and pays a raw water levy.

in the poorer areas remained a major problem.* Some politicians encouraged payment strikes. There was intimidation of meter readers, and even obstruction of maintenance work. Numerous illegal connections were attached to the system.

GNUC responded to this situation by water cut-offs, removing pipes to prevent illegal reconnection and taking court action for arrears in payment that had built up to around R17m by late 2002. However, this aggressive approach only made matters worse. It was also difficult for GNUC to distinguish between those who could not afford to pay bills and those who chose not to do so.

At this stage R44m of capital investment had taken place (drawing on the DBSA loan and equity investment), including 91 km of water mains in the township areas and 8 km in rural areas, plus 18 km and 17 km, respectively, of sewer mains, as well as the refurbishment of the water and sewage treatment works and repair or installation of thousands of meters. But GNUC was making significant losses because of non-payment and the cost of FBW, and was thus well behind achieving its agreed equity return. As a result, a moratorium on new investment was imposed by Biwater.

Moreover, Biwater threatened to withdraw from the concession unless it received financial support from the Municipality. This would have resulted in Biwater losing its equity investment (but GNUC's losses had wiped out the equity investment anyway), and the Municipality would have been faced with finding someone to take over the concession or paying compensation for GNUC's investments for which it had no financial resources.

The Second Five Years (2004–2009)

The five-yearly reviews provided for in the concession agreement, the first of which took place in 2004, are in some respects similar to the regulation of privatised water utilities in countries such as Britain. In the latter cases an independent regulator sets changes to tariffs, agrees the amount of capital investment required over the next five years, and the cost of financing this, which is also fed into the new tariff calculation. The key difference in this case is that there is no independent regulator, so such changes have to be agreed by negotiation between the two parties to the concession, and hence the concession itself provides for regulation. There is provision for arbitration if agreement cannot be reached, but so far the Municipality and Silulumanzi have always reached agreement.

Reflecting Silulumanzi's financial situation, a series of significant changes in the concession were agreed in 2004 for the next five-year period:

- elimination of the monitoring fee and the lease payments
- allocations from the Municipality's Equitable Share (see below)
- R105.5m of capital expenditure for the next five years, but no requirement for Silulumanzi to invest new funds.

The Equitable Share is a grant that municipalities receive from the National Treasury reflecting their relative poverty. It was introduced to compensate municipalities for the loss in revenue from FBW and other free basic services. It can be used for any current expenditure by the municipalities. Similarly, municipalities receive Municipal

* This non-payment culture was a continuation of the pre-1994 rent boycotts aimed at bringing down Apartheid. When the concession began in 1999 there was virtually no revenue collection in the townships.

Infrastructure Grants (MIGs). As the name suggests MIGs can be used only for capital investment for upgrading infrastructure in previously-disadvantaged areas.

Capital investment over this five-year period amounted to R92m, *i.e.* about 90% of the target.* Funding for the investment came from

- further drawings from DBSA (R10m)
- using part of the MIG: this was in effect a capital grant (*cf.* **Tšepong**) from the Municipality, meaning that tariffs did not have to be increased to cover this part of the investment†
- developer contributions (R19m)—*i.e.* payments from property developers in areas without existing services to connect their developments to water services: this again avoided tariff increases
- Silulumanzi's retained earnings (R24m)—*i.e.* instead of paying dividends, profits were invested in new capital expenditure.

Silulumanzi and the Municipality recognised that there had to be a change of approach to non-payment and illegal connections. This was a combination of educating the populace about the water system and its costs,‡ much greater community involvement and consultation and, when illegal connections were found, offering to make a proper connection (as illegal connections caused so many leaks from the system that people further along the pipeline would lose their service), and then again educating the people concerned. Customers with payments arrears were encouraged to pay their current bills, and if they did so the arrears would be gradually written off. Action was also concentrated on people who could clearly afford to pay, such as civil servants. The result was an improvement in payment levels, although these still remained low.

By the end of this second five-year period, most households had access to water, though 68% did not have access on a 24-hour basis.§ Water and sewage effluent quality was high. An effective employee training and development programme was in place. Tariffs were similar or lower than those for comparable municipalities. Unfortunately, however, with the removal of its funding, the CMU was not able to function effectively, *inter alia* because it could not employ outside advisers.

The Third Five Years (2009–2014)

By 2009 Silulumanzi's financial condition had improved greatly. As a result, the monitoring fee and lease rental payments were reinstated in the third five-year review. This enabled the CMU to employ the major international advisory firm, KPMG, to do a financial review as a basis for agreeing new tariff levels. One key aspect of the capital expenditure during this period was to provide infrastructure required for the 2010 FIFA World Cup Stadium in Nelspruit.

* This meant that in total by the end of the second five-year period, R136m of the required R189m of investment had been made.

† The MIG is used in disadvantaged areas where Silulumanzi does not expect to collect significant tariff revenues. The grant is not paid to Silulumanzi directly, but Silulumanzi acts as the Municipality's project manager in undertaking the MIG-funded works, and then continues to operate and maintain them as part of its network.

‡ A former mayor, when people complained about having to pay for water that was 'provided by God', would reply, 'Well go down to the river and fight the crocodiles for it'.

§ Mostly because of demand from rapidly expanding informal settlements due to a large influx of economic migrants from other parts of South Africa, as well as Mozambique and Swaziland.

In 2010 Silulumanzi was taken over by the Singapore energy and water company, Sembcorp Industries.

2014–2016

The framework for 2014–2019 was agreed in 2015. This includes an investment requirement from Silulumanzi's own resources of R16m *p.a.* As the concession moves towards its end in 2029, it makes less and less sense for Silulumanzi to make these investments, as they have to be recovered over a shorter and shorter period, and hence the tariff has to be increased to pay for this. The MIG also continues to be used for new investment.

Key performance aspects of the current five-year period include

- service-delivery improvements (increased coverage, 24-hour supply, *etc.*)
- water conservation and demand management (reduction in non-revenue water (NRW),* promoting community awareness, *etc.*). The Municipality agreed to use part of its Equitable Share to pay Silulumanzi for this activity†
- capital investment (own and MIG funding)
- asset management (maintaining the asset register, O&M plans, *etc.*)
- financial sustainability and customer engagement (collection efficiency, customer services, *etc.*)
- BEE and skills development
- regulatory compliance (*e.g.* as to water quality).

The CMU has now become the Water Services Regulation Office, with a staff of five people. But for it to be fully effective an external financial adviser is also needed (as there was in the past).

The relationship between Silulumanzi and the Municipality is now good, and the parties work closely together in community engagement, instead of this being left to Silulumanzi as in the past, although—perhaps paradoxically—Silulumanzi would like to be subject to closer monitoring and have more dialogue with the politicians. The company considers that an improved understanding of its activities within the Municipality would be beneficial to both sides.

The total population of Silulumanzi's service area is estimated to be 380,000, with approximately 40,000 people living in Nelspruit and approximately 340,000 estimated to be living in the townships and peri-urban areas. Silulumanzi now serves some 80,000 households, of which 27,000 are billed (15,000 in Nelspruit). Collection levels remain low (15–25%) outside Nelspruit, but there is a continuing programme to distinguish between those who can't and those who won't pay, including a sales force who go out to customers both to educate them and to increase revenue collection. There is still a lot of ignorance about the need to pay for water services, but far less resistance to paying than in the past.

* NRW consists of water that is fed into the system but not paid for as a result of leaks, illegal connections and non-payment. The NRW level varies greatly over the system, but is around 22% in Nelspruit (which is a fairly normal level) and 60–80% in the townships.

† This activity has become especially important as South Africa is suffering from drought, linked to El Niño, but far worse than has been the case in past El Niño cycles.

It is generally recognised, both by the Municipality and the populace, that after a difficult start the concession is now providing a good service at a reasonable price at least comparable to, if not better than, other similar cities in South Africa.*

The concession has achieved three main aims:

- It has improved water supply to poorer homes.
- It has brought water into people's homes (instead of a communal standpipe).
- It has improved the water quality.

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* Many municipal water companies in South Africa are not run on a cost-recovery basis, unlike Silulumanzi. The National Treasury is now pushing for full cost recovery. This would increase charges levied by such municipal companies by some 35% on average.

Policy Points

General

- **PPPs *versus* public procurement.** Silulumanzi and the Dolphin Coast concession (now known as Siza Water) are still the only two long-term water-distribution concessions in South Africa. The reasons for this are partly ideological—there remains resistance to the principle of the private sector providing public services—but also because of the complex procedures municipalities have to go through to set up this kind of PPP contract, including the National Treasury approval process (*cf*. **DTI Campus**).* Certainly, the procedure is complex, but it is also necessary to ensure that PPPs are structured and procured sustainably and effectively. The result has been that many municipalities are using short-term solutions such as operation and management contracts, while the quality of their water assets is depreciating because of poor maintenance and the lack of new investment.

- **Legal framework**. It is important to ensure that PPP legislation is not undermined by other laws. As can be seen in this case the commercial-banking market became so concerned about this issue that debt from this sector became unavailable. Other issues of this type can arise, for example, if the public-procurement law does not take account of the more complex procurement requirements of PPPs, or the general legislation on roads overrules the terms of a toll-road concession.

Project Structuring

- **Stakeholder consultation**. It seems clear that in the early years of the concession there was a failure to engage adequately with consumers, partly as a result of a lack of adequate liaison between the Municipality and GNUC. Political support was also weak. As can be seen from the near collapse of the concession in the early years, while stakeholder engagement is always important, it is especially so when a concession is delivering an essential service direct to users.

- **Transfer of staff**. PPPs should not be used as a way of cutting costs by transferring public-sector works to the private sector and then worsening their terms of employment (but *cf*. **Rift Valley Railways**). In this case, appropriate legislation combined with strong union involvement ensured that the concession was structured such that this did not happen.

Finance

- **Capital grants**. A capital grant is a payment by the public authority towards the capital cost of a PPP project. Its purpose is to reduce the capital cost of the project, and hence reduce its long-term cost to the user (as in this case), or the public authority (*cf.* **Tšepong**). In effect the public authority substitutes its lower cost of finance for the project company's higher cost. (Actually, being able to use the MIG means the Municipality's finance cost is zero in this case.)

* The PPP Unit is the approving entity for PPPs at both the national government and municipal levels. Provincial governments are not subject to National Treasury in this respect.

- **Debt guarantee**. It is generally undesirable for the public authority to guarantee the debt if the PPP contract is terminated for a default by the project company (*cf.* **Lekki Expressway**). This means that the lenders have less incentive to carry out their independent due diligence on the project, in effect acting as a third pair of eyes, and also have little incentive to work on a solution if the project gets into difficulty. However, in a case like this—one of the first PPPs in South Africa—a guarantee requirement is not unusual. The aim would then be to structure later projects without such a guarantee.
- **Inflation indexation**. Inflating the tariff by CPI helps both to ensure it remains affordable, and to drive efficiencies on the part of the concessionaire, as its O&M costs are likely to increase at a faster rate than CPI. As discussed in the **Platinum Highway** case, 100% indexation may be more appropriate for a concession (*cf.* **DTI Campus**)

Operation Phase

- **Monitoring**. It may seem strange for Silulumanzi to pay the Municipality a monitoring fee, but the reality of public-sector budgeting is such that without such a ring-fenced fee the Municipality would probably struggle to find adequate funding for a monitoring team (*cf.* **Tšepong**). Even so, in recent years the Municipality has not used any of the fee to pay for expert external advice.
- **Change in law**. The changes made in the concession terms to compensate for the loss of revenue after the introduction of FBW illustrates that not all risks can be passed to the private sector. A concessionaire cannot be expected to cover the cost of a change in law that, as in this case, has a significant effect on its revenues.
- **Continuous investment**. Unlike most of the projects reviewed in these Case Studies, a water-distribution concession typically does not involve a 'big bang' of investment, but needs a continuous investment throughout the concession, funded in part by the cash flow from the concession. (A heavily front-ended investment programme would cause a large and unacceptable rise in consumer tariffs.) Monitoring this type of investment programme is challenging for a public authority with limited financial and engineering expertise (*cf.* **Rift Valley Railways**), since it requires continuous monitoring and regular renegotiation throughout the life of the project, instead of the investment requirement being fully agreed before financial close, when the public authority should be in a much better negotiating position.

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Fact Sheet

PROJECT NAME	**Mbombela Water**
Country	South Africa
Project summary	Concession to provide water and sewage services, covering about 50% of Mbombela, capital of Mpumalanga Province (balance is supplied by the Municipality itself)
Public authority	Nelspruit Transitional Local Council; in 2000 merged with other surrounding municipalities to form Mbombela Local Municipality ('the Municipality)
Project company	Sembcorp Silulumanzi (Pty) Ltd. ('Silulimanzi'), formerly Greater Nelspruit Utility Company (Pty) Ltd. ('GNUC')
PPP contract type / term	Concession / 30 years
Project cost / funding	Debt : equity ratio for new investment = 75%:25%.
Investors	At financial close: 64% Biwater Capital BV, subsidiary of BiWater plc (U.K.) 26% Biwater Operations (Pty) Ltd (South Africa) 10% Sivukile Investments (BEE company), funded by grant from Biwater (re-paid by dividends), with option for Sivukile to take over a further 41% to give it a controlling interest (not exercised) In 2010 Silulumanzi was purchased by Sembcorp Industries Limited ('Sembcorp'), and the Sivukule shares were also purchased, so the company is now wholly-owned by Sembcorp. Steps are being taken to procure another BEE shareholder.
Lenders	Development Bank of Southern Africa ('DBSA') R125m 20-year loan. (R71m of this loan was drawn, and R20m is currently outstanding.)
Construction	Investment in improving and extending the current system is to be made over the life of the concession. Investment requirements are fixed every five years as part of a review of the concession agreement carried out by the Municipality and Silulumanzi.
Operation & maintenance	Biwater Operations (Pty) Ltd.
Public-sector support	If there is an early termination for concessionaire default, the Municipality is required to pay for the investments made by Silulumanzi.
Project development	1996 RfP issued 1997 Biwater selected as concessionaire, but trade union and other opposition delayed signing for 2 years 1999 Concession contract signed 2000 Financial close

PROJECT NAME	**Mbombela Water**					
Historical exchange rates: South African rand per US$1.00. (Annual, as at 1 January)	Year	Rate	Year	Rate	Year	Rate
	2000	6.31	2006	6.06	2012	7.82
	2001	7.75	2007	7.21	2013	8.96
	2002	11.43	2008	7.49	2014	11.12
	2003	8.51	2009	10.21	2015	11.64
	2004	7.10	2010	7.62	2016	15.89
	2005	5.99	2011	7.19	1 Jul 16	14.59

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(* = internet download)

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PLATINUM HIGHWAY (SOUTH AFRICA)

Introduction

In 1998 the South African government set up the South African National Roads Agency Ltd (SANRAL). SANRAL took over the national roads from the Department of Transport's Roads Board. The immediate challenge faced by SANRAL was the need for a significant upgrading of parts of the major national roads. Budget constraints meant that SANRAL would have to make use of private-sector funding to accelerate this programme. SANRAL also considered that it could learn from bringing in private-sector expertise and it could apply these lessons to its own procurements in future.

At that time, there was no precedent in South Africa for using private finance for public infrastructure of this type, but SANRAL was able to make use of experience from countries that had already established toll-road concessions, such as Australia and Spain. The Platinum Highway was one of six pilot PPP projects, overseen by an interdepartmental committee set up in 1997 (*cf.* **Mbombela Water**), the other road project being the N3 (see below). Experience on these was used to create a formal PPP framework including a detailed manual and standard documentation.

The first concession covered part of the N4, the east–west road that begins at the Botswana border near Gaborone, runs through Tshwane (Pretoria), and from there to the Mozambique border and on to Maputo. Trans-Africa Concessions (TRAC) was awarded a concession covering the N4 from Witbank* to Maputo. As this was the first such transaction the debt raised for the project was guaranteed by the governments of South Africa and Mozambique, *i.e.* lenders did not take traffic risk. The success of this transaction gave SANRAL good reason to think that a formal debt guarantee would not be necessary for future toll concessions.† This proved to be the case with the next procurement for a large part of the N3, the road between Johannesburg and Durban.

Procurement

SANRAL then moved on to the largest of these three major procurements, covering the N4 from the Botswana border to the west side of Tshwane where it links up with TRAC (295 km), together with a 90-km section of the N1 north from the N4 junction in Tshwane. The N1 is the longest national road, running from the Zimbabwe border through Tshwane, Johannesburg and Bloemfontein to Cape Town. The concession is known as the Platinum Highway as the N4 runs through the platinum-mining areas in South Africa.

The procurement did not take place under ideal circumstances, since it coincided with the emerging-market crisis of 1997–1998: in South Africa, short-term interest rates rose as high as 25%, and there was considerable concern that the South

* Now eMalahleni. The concession was subsequently extended to Pretoria/Tshwane.

† But see comments below on financial structuring.

African financial market might not accommodate such a large financing—R3.2bn (or approximately $580m at the then-current exchange rate*).

After the initial procurement rounds the bidders were reduced from five to two consortia, one of which was led by Murray & Roberts (M&R), a major South African contractor. Following further negotiations in 1998, the bidders were invited to submit their best and final offer (BAFO), after which the M&R consortium—whose project company was named Bakwena Platinum Corridor Concessionaire (Pty) Ltd (BPCC)—was announced as the preferred bidder in 1999.

There were several significant differences between the two bids that led SANRAL to choose the proposal by the BPCC consortium:

- Construction costs were lower.
- BPCC's debt:equity ratio was 75:25, compared to 80:20 in the competing bid (see below). SANRAL considered BPCC's lower debt level to be more deliverable in difficult market circumstances, although the higher level of equity meant a higher overall financing cost.
- BPCC's use of CPI-linked financing (see below) reduced the initial toll levels.
- BPCC planned to introduce electronic tolling to cope with the high levels of traffic. This was the first time this had been used in South Africa.†

Because of the 1997–1998 financial crisis, final signature of the concession agreement did not take place until 2000. It took further time to reach financial close, partly because of the complexity of the financing package, and partly because of the time required to complete the necessary environmental assessments and clearances.

Traffic Projections and Tolling Strategy

Initially-anticipated peak traffic in urban areas was about 60,000 vehicles per day (vpd), reducing to 2,700 vpd in the more remote rural areas. Traffic projections were very complex, given the numerous alternative routes around Tshwane.‡ The BPCC consortium also had to develop a tolling strategy that took account of users' likely response and hence buy in to paying tolls.§ This strategy followed several key principles:

- minimising tolls for local trips in rural areas
- maximising toll revenue from long-distance trips
- minimising the impact on previously-disadvantaged communities
- tolling the traffic in urban areas that would benefit most from the improved roads
- discounts for commuters¶
- positioning toll plazas on new (or substantially upgraded) sections of road wherever possible.

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* See Fact Sheet for historical exchange rates between the rand and US dollar.

† SANRAL later adopted a compatible system on its tolled roads, as did the N3 concessionaire.

‡ Unlike many other public authorities procuring toll roads, SANRAL does not encourage bidders to assume traffic levels significantly above its own projections, to ensure that bids remain deliverable and viable in the long term.

§ This differed from European practice where the initial tolls are usually set by the public authority procuring the concession.

¶ The municipality was concerned that commuters should not have to pay a disproportionate amount of the tolls, thus subsidising the long-distance traffic.

The Concession Agreement

The concession agreement followed international norms:

- BPCC was granted the right to toll the Platinum Highway, in return for undertaking the construction works described below.
- Tolling of each section could not begin until the relevant works had been completed.
- Tolling rates were set out in the concession, indexed against South African CPI.*
- There is no minimum-revenue guarantee, *i.e.* BPCC takes traffic risk.
- Sometimes concessionaires taking over an existing road are required to pay an initial lump sum to enable the public authority to pay off the debt it had raised in the past to pay for the road. However, this was not the case in this concession. (Instead a relatively small payment of R30m was made to cover SANRAL's procurement costs.)
- There are KPIs, and a penalty régime based on these.
- There are also provisions relating to socioeconomic development and environmental obligations.
- A Highway Usage Fee (HUF) is payable to SANRAL, based on the extent to which toll revenues (adjusted for inflation) are above the initial projections. In effect this is an 'excess profits' provision.†
- There is a requirement to share gains made by BPCC's investors by refinancing the debt (see below).
- It is common in toll-road concessions to include competing road provisions in the concession agreement—*i.e.* if the public authority builds another road that affects the concession's traffic, the concessionaire is compensated (*cf.* **Rift Valley Railways**). This can be a problem for the public authority as it is restricted from expanding its road network for the whole duration of the concession. However, in this case the competing roads provisions were limited.
- There are obligations to build additional lanes and also to dualise single-lane carriageways as traffic builds up.
- The sponsors—*i.e.* the construction-company shareholders—were required to hold at least 40% of the equity for at least seven years. This was to ensure that they had a reasonably long-term interest in the project's success.
- SANRAL is liable to pay compensation to the investors and repay the debt only if it decides to terminate the concession early. If the concessionaire defaults SANRAL pays BPCC the current value of the concession.
- At the end of the 30-year concession period the road is to be handed back to SANRAL in a condition which meets prescribed engineering standards with a certain remaining design life.
- SANRAL's obligations under the concession (*e.g.* on termination as above) are not formally guaranteed by the South African government. However, its legal status is considered to make its liabilities a sovereign obligation and there are letters of comfort from the Ministry of Finance and Ministry of Transport confirming this.

* The indexation calculation matched that for the CPI-linked debt (see below).

† In the previous concessions, the HUF payments were due when the investors' rate of return was above an agreed level. This meant that any HUF payments would come towards the end of the concession, as the investors' return calculation is a cumulative one. BPCC, however, agreed to pay the HUF based on revenues rather than profits, which could have meant much earlier payments.

In some toll concessions, the police may take enforcement action on behalf of the concessionaire against drivers who do not pay tolls (*cf.* **Lekki Expressway**), but this is a 'closed' system in which the drivers have to pass through toll plazas with boom gates that are kept lowered if they do not pay, so it is self-enforcing.

Financial Structuring

M&R was not in a position to subscribe for the high level of equity required for the project and brought in two key partners—the major Spanish contractor Dragados (a company with substantial toll-road experience), which together with a Spanish DFI subscribed for half the equity in BPCC, and the South Africa Infrastructure Fund (SAIF),* which subscribed a further 25%. (The competing bidder also brought in another major Spanish contractor/toll-road operator.)

As international banks had limited interest in the debt without a government guarantee, or in lending in rand, other South African banks were added to BPCC's debt-underwriting group, and financing from European Investment Bank (EIB), the European Union's DFI, was also utilised. The EIB debt was guaranteed by the local banks, but this still produced a lower total cost of finance because the EIB was able to raise rand-denominated debt in the offshore rand market at better rates than the South African government itself.

A key element of the BPCC bid was that just under half of the debt was CPI-indexed—*i.e.* this debt has a relatively low initial interest rate and repayment schedule, but its debt service is increased each year by the rate of consumer-price inflation. This had a number of advantages:

- In the short term, the low interest rate during the construction period reduced the amount of construction finance required by the project.
- The lower initial debt-service payments matched the toll revenues, which also escalated with inflation, put less pressure on the cash flow in the early years of operations and gave time for the traffic flows to build up after the end of construction (this ramp up being a typical pattern for new roads).
- It also helped to hedge the CPI-indexation of the toll payments. As the tolls were indexed 100% against the CPI, if the rate of inflation turned out to be above that assumed in the financial modelling of the project, this would mean a greater cash flow and hence more security for the lenders and better returns for the investors. However, if inflation turned out to be below the original assumptions, this would mean a shortage of cash flow, and hence increase lenders' risk and decrease the return to investors. Thanks to the CPI-linked debt, if inflation is below that assumed, so reducing projected toll revenues, the debt-service payments also go down, and thus this mismatch reduces.

This type of debt is typically provided by insurance companies rather than banks, as it suits the cash-flow requirements of the former. There was a precedent for the use of such debt in the previous toll- road procurements and placement with South African insurance companies was oversubscribed.†

* This was the first infrastructure fund to be set up in South Africa, in 1996.

† Placement was helped by the South African government issuing its first CPI-linked debt at this time, thus establishing a base against which pricing for non-government date could be calibrated.

It would have been usual for the balance of the debt finance to have been at a fixed interest rate (*cf.* **Cenpower**), but BPCC's lenders took the view that the high rates of inflation and interest rates—the two tend to be correlated—that were prevailing would not continue long term. Therefore, fixing the cost of this debt for the project life at that time could result in the project's cash flow being squeezed between lower revenues as inflation went down, and high debt interest rates. So, it was agreed that interest on this element of the debt should be on the basis of several different rolling tranches of three to five-year interest-rate fixings, to spread out the interest-rate risk.

Although the debt is not formally guaranteed, SANRAL pays compensation equal to the value of the concession if it is terminated for concessionaire default, based on the net present value of future cash flows. As is normal, under the debt provisions there is a default if future operating cash-flow projections (*i.e.* toll revenues less O&M costs), fall below an agreed multiple of the debt-service payments, thus leaving a cushion of extra cash flow (known as a debt-service cover ratio). Therefore, if the lenders trigger a default while there is surplus projected cash flow, and this default applies to the concession as well as the debt, the lenders will be repaid in full. This means that the debt is *de facto* guaranteed under most circumstances.

Construction Phase

Most of the initial construction works had to be undertaken during the first three years of the concession, including the upgrading of the existing roads and the construction of 90 km of two new sections of the N4. (The old N4 ran through the middle of Pretoria, so a key element of the project was to build a bypass around the north of the city; there was also a bypass around Rustenburg.) Six toll plazas, other ramp plazas and four major bridges over other roads also had to be constructed. At the time this was the largest road-construction project ever undertaken in Africa.*

The design & build contract for the road was awarded to a joint venture of BPCC's contractor shareholders. Unusually, this was not at a fixed price, but also CPI-linked, so the final price would depend on the increase in CPI during the construction period. However, the CPI-linked debt hedged this risk. At the last minute before signing there was a spike in oil prices, which led to an increase in the cost of bitumen. The contractor joint venture said that it could not proceed without a revision of its price. SANRAL agreed to a 6% increase in the tolls to compensate for the extra cost, over a 15-year period which has now ended. Construction was completed on schedule in three years, other than the Rustenburg bypass, which was delayed for a year by land acquisition and environmental and social issues.

Revenues, Operation and Maintenance

Since completion overall traffic on the road and hence revenues have been somewhat below the original projections, but not so low as to endanger debt service. The N1 section provides most of the traffic (about 60%), of which 60% is commuters, and much of the rest is southern through-traffic to Johannesburg and Durban and northern to Limpopo Province. The main economic users of the N4 are mining trucks and there

* It was also the largest PPP and largest project financing in South Africa at that time.

is limited car traffic.* Altogether 170,000 vpd pass through the toll system, and BPCC operates the four busiest toll plazas in South Africa.

From the investors' point of view, lower equity revenue resulting from the traffic below projections has been compensated by an increase in the value of the concession, reflecting the increased demand for such infrastructure assets with a steady cash flow. Maintenance (and toll operations) are being carried out by a joint venture of Dragados and M&R. The O&M contract fixed the O&M costs (subject to the inflation indexation and also to increased payments if traffic exceeds the projected levels, which increases maintenance costs) for the first seven years, subject to review and renegotiation thereafter every five years. As is usual, the lenders require BPCC to hold cash in a maintenance reserve account to ensure the funds are there when required. Once the project had been operating for some time BPCC agreed with the lenders to reduce the amount of cash in this account (in exchange for a bank guarantee) but SANRAL's consent to this was required and was not given.

One common problem for toll roads in sub-Saharan Africa is that of overloaded trucks. These cause a disproportionate amount of damage to the road surface and hence increase maintenance costs. It is difficult for a concessionaire to control this. In the case of the Platinum Highway the concession stipulates that trucks must be weighed at strategic points on the road. Overloaded trucks are required to reduce their loads before proceeding.

Lower traffic levels have meant that the expected expenditure on adding extra lanes and dualising single-lane carriageways has not been needed in some cases, which has also somewhat compensated the equity investors for the lower revenues resulting from less traffic.

Equity Sale and Debt Refinancing

The contractor investors always intended to sell their shares in BPCC once the seven-year restriction in the concession agreement had lapsed, *i.e.* in 2008. BPCC's investors intended to refinance the debt, which would affect the value of the equity, but the financial crisis of 2008 meant that this refinancing could not take place until 2009, and hence the value of the equity for sale could not be calculated until then. In 2009 R3.7bn of new debt was raised, of which R2.6bn was used to prepay the outstanding debt.† The new debt had a term of 20 years from the refinancing date, thus extending the term of the original debt by eight years, *i.e.* to 2029, two years before the end of the concession.

As mentioned above the concession has provisions for sharing the gains from a debt refinancing between the public and private sectors.‡ This resulted in a payment of R186m to SANRAL, with the balance of the extra cash raised going to BPCC's investors. Following the refinancing, in 2010 the contractor investors sold their shares and SAIF became the controlling shareholder of BPCC. At that point the project became fully

* Hence the rather odd addition of the N1 section to the concession. Without it a concession just for the N4 would not have been financially viable.

† The investors had previously been able to take out some extra cash by having BPCC draw on the standby loan, which had never been used, and also substitute a guarantee for the cash held in a reserve account to cover any delays in the next debt-service payment.

‡ It may seem paradoxical to talk about a gain from a refinancing, since borrowing more money does not make anyone richer. However, a refinancing that increases the debt level of a project enables shareholders to take money out of the project much more rapidly than originally projected, thus considerably increasing the rate of return on their equity. The calculation of the refinancing gain is based on this acceleration of the shareholders' cash flow.

Africanised, *i.e.* both its equity and debt are being provided by African institutions. In 2016 SAIF reached the end of its 20-year fund life, and its shareholding was sold to a consortium led by Africa Finance Corporation, a DFI based in Nigeria (*cf*. **Cenpower**).

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Policy Points

Project Structuring

› **Stakeholder consultation**. As with any PPP project, especially a concession where the project company is collecting payments directly from the users of the project, stakeholder buy-in is essential (*cf.* **Lekki Expressway**, **Mbombela Water**). There is always a danger that a campaign develops against a private company seen to be 'ripping off' the general public. In the case of toll roads, it is always difficult to persuade people to pay tolls for an existing road, hence the concentration of toll plazas on new or upgraded roads in this case.* The HUF provisions also enabled SANRAL to assure the public that BPCC could not make excessive profits at the expense of drivers.

› **Excess demand**. Although traffic, and hence BPCC's revenues, has not been significantly greater than projected, a concession should usually have some provision for windfall profits (as was done with the HUF in this case). BPCC can do little to influence traffic flows as these are a product of economic growth, the road system as a whole, the price of fuel, *etc.* Thus, it follows that if factors such as these lead to a large increase in usage, the benefit should be shared with the public authority.

› **Excessive optimism**. On the other hand, the main reason for failure of toll-road concessions is that traffic projections prove to be over-optimistic. This is often the result of the 'winner's curse', *i.e.* the adrenalin of competition causes bidders to get too enthusiastic and assume too high a rate of traffic growth. This may be further encouraged by the bidder's staff being paid a bonus if they win the project, and possibly losing their jobs if they don't. The final result is that the bidder wins, but then soon wishes it hadn't, which can jeopardise the success of the concession (or lead to the concessionaire asking for a bail out). SANRAL avoided this problem by positively discouraging traffic projections that were significantly out of line with its own, which turned out to be substantially accurate.

Procurement

› **Africanisation**. The project originally depended heavily on investment and expertise from Dragos and Macquarie (through AIIM—see Fact Sheet and *cf.* **Lekki Expressway**), *i.e.* from outside Africa. But by the time of the refinancing and sale of the construction contractors' equity in 2009–2010 the African market was able to provide all the equity and debt finance required.

Finance

› **Financial-market development**. The Platinum Highway illustrates how PPPs can contribute to financial-market development. Before the toll-road concessions

* See the considerable recent public opposition to SANRAL's introduction of tolls on existing roads in the Johannesburg–Pretoria conurbation under its Gauteng Freeway Improvement Project (GFIP), to fund general road improvements in this area.

were financed, the South African market would have had difficulty in providing 20-year loans for any purpose.* Similarly, the concessions significantly developed the market for inflation-indexed debt.

- **Interest-rate risk**. The decision not to fix the interest rate for the non-CPI linked debt for the 20-year term of the debt, but to re-fix it every three to five years, was rather risky (although it did pay off), and it is not an approach that could be recommended for most PPP projects. If interest rates had gone up the project could have been in serious trouble. There is an argument that if interest rates go up for any length of time inflation goes up too, and hence the project will have more revenue to pay the extra interest costs. However, taking interest-rate risk on this basis is seldom acceptable to lenders. Public authorities should be concerned with the long-term financial stability of PPP projects, and hence should generally not support this approach either.

- **Currency risk**. There was no currency risk in this project, *i.e.* the debt was in the same currency as the revenues. This illustrates the importance of emerging countries mobilising local savings to finance the development of infrastructure (*cf.* **Bujagali Hydropower**).

- **PPP contract/debt profile**. In this case the concession is for 30 years, while the original debt was only for 20 years. See **Bujagali Hydropower** and **KivuWatt** for discussions on this type of mismatch, *i.e.* the contract term being much longer than the debt term. Where the project company is taking revenue risk, as in this case, there is a better case for a longer period between the debt and concession term, as this gives extra time to repay the debt if traffic flows and hence revenues are significantly below projections. However, this mismatch also created a large refinancing gain, as the 2009 refinancing was able to extend the debt by eight years.

- **Debt guarantee**. Since the debt was effectively (though not formally) guaranteed, the lenders had no particular incentive to undertake detailed due diligence on the project, but this is not unusual for usage-based projects such toll roads, especially in the early development phase of a PPP programme (*cf.* **Lekki Expressway**). Note that the equity investors are not guaranteed in any way, directly or indirectly, so there is still private-sector capital at risk on the project.

- **Inflation indexation**. See **DTI Campus** for a discussion on whether it is appropriate for unitary charge payments to be 100% indexed against inflation so as to reduce the initial payments. In the case of toll roads, there is perhaps a better argument for this, as users do not generally consider rises linked to inflation to be unreasonable. However, the Platinum Highway illustrates a disadvantage of indexing the whole of the toll, as this endangers the financial stability of the project if inflation remains below the original assumptions in the financial model for a prolonged period of time (because there may be a shortage of cash flow for debt service). Index-linked debt, as used in the Platinum Highway case, hedges this risk, but this is not generally available in the region outside South Africa.

* In fact, the N3 concession was financed with 25-year debt, but its traffic projections were far less complex than those for the Platinum Highway.

Balanced against this is the fact that inflation indexation is often based on consumer prices (CPI). These tend to increase more slowly than wages, construction and maintenance costs. Thus, indexing the whole toll gives the project company and its investors and lenders some protection against large increases in these costs.

- **Refinancing.** This project was one of the first South African PPPs to be refinanced. Refinancing is beneficial to the equity investors, since it enables them to take cash out of the project much more quickly than would otherwise be the case. There is a considerable danger, however, that refinancings are seen as the private sector profiteering, and hence discredit a PPP programme. This was why the refinancing gain-sharing provisions were introduced in the British PPP programme in 2002, and copied over to South African PPPs.
- **Sale of shareholdings**. As is usual (*cf.* **Bujagali Hydropower**, **Cenpower**), the sponsors were required to retain their shareholdings for a significant period after the end of construction to ensure their continued commitment to smooth operation of the concession.

Operation Phase

- **Long-term maintenance**. A maintenance reserve account is an important protection for the public authority, as it ensures that funds are always set aside for this purpose. SANRAL's refusal to allow the balance of this account to be reduced was therefore quite reasonable. It is also arguable whether a fixed price, albeit performance-based, maintenance subcontract, as in this case, is the ideal approach, as the maintenance JV obviously has an incentive to avoid maintenance costs. (However, this is a common approach in PPP projects.)
- **Change in law**. The construction and maintenance standards set out in the concession agreement reflected those at the time it was signed. Ideally, SANRAL would have required the concessionaire to adhere to changes in standards as these were introduced. But it is possible to require a concessionaire to adhere to improved standards introduced later on only if it is compensated for the extra cost involved (*cf*. **Mbombela Water**).

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Fact Sheet

PROJECT NAME	**Platinum Highway**
Country	South Africa
Project summary	Toll concession covering 90 km of a section of the N1 running from Tshwane (Pretoria) northwards to Bela-Bela (Warmbaths) and a 295-km section of the N4 running from Tshwane westwards through Rustenburg and Zeerust to the Botswana border.
Public authority	South African National Roads Agency ('SANRAL')
Project company	Bakwena Platinum Corridor Concessionaire (Pty) Ltd ('BPCC')
PPP contract type / term	Toll-road concession / 30 years
Project cost / funding	R3.0bn, funded by: • investors' equity R738m 24% • mezzanine debt R180m 6% • senior debt R2,114m 70% **Total R3,032m** In addition, there was standby equity and debt that was not used.
Investors – pre-refinancing	Infrastructure Concessions South Africa (ICSA), owned 50:50 by Dragados S.A. (acquired by ACIS Group in 2003) and COFIDES (Spanish DFI) 50.00% South Africa Infrastructure Fund (SAIF), (set up by Standard Bank; managed from 2000 by African Infrastructure Investment Managers (AIIM), originally a joint venture between Old Mutual and Macquarie but from 2015 wholly-owned by Old Mutual) 25.00% Murray & Roberts Construction (M&R) (includes shareholdings by Concor and Tolcon, companies later acquired by M&R) 10.67% WBHO Construction 3.55% Old Mutual 2.19% Public Investment Corporation (PIC) 7.81% Royal Bafokeng Nation 0.78% **100.00%**
– post-refinancing (see below)	ICSA, owned 100% by South African Toll Road Company (Pty) Ltd, itself owned by: 82.67% • SAIF 61.67% • African Infrastructure Investment Fund II, also managed by AIIM 10.47% • Africa Finance Corporation (AFC) 5.48% • Kagiso Infrastructure Empowerment Fund 5.05% PIC 7.81% Old Mutual 8.74% Royal Bafokeng Nation 0.78% **100.00%**

PROJECT NAME	**Platinum Highway**
– post-refinancing (contd.)	In 2016 SAIF came to the end of its 20-year fund life, and its shareholding was purchased by a consortium led by AFC.
Lenders: – original loan	R1.2bn arranged by Nedbank, of which: • R663m senior bank loan • R350m European Investment Bank (EIB) loan, guaranteed by senior bank lenders • R180m mezzanine loan (*i.e.* subordinated to other lenders) R1.1bn CPI-linked bond arranged by Investec Overall debt tenor was 20 years; margins about 2%
– 2009 debt refinancing	R3.7bn refinanced debt for a further 20 years: • Nedbank/ABSA: R1.4bn senior term loan • Nedbank R650m sculpted term loan • Nedbank/ABSA R1.5m CPI-linked term loan • Nedbank R150m debt-service guarantee facility
Construction	Consortium of M&R, Dragados, Concor and WBHO Construction
Operation & maintenance	Pt Operational Services (Pty) Ltd, a joint venture of a Dragados-owned company Aurea Concessiones de Infraestructures S.A. (became part of Abertis Infraestructuras, S.A. in 2003) and Tolcon (M&R group)
Public-sector support	SANRAL's obligations, *e.g.* on early termination of the project, are considered to be sovereign obligations of South Africa
Project development	1997 Call for tenders 1998 Bidders reduced to two: • M&R, with Concor and WBHO (Société Générale as lead financial adviser). Later Dragados joined in a lead rôle. • Cintra/Ferrovial, of Spain, and the South African contractors, Stocks & Stocks (Kagiso Financial Services as lead financial adviser). Later joined by Group Five (South African contractor). 1999 M&R consortium chosen as preferred bidder 2000 Signature of concession agreement 2001 Financial close Construction was mainly completed on schedule in 2004, other than the Rustenburg bypass which was delayed for a year.
Historical exchange rates: South African rand per US$1.00. (Annual, as at 1 January)	Year / Rate / Year / Rate / Year / Rate 2000 6.31 2006 6.06 2012 7.82 2001 7.75 2007 7.21 2013 8.96 2002 11.43 2008 7.49 2014 11.12 2003 8.51 2009 10.21 2015 11.64 2004 7.10 2010 7.62 2016 15.89 2005 5.99 2011 7.19 1 Sep 16 14.59

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RIFT VALLEY RAILWAYS (KENYA–UGANDA)

Introduction

Construction of the narrow-gauge* railway line linking Mombasa to Nairobi, and from there to Kampala—originally known as the Uganda Railway—began in the late 19th century, making this the oldest railway in Africa. It was considered an engineering and financial folly, and is often referred to as the 'Lunatic Express', after a book that coined this name.† Over time, additional branch lines were built,‡ extending the lines to 2,350 km. The railway was the main means of moving freight and passengers inland from Mombasa, contributing significantly to the development of East Africa.

After the dissolution of the East African Community in 1977, the railway was split between the state-owned Kenya Railways Corporation (KRC) and Uganda Railways Corporation (URC). It continued to play a major rôle in the economy of Kenya and Uganda. At the peak of its operations in 1983 the railway carried 4.3m tons of cargo, 70% of the total market in the rail corridor. But poor management, lack of maintenance and new investment, and increasing overmanning resulted in a steady decline in volumes of freight and profitability.

By 2004–2005 freight had reduced to 1.9m tons *p.a.*, 20% of the market, mainly in Kenya. KRC had debt of $277m, a cash deficit of $3m a month (mainly to pay wages) and annual losses of $39m, and was effectively insolvent. The low reliability and high cost of the freight service forced most of this market onto the roads. Similarly, it was quicker and cheaper for passengers to take a taxi. In Uganda URC was in a rather better financial condition and had better-maintained track and newer rolling stock. However, Uganda relied on the service through Kenya and it was taking 21 days for freight to reach Kampala from Mombasa.

From the late 1990s both the Kenya and Uganda governments, recognising that the level of investment required to revive the railway was beyond their budget capacities, began to study the possibility of bringing in private capital and management through a concession. It was also recognised that the Kenya and Uganda parts of the railway would need to be concessioned together, as each was dependent on the other.

Procurement Governance

A formal decision to procure a concession was taken by both governments in 2003. Parallel arrangements were set up in Kenya and Uganda for governance during the procurement. Each country had a task force that set up and negotiated the procurement of two identical concessions (see below). These two task forces worked together. Each task force reported to a steering or review committee. Membership of these various committees was as follows:

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* The gauge is 1 metre, compared to the standard gauge of 1.4 metres used in Western Europe, the USA and Japan, amongst others. Most of the line is single track.

† See Bibliography.

‡ These were mainly intended to carry agricultural produce from various parts of Kenya.

Kenya

- *Project Operation Task Force*. Led by the Investment Secretary;* it included members of the Investment Secretariat of the National Treasury, the Attorney General's representative, the Managing Director of KRC and a representative from KRC;
- *Project Steering/Policy Review Committee*. Led by the permanent secretary of the Ministry of Finance and the permanent secretary of the Ministry of Transport, it included the ministers of finance and transport and the Chairman of KRC. The Investment Secretary (also on the task force above) was also a member.

Uganda

- *Project Operation Task Force*. Led by Director of Transport, Ministry of Works, Transport and Communications (WTC), it included the Director of the Utility Reform Unit, Ministry of Finance; Director, Legal Services, Ministry of Justice; Commissioner for Transport, WTC and the Managing Director of URC.
- *Project Steering/Policy Review Committee*. Led by the Ministers of Finance and Transport it included the Minister of WTC; the Minister in Charge of Privatisation and the Chairman of URC. It was supported by the Director of the Utility Reform Unit, Ministry of Finance and the Director of Transport, WTC, both of whom were also on the task force above.

The World Bank's private-finance arm, International Finance Corporation (IFC) acted as the adviser to the Government of Kenya (GoK) and the Canadian consultants Canarail to the Government of Uganda (GoU) in structuring and procuring the project.

Procurement Process

GoK and GoU, with their advisers' assistance, marketed the project widely around the world in 2004–2005. Encouraged by the involvement of IFC, as well the availability of partial-risk guarantees (PRGs) from the World Bank's soft-loan arm, International Development Association (IDA) covering the termination liabilities of GoK and GoU under the concession (see below), seven firms pre-qualified for the procurement.† However, five of them did not submit bids. These companies did not want to provide passenger services,‡ which was a requirement of GoK (but not GoU). The reasons for this included the need to subsidise these services (and the lack of faith that governments would pay the subsidies§), and the reputation risk should there be a major accident. Another issue was the difficulty of obtaining insurance cover because of encroachment on the line.

* The investment secretary held a rank equivalent to permanent secretary in the Investment Secretariat.

† See Fact Sheet for details of these companies.

‡ The passenger services—primarily between Nairobi and Mombasa—did not produce much revenue.

§ In 2007 RITES was awarded a 25-year concession to run the other branch of the old colonial line in Tanzania. RITES pulled out of this in 2010, claiming, *inter alia*, that monies due from the government had not been paid. The company also claimed it had been misled about the condition of the rolling stock—only 55 working locomotives when there were supposed to be 92.

The two bidders were RITES, Indian Railways' consulting arm, and a South African company, Sheltam Group (Sheltam).* Sheltam's main business was the leasing and maintenance of locomotives for mining companies.

The pre-qualification requirements were that the lead investor had

- a net worth of at least $35m or, in the absence of this, a credit line for that amount from a bank.† Sheltam's net worth was below this figure so the company produced a letter of comfort from ABSA Capital of South Africa to fulfil this requirement.
- already managed railways with at least 250m tons of freight *p.a.* and 300 route-km, or in the absence of this to have a partner that met these requirements, which was not the case with Sheltam. Sheltam therefore brought in Comazar, an operator of several railways in Africa, as a technical partner to meet this requirement.

The Sheltam consortium, named Rift Valley Railways (RVR), was appointed the preferred bidder in 2005. The key differences between the two bids were that the RITES bid offered to pay 6% of gross revenues, but required a $6m *p.a.* subsidy over the first five years for running passenger services (that would have largely wiped out the 6% revenue fee), whereas Sheltam offered 11% and to pay $1m for the right to run the passenger services.

The Concession

There are two (substantially identical) concession agreements, with KRC and URC respectively, signed with separate Kenya and Uganda companies that have a common holding company, Rift Valley Railways Investments (Pty) Ltd. (These companies will be referred to collectively as RVR.)

Key terms of the concessions, signed in 2006, include:

- The term of the concessions is 25 years.
- The concessions gave RVR the exclusive right to use the railway for freight and also for passengers for the first five years.
- RVR had the right to set the freight tariffs and passenger fares for (other than third-class passengers in Kenya).
- RVR took over use of the 'conceded assets'—the rail infrastructure, locomotives, rolling stock and ancillary facilities‡—but these remained in the ownership of KRC and URC.
- The conceded assets were to be maintained and rehabilitated to agreed standards.
- A 'Conceded Assets Account' was to be maintained. This was to be initially credited with the value of the original conceded assets and amortised over time. Conversely, the investments made by RVR were to be debited to this account and also amortised over their lives. The net balance of the account is a liability of GoK and GoU, to be paid to RVR if the concession was terminated early, or at the end of the 25-year term. IDA provided PRGs ($45m for GoK and $15m for GoU) supporting these liabilities.

* The Sheltam bid arrived late in the bidding process: the circumstances behind this are not clear.

† It is difficult to understand why the ability to borrow $35m was thought to be as good as having a net worth of $35m, and why it was thought that a (necessarily short-term) credit line from a bank could be used to invest equity in the project.

‡ Apart from the track, these included 220 locomotives, 7,500 wagons, three ferries (on Lake Victoria) and workshops at Mombasa, Nairobi and Kampala.

- RVR was to invest a minimum of $6m *p.a.* ($5m in Kenya and $1m in Uganda) for the first five years. (The projected investment over the life of the project was $450m.)
- Freight was to be increased by a minimum of 75% (measured in ton/km) over the first five years, and at 60% of GDP thereafter.
- RVR was required to provide performance bonds to support its obligations.
- The first review of whether RVR was meeting these requirements was to take place in 2009.
- KRC and URC were to monitor performance under the concession. This involved checking assets and certifying that investments were taking place as well as checking other deliverables under the concession agreement.
- RVR was to pay the following fees:
  - an entry fee of $3m to KRC/GoK and $1m to URC/GoU (that presumably would have covered the governments' procurement costs)
  - an annual concession fee of 11% of gross revenues*
  - a passenger service fee of $1m *p.a.* to KRC/GoK
- The lead investor, Sheltam, was required to retain at least 35% of RVR's equity and Kenyan and Ugandan investors each holding 15% were to be brought in within three years.
- There was a no-competition clause, prohibiting GoK from constructing a parallel railway within 50 km of RVR.

Finance

The financing plan involved raising enough funds to cover investment requirements for the first five years, less projected cash flow for this period, which was also to be reinvested. Thereafter, cash-flow projections indicated that no further external finance would be needed, *i.e.* RVR would be able to make further investments purely from its own cash flow.

IFC provided $64m of debt finance (of which $10m was a subordinated loan) in conjunction with KfW, the German DFI.† The debt was available for drawing as and when RVR made new investments. This structure differs from the standard project-finance approach where the drawing of the debt is clearly linked to a fixed construction / investment programme, but is typical of a project in which a complex network operation is being upgraded (*cf.* **Mbombela Water**). Of course, the availability of the debt also depended on the equity subscription being completed.

Equity Subscription

But Sheltam's bid faltered rapidly as the signing date for the concession drew near. On the eve of the signature in October 2005 two key financial backers dropped out. ABSA had never made a firm commitment to provide any credit to Sheltam, and withdrew its support. Grindrod, a major South African logistics company, withdrew its financial support. In December Sheltam's key technical partner Comazar also dropped out. Sheltam was then given only 45 days to raise the $24m equity required and thus reach

* This fee was intended to pay off the debt associated with the conceded assets.

† It seems that ABSA had actually originally intended to finance half of the debt, rather than Sheltam's equity investment, and IFC took ABSA's place in this respect at the last minute before financial close.

financial close. Very much at the last minute, the unsubscribed equity was secured by the efforts of IFC and Sheltam's financial adviser, PwC, from TransCentury, a Kenyan conglomerate, ICDC, a GoK-owned DFI, and the Australian infrastructure fund manager, Babcock & Brown.* The requirement for the performance bond was dropped.

GoK and GoU had realised, even before signature of the concession, that Sheltam had limited financial or technical substance and its bid was seriously flawed. But even when ABSA, Grindrod and Comazar withdrew, the governments felt they were unable to cancel the award to Sheltam, since these companies had not technically been bidding in a consortium with Sheltam. The award had been to Sheltam alone. Having said this, since Sheltam failed to meet the equity subscription requirement on signing the concession, the award to Sheltam could presumably have been cancelled at that time rather than Sheltam being given the extra 45 days.

Staff and Resettlement

KRC employed 22,000 staff in 1992; the numbers had reduced to 9,500 by 2005, but were still much higher than what was really needed. Most of the staff worked for KRC. RVR planned to retain about 3,000 of the staff and make the rest redundant. IDA provided GoK with $44m to cover severance payments and contributions to the staff pension fund. Further funding for this purpose came from GoK. (The signing of the concession was held up by a court case filed by the employees who were to be dismissed and pensioners who were concerned about the funding of the KRC pension scheme, which was settled.)

There was also significant encroachment on the line in parts of Kenya, and a resettlement plan was made with IDA support.†

Early Failure (2006–2010)

Disputes between the smaller shareholders and Sheltam began almost immediately,‡ and as early as April 2007, three months after financial close, GoK was concerned about the lack of investment and continued poor performance, and this concern continued to grow. Sheltam had said it would bring in outside expertise to run RVR, but did not do so, taking over management and hiring staff itself. It soon became apparent that this expertise was seriously lacking.§

By 2008 Sheltam had apparently still failed to invest its equity¶ and the balance of equity and the debt that been drawn (only $10m of the debt being the IFC subordinated loan) was just being used to pay wages. IFC and KfW suspended further disbursements

* This company became insolvent in 2009 as a result of the 2008 financial crisis.

† The land appropriation for RVR was supposed to be 30 metres on either side of the track (for safety reasons), but the IDA support related only to clearing 5.5 metres. RVR then claimed it was only responsible for keeping 5.5 m unobstructed—the concession was not clear on this point.

‡ As lead investor Sheltam had a great deal of authority to take management decisions to which the other shareholders objected. Moreover, two of the smaller companies in the original bidding group had been excluded (see Fact Sheet). And as mentioned below, Sheltam had not paid in its equity, while the other shareholders had done so.

§ Matters were not helped by the post-election violence in Nairobi in 2007–2008, during which part of the RVR track was uprooted. In 2016 GoK finally paid RVR $4 million in compensation.

¶ It seems it was subscribed but not actually invested. This should have been a condition precedent to financial close, and if this information is correct (and the unpaid equity was not secured, *e.g.* by a bank guarantee, which does not seem to have been the case) it is difficult to understand why IFC nonetheless advanced its subordinated loan.

at this time. Less than $1m *p.a.* had been invested instead of the required $6m (let alone RVR's planned investment of $16m *p.a.*). Monitoring by KRC and URC also seems to have been poor, although under the concession there was no power for them to take action for these failures until 2009.*

RVR had also failed to pay the entry fees, concession fees, its fuel bills to Shell Kenya and even its office rental due to KRC. It made a loss of the equivalent of $24m in 2008. Moreover, far from RVR increasing the freight traffic, by 2008 this had dropped some 30% since the concession had been signed, and the time taken to deliver shipments increased by 25%.

RVR also closed branch lines to places that relied on them to ship agricultural products (*e.g.* Nairobi to Nanyuki). There is no control in the concession on this. There is a provision that if an asset is not profitable it can be returned to GoK, but GoK did not have the resources to do anything with a closed line.

In July 2008 employees went on strike because their salaries were not being paid, and they evicted the Sheltam staff from RVR's premises. Following threats by GoK to cancel the concession, in 2008 RVR agreed with the governments that further equity and debt would be raised, Sheltam did not have to retain 35% (as the smaller shareholders wanted to bring in a new lead investor), a new investment plan would be drawn up, the no-competition clause could be dropped (so GoK and GoU could look at the options for a parallel standard-gauge line), and a new board and management would be installed. Management of RVR was contracted to Toll Holdings, an Australian logistics company.† However, this new investment and debt was not forthcoming—partly because of disputes between Sheltam and the other shareholders—and RVR continued to perform poorly while its shareholders tried to find a way forward.

At the beginning of 2009 GoK and GoU issued a termination notice to RVR. Under the terms of a direct agreement between the lenders and the governments, IFC and KfW then had a cure period, in which they were given the opportunity to remedy RVR's defaults.‡ They then began work on a restructuring. There was no investment in the railway between 2008 and 2010 as these events took place.

The 2010–2011 Restructuring

In 2010 Sheltam put its shareholding up for sale and a new party came on the scene, an Egyptian private-equity investor, Citadel Capital (Citadel, later renamed Qalaa Holdings [Qalaa]). Citadel initially purchased 49% of Sheltam's shares through a subsidiary, Africa Railways Ltd (ARL), and after a battle for control between Citadel and TransCentury, ARL also bought the remaining Sheltam shares and those of other shareholders, so becoming the controlling shareholder with 51% of RVR's equity, leaving TransCentury with 34%. The Ugandan businessman Charles Mbire came in as a new shareholder with 15%. Also in 2010 the management of the RVR system was contracted out again, this time to América Latina Logística of Brazil (later renamed Rumo Logística).

* In this type of concession, it is normal to give an initial grace period for the investments to be made but monitoring is still necessary to check this is being done.

† Toll Holdings had originally considered making an equity investment but did not pursue this. The company resigned from its management rôle in 2009.

‡ A direct agreement between the public authority and the lenders that allows the latter extra time to remedy defaults is a standard document in project financing. It is in the public authority's interest that the lenders find a solution, and the lenders are of course motivated to find such a solution to protect their debt.

Public pressure to terminate the concession had continued, but instead GoK and GoU reluctantly agreed to a financial restructuring in 2011, to be carried out by IFC and the new shareholders. (Their lack of faith that this would work was summed up by a comment from the Director of Uganda's Privatisation Unit, 'Once bitten, twice shy'.)

New finance was raised to cover capital investment of $287m over the next five years. ARL raised $110m of new equity from Citadel, IFC and three European DFIs, to be invested in RVR; the debt was increased by $100m with the additional funding coming from new lenders—African Development Bank (AfDB), European DFIs and Equity Bank of Kenya. Again, the balance of the investment was to be funded from cash flow.* This new funding was based on a plan to double freight from 1.6m tons in 2010–2011 to 3m tons *p.a.* in the next three years, and to over 5m tons *p.a.* by 2020, returning RVR to profitability.

Changes were also made in the concession agreement, including changing the no competition clause into an undertaking that GoK and GoU could not take actions that jeopardised RVR's profitability. Three KPIs were also set up

- to pay off the accrued unpaid concession fees
- to invest at least $40m in rolling stock and infrastructure over the next five years
- to increase freight traffic.

It was not until 2010 that the value of the assets transferred by KRC was finally agreed,† and hence that the balance of the Conceded Assets Account could be settled. There had been no audit of these assets at the time of financial close, and when this was finally done during the restructuring process only 65% of the assets could be found.

Performance 2012–2015

RVR's investment programme after 2011 proceeded at a much faster pace than required by the concession amendment, such that the full $164m of debt had been drawn by 2014 and by the end of 2015 the investment programme came to an end, with a total investment of $287m.

Nonetheless, RVR was still making no real impact in the key task of getting freight from Mombasa off the roads. The freight passing through Mombasa had increased to 22m tons in 2012, of which RVR handled only 1.5m tons that year; in 2013 the figures were 22m and 1.2m tons, respectively. In fact, RVR decided in 2012 to concentrate on the key routes north of Nairobi to Eldoret and Kampala, because it could not compete effectively on the Nairobi–Mombasa route. This of course undermined a key *raison d'être* of the concession from the governments' point of view.

In the year to March 2014 RVR managed to increase freight to 1.5m tons—still significantly lower than the level when the concession was first awarded nearly 10 years previously. RVR remained unprofitable, reporting losses of $1.5m. In 2014 it was still taking freight trains two weeks to travel from Mombasa to Kampala, and in May GoK and GoU gave RVR nine months to increase its freight to 1.7m tonnes.

Following another battle for control, in 2014 TransCentury sold its shares to ARL (at a substantial book loss), thus leaving the latter with 85% of the equity. The ARL shareholders agreed to a further investment of $80m, of which $40m was for the TransCentury shares. In 2014 RVR also raised $20m from Standard Bank for the

* See Fact Sheet for details.

† There seems to have been less of a problem in Uganda.

purchase of 20 'new' (actually reconditioned) locomotives. In March 2015 RVR claimed it was now meeting all the KPIs. The transit time from Mombasa to Kampala had been reduced to four days.

The Standard-Gauge Railway

Meanwhile, however, GoK took advantage of the removal of the no-competition clause from the concession agreement to sign an agreement in 2012 with China Roads and Bridges Company, a subsidiary of China Communications Construction Company (CCCC), to build a new standard-gauge railway (SGR) from Mombasa to Nairobi, parallel to RVR's line. This contract was awarded on a 'government-to-government' basis between Kenya and China, with no competitive procurement.

The advantages of standard gauge are that the wagons can carry heavier loads than 1 metre gauge, including larger containers, and trains can run faster. The SGR is intended to link in with other plans for standard-gauge lines covering most of East Africa, with this particular line being extended to Naivasha,* Kampala, Kigali (Rwanda) and finally to Juba (South Sudan).

The line is intended for high-speed passenger trains as well as freight. The scope of the SGR works includes locomotives and rolling stock, 33 stations, maintenance workshops, and so on. Completion of the Mombasa–Nairobi section is scheduled in 2017.† The cost of this first stage of the line to Nairobi, at $3.8bn, dwarfs the investment in RVR. Most of this sum is being borrowed from China EXIM Bank with a GoK guarantee. GoK also guarantees the freight traffic required to ensure the repayment of this debt, giving it a strong incentive to undermine RVR.

Clearly one factor in GoK's thinking in pursuing the SGR project was its frustration with RVR's failure to deliver. Nonetheless, RVR is entitled to compensation for losses caused by the SGR. An agreement was signed with GoK in 2015 that appeared to be intended as a basis for calculating this compensation, but the RVR CEO was quoted as saying:

> I do not know how it will be applied. It could be many forms. It could be a cheque at the end of the month or it could be telling us to get involved with anyone else who is going to operate the SGR.

This does not suggest that RVR's situation is at all clear. There seems to be little confidence that RVR will be able to retain customers once the SGR opens. The SGR's freight charges are expected to be half those of RVR (although it is unclear if the public statements to that effect take account of the SGR's capital cost).

As KRC did not consider that it had the capacity to operate the SGR, it planned to let a management contract; a concession now being out of the question, given its experience with RVR. RVR had hopes of being awarded this management contract as compensation for its loss of business, but in 2016 GoK announced that it had decided to award the contract to CCCC for the first five years of operation, again with no public bidding.

* In March 2016, GoK signed a commercial contract with CCCC for the extension of the line north of Naivasha, though finance for this still had to be arranged. Negotiations were also taking place in Uganda for its section of the SGR.

† There may be some delay, as court cases have been brought objecting to the SGR's routing through Nairobi National Park.

2016: Problems Grow

RVR seemed to be facing a sea of troubles in 2016, and not just from the prospect of the SGR beginning operations in 2017. For example, the sharp drop in oil prices made it difficult for RVR to compete with trucks: fuel takes up 85% of the latter's costs, but 50% of RVR's. As a result, it seems that RVR was unable to pay the concession fees due in 2016.

Rapid changes in RVR's management took place, including two changes of CEO. In July press reports suggested that RVR was under investigation by the World Bank in connection with its letting of the contracts for its investment programme, and the management fees charged by Qalaa. Qalaa strongly denied these accusations. Meanwhile Qalaa's interim accounts for the first quarter of 2016 stated that ARL was now an 'investment held for sale', and 'discontinued operations', of which ARL seems to be the main one, had made a loss of $94m. The second quarter statement showed a loss of $131m.

In September, a press report stated that RVR had ceased to make principal repayments on its debt since the beginning of the year, and was just paying interest. 'Stakeholders' commented that there was still a lack of railway-management expertise, with Qalaa concentrating more on its energy investments in the Middle East and North Africa.

RVR also announced that it was opening the line to other operators of freight services that would make their own investment in locomotives and rolling stock. According to the latest CEO, RVR had 'had taken the strategic decision to reduce on capital investments and generate more business'.

None of this suggests that the concession is in good financial health. The best way out for the RVR lenders might be if GoK and GoU terminated the concession and paid out their liability on the Conceded Assets Account, standing at about $160m in 2016 (reflecting the investments made by RVR). This might cover RVR's debt, although probably little or nothing would be left for the investors expect perhaps whatever compensation might be received in respect of the SGR.

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Policy Points

General Issues

- **Bi-national project**. Undertaking a PPP that operates in two countries is significantly more complex than undertaking one that operates in only one country, and the former is generally best avoided. In this case, however, GoK and GoU seem to have worked harmoniously and effectively together.

Project Structuring

- **Contract scope**. Most pre-qualified bidders (a number of whom were major rail operators) withdrew because of GoK's insistence on including passenger services in the PPP, and it seems likely that the concession would have been awarded to RITES—a far more credible operator—had it not been for the passenger-service requirement. (As of mid-2016 there is a Nairobi–Mombasa rail service at most three to four times a week on a very irregular timetable.) The project scope should probably have been reconsidered when it because clear that passenger services were a problem for bidders.

- **Transfer of staff**. As discussed in the case of **Mbombela Water**, it is generally undesirable to use the transfer of infrastructure to a PPP as a way of reducing staff, or employing them on worse terms. However, in the case of RVR the overmanning was so great that redundancies of staff were inevitable, but funding was provided to ensure fair treatment of those made redundant.

- **Old and complex systems**. It is challenging to procure a PPP in which the project company takes over an old and complex system. As was the case here, there may be no clear register of assets already in the system and the condition of these assets may be unclear. Hence, the level of risk (how much needs to be spent to replace or upgrade the assets) may also be unclear, and without this knowledge it is difficult to draw up financing plans for such projects.

Procurement

- **Marketing**. Marketing a PPP project is a key part of the procurement process. In this case the governments followed best practice by making presentations on the project around the world, and identifying likely bidders, before the formal procurement process began.

- **Procurement governance**. Best practice in PPP procurements is that there should be a project board chaired by a senior officer (*e.g.* the permanent secretary) from the line ministry (the Ministry of Transport in this case), and with other senior officers from the Ministry of Finance (or its PPP unit) and other relevant public authorities (*e.g.* KRC and URC in this case). This board should supervise the project team, consisting of a full-time project director, other technical and financial staff, and the public authority's advisers. The project board should report and make recommendations to the minister(s) concerned. Matters were complicated in this case as two countries were involved, but the same principles

should have applied—instead the procurement was probably too much under the control of the ministries of finance rather than the line ministries.

- **External advisers**. It seems that both the negotiation process and the final decision to continue with Sheltam rather than start again were strongly influenced by IFC. (Moreover, without IFC senior debt funding replacing that of ABSA, and IFC advancing its subordinated loan, the project would not have gone ahead anyway.) Obviously IFC had more financial expertise than the governments, but this was not IFC's deal. Advisers can only advise: decisions have to be taken by the public authority—the latter should not abdicate and hand over to the adviser. It is important to have a project director with good project-management skills to ensure this does not happen. It should also be borne in mind that the adviser may have a strong incentive to get the deal signed, even if it is not ideal for the public authority, since advisers are often paid on a success-fee basis (and again there are also personal reputations at stake), although it is not suggested that this was the case in this project with IFC, which has an economic and social development focus.

- **Sponsors/pre-qualification**. This case clearly shows the danger of relying on a sponsor that is both financially and technically weak. Had there been a proper due diligence before the Sheltam bid was accepted, it should have been obvious that it was seriously flawed. Instead the various assurances of financial and technical support that Sheltam gave at the pre-qualification stage seem to have been accepted without any serious investigation. Furthermore, the pre-qualification requirements were themselves technically flawed, both as to the net worth requirement and as to the level of commitment from key technical and financial partners. Even after the 2011 restructuring the project had no investors with railway expertise. It is probably not realistic to expect a management contract (*e.g.* that with América Latina Logística) to fill this gap.

- **Cancelling a procurement**. It was quite clear, by the time the concession was due to be signed in 2006, that Sheltam had little financial credibility, and either negotiations should have switched to the second bidder or the procurement should have been restarted (*cf*. **DTI Campus**). But public authorities are very reluctant to cancel a procurement at such a late stage—both money and time will have been wasted and the credibility of senior officials and their political masters will be at stake. Nonetheless it does not make sense to sign a badly-constructed PPP in the hope that its problems can be sorted out later. The result in this case was that the concession effectively failed in its early years and negotiations had to start again in 2010–2011. (The other issue that contributed to this problem was over-rigid procurement legislation that made it legally difficult to cancel the award to Sheltam, at least until the last minute before the signing was due to take place.)

Finance

- **Currency risk**. RVR's debt is in US dollars, whereas its revenues and operating costs are largely in Kenyan and Ugandan shillings. However, this may not be such an issue as in other cases (*cf.* **Bujagali Hydropower**), since actually both RVR's and competing trucks' revenues are strongly linked to dollar costs (fuel, spare parts and rolling stock).

Operation Phase

› **Continuous investment**. It is complex for a public authority to procure and monitor a project to upgrade an old system that involves investment spread out over many years, relying heavily on cash flow from operations. Moreover, a reduction in cash flow will inevitably result in a cut-back in investment (*cf.* **Mbombela Water**). On the other hand, it may not be viable for such a project to be financed purely by debt without relying on the cash flow.

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Fact Sheet

PROJECT NAME	**Rift Valley Railways**
Country	Kenya & Uganda
Project summary	Railway concession; took over the existing state railways of Kenya and Uganda; the project is structured as two separate but identical concessions in Kenya and Uganda. The lines primarily carry freight, with some passengers in Kenya.
Public authority	Kenya Railways Corporation (KRC) / Uganda Railways Corporation (URC); International Finance Corporation (IFC) was adviser to the Government of Kenya (GoK), and Canarail to the Government of Uganda (GoU).
Project company	There are two separate concession companies, known collectively as Rift Valley Railways (RVR), owned by the same holding company, RVR Investments (Pty) Limited, which is in turn owned by Kenya Uganda Railways Holdings (KURH).
PPP contract type / term	Concession / 25 years
Project cost / funding (2006)	Estimated investment for concession term was $450m Initial funding for the first five years of the concession: Equity $24m (+ $4m standby equity) (30%) Debt $68m (70%) Cash flow $33m **Total** **$125m** Further investment thereafter was to be funded from cash flow.
Investors (2006-2010)	The original RVR bid consortium consisted of: Sheltam Rail (Sheltam) (South Africa) 61% Comazar Pty Ltd. (South Africa) 10% Prime Fuels (Kenya) 15% Mirambo Holdings (Tanzania) 10% CDIO Institute for Africa Development Trust (South Africa) 4% Sheltam was also relying on investment from Grindrod (South Africa), which was withdrawn before financial close. Comazar (now Vecturis) and CDIO dropped out before financial close. Prime Fuels and Mirambo were excluded from the investment group before financial close, but won an arbitration allowing them to take up their investments in 2008, at which time the investors were. Sheltam (South Africa) 35% TransCentury (Kenya) 20% ICDC (Kenya) 10% Babcock Investments (Australia) 10% Prime Fuels (Kenya) 15%

PROJECT NAME	**Rift Valley Railways**
Investors (2006-2010) (contd.)	Mirambo Holdings (Tanzania) 10% In 2009-2010 Citadel Capital, now renamed Qalaa Holdings, an Egyptian private-equity investor, purchased first 49% and then the balance of the Sheltam shares, plus those of other shareholders except TransCentury; it then sold some of its holding to TransCentury and a new Ugandan investor, resulting in a shareholding structure of: Qalaa Holdings, through Africa Railways Ltd. (ARL) 51% TransCentury 34% Bomi Holdings (owned by Charles Mbire) (Uganda) 15%
Investors (2011-date)	In 2011 Citadel and various DFIs made $110m of new equity investments in RVR through ARL: Citadel $40m IFC $10m IFC African, Latin American and Caribbean Fund $20m FMO (Dutch DFI) $15m DEG (German DFI) $14m Proparco (French DFI) $11m In 2014 TransCentury sold its shares to ARL, so that the latter now holds 85% of the equity in RVR. A further investment of $80m was made at that time by ARL's shareholders, of which $40m was to purchase TransCentury's shares.
Lenders (2006-2011)	IFC $32m (of which $10m is subordinated) KfW (German DFI) $32m International Development Association (IDA) also provided a separate credit of $44m to GoK for labour retrenchment and pension liabilities.
Lenders (2011 refinancing)	The 2011 debt refinancing raised $100m of new debt, while keeping the $64m IFC/KfW loans in place (all the debt being repayable over 15 years), the new lenders being various DFIs and a Kenyan commercial bank: African Development Bank $40m Equity Bank (Kenya) $20m FMO $20m PIDG Infrastructure Crisis Facility – Debt Pool, managed by Cordiant Capital $20m BIO (Belgium) $10m
Other debt	In 2014 RVR raised $20m of asset finance from Standard Bank for new locomotives
Operation & maintenance	Initially by Sheltam; 2008-2009 by Toll Holdings; from 2011 by América Latina Logística (ALL), later renamed Rumo Logística.
Public-sector support	On termination GoK/GoU are liable for the balance of a 'Conceded Asset Ac-count' (= 'value' of the concession assets). International Development Association ('IDA') Partial Risk Guarantees ('PRGs') of $60m cover these obligations.

PROJECT NAME	**Rift Valley Railways**
Project History	2005 Procurement through international competitive bidding; • nine bidders applied for pre-qualification. • seven were pre-qualified: CANAC (Canada), China Railway First Group, Maersk, Magadi Soda Company, NLPI (South Africa), RITES (India) and Sheltam • two bids bids submitted: RITES and Sheltam 2006 Financial close 2011 Financial restructuring

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(* = internet download)

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SONGAS (TANZANIA)

Introduction

The Songo Songo integrated gas-to-electricity project has a long and complex history that began in 1974 with the discovery of an offshore reservoir of natural gas by the Italian oil company AGIP, near Songo Songo island, some 25 km from the Tanzanian mainland. AGIP did not develop the field, as it was considered uneconomic, and handed it back to the Government of Tanzania (GoT). Plans to use the gas for fertiliser production also came to nothing.

In the 1990s Tanzania was primarily dependent on hydropower for its electricity generation. Drought problems combined with poor maintenance and bad management led to an unreliable supply with significant load shedding at regular intervals. Studies suggested that the least-cost (after hydropower) and fastest solution to this supply problem would be to use Songo Songo gas for power generation.

Procurement

In 1993 GoT decided to call for tenders to develop the Songo Songo project as an integrated gas-to-electricity project (using a structure similar to one that had previously been developed in the Netherlands for North Sea gas), consisting of:

- the rehabilitation of existing gas wells in the Songo Songo field
- gas-processing facilities on Songo Songo Island
- a 70m cubic feet per day gas pipeline running 25 km to the mainland, and thereafter 207 km to Dar-es-Salaam
- taking over the existing Ubungo 115 MW fuel oil-fired power station and converting this to gas firing
- expanding capacity at Ubungo by 65 MW

The gas in the allocated portion of the field was to be used primarily for Ubungo (and an adjacent cement plant), but surpluses could be sold to other users in Dar-es-Salaam (see below).

In 1995 the tender was won by TransCanada Pipelines Ltd (TCP; a major oil- and gas-pipeline operator now known as TransCanada Corporation) in partnership with a Canadian developer, Ocelot International Inc. (Ocelot).* They established the project company, Songas Ltd (Songas).

Why did GoT use the PPP Route?

There were various reasons that led GoT to use a PPP route rather than procure the project in the public sector:

* Although originally 16 companies had expressed interest in bidding for the project, in the end there were only two bids, the losing one being from a consortium led by Enron Corporation, a US power developer and trader that went bankrupt in 2001 (*cf*. **Bujagali Hydropower**).

- Tanzania did not have any public-sector expertise in gas processing or pipelines, so it would have been necessary to engage a private-sector company for this aspect of the project anyway.
- Neither the state-owned Tanzania Electric Supply Company Ltd (Tanesco) nor GoT had a budget for such a major project and borrowing the funding, even assuming that this would have been possible, would have reduced funding available for other development projects and hence delayed their implementation.
- The private sector would have a strong incentive to manage the construction and operating risks in the project efficiently because a PPP would involve significant private-sector investment in the project.
- There would be wider benefits from building investor confidence in Tanzania.
- The project would also lead to the development of a commercial gas market (based on the sales of surplus gas).

ITPL

In parallel with the Songo Songo project, GoT was procuring another $163m 100 MW IPP (using imported diesel), known as Independent Power Tanzania Ltd (ITPL), whose investors were Malaysian. This was a 'fast-track' project based on an unsolicited bid. Tanesco signed a PPA with ITPL in 1995. This project became the subject of considerable controversy. The DFIs involved in the Songas project, the World Bank and the British DFI Commonwealth Development Corporation (CDC) were concerned that at that time there was no need for both projects* and that Tanesco did not have enough revenues to pay for two, relatively high-cost PPAs at once. There were also allegations of corruption and suggestions that the project cost, and hence the cost of the power under its PPA, was too high. The International Monetary Fund threatened to cancel a $234m structural adjustment loan on which GoT was relying. Succumbing to DFI pressure, in 1997 GoT cancelled the project on the grounds of excess costs and an arbitration proceeding with ITPL began in late 1998. In 2001 the arbitration panel ruled that the cost of the project had been inflated by about 18%, but that after reducing the tariff accordingly the project should go ahead, which it did in due course.† This situation caused the development of Songas to be put on hold from mid-1997 to mid-2001. It also caused Ubungo to be scaled back from the originally-agreed capacity of 180 MW to 115 MW.‡

AES Takeover of Songas

In 2000 TCP withdrew from the project (as part of a divestment programme of non-North American assets) and sold its interest to AES Corporation (AES), a major US power developer, for $40m.

In 2000 Ocelot agreed with the AIG African Infrastructure Fund (an emerging-market investment fund in which the main investor was the US insurance company AIG) and Rand Merchant Bank (South Africa) to inject its African businesses into a joint venture named PanAfrican Energy Corporation (PAE). PAE's subsidiary, PanAfrican Energy Tanzania Ltd (PAT), took over the participation in Songas. PAT also sold its shareholding to AES in 2001 for $22m, but remained the operator of the gas field.

* As will be seen this situation changed from the mid-2000s.

† ITPL began producing power early in 2002. It is worth noting that ITPL is still significantly more expensive than Songas, even though the cost of the latter project included all the gas infrastructure.

‡ As will be seen below, an expansion took place in 2005 when more capacity was needed.

Power-Purchase Agreement

The 20-year PPA between Songas and Tanesco, together with other key contract documentation, was originally signed in 1997. (There were subsequent changes before financial close in 2001.) Under this agreement:

- Songas was to be responsible for the design, construction, finance and operation of the project as described above.
- Tanesco was responsible for securing the relevant wayleaves for the pipeline.
- Tariff: Tanesco makes monthly payments, consisting of
  - a capacity payment, designed to repay Songas' debt and provide the equity investors with their projected return over the life of the project (subject to the points below); payments decline on a straight-line basis to zero by the end of the contract; and
  - a variable payment, primarily designed to cover Songas' fuel (gas) and O&M costs.

  These tariff payments are partly payable in US dollars and partly in Tanzanian shillings (TZS), reflecting Songas' anticipated costs. On average 25% is payable in US dollars and 75% in TZS.
- There are penalties and bonuses that are designed to ensure that Songas operates the facilities according to prudent utility practices and maximises availability, subject to adhering to the agreed budget.
- The key risks assumed by Songas were:
  - construction cost overruns: overruns up to 15% over the agreed costs had to be funded 50% by new equity with no adjustment to the tariff, and 37.5% by a GoT loan plus 12.5% new equity, both with a tariff adjustment.
  - delays in completion due to its or its contractors' failure to design the project or management construction adequately: penalties were payable for each day of delay.
  - failure to maintain dependable capacity, heat rate* or gas quality.
  - operating costs exceeding O&M budgets.
- AES provided a $50m parent company guarantee (PCG) to finance cost overruns or delay penalties and another PCG of $10m for losses caused by wilful misconduct or gross negligence.
- The project is structured as build-own-operate, *i.e.* the project belongs to Songas even after the expiry of the PPA.
- Tanesco's obligations under the PPA are supported by an Implementation Agreement between Songas and GoT, in which *inter alia* GoT guaranteed Tanesco's obligations (see also section on finance below).
- In the case of termination for default by Tanesco or GoT, Songas is entitled to its loss of profit (no method of calculating this is specified).

Non-Songas Gas

PAT is both a subcontractor to Songas as the gas-field operator, and has a separate joint-venture agreement with the state-owned Tanzania Petroleum Development Corporation (TPDC). The latter provides for joint marketing of surplus gas not required by Songas (known as 'Additional Gas', as opposed to Songas' 'Protected Gas') to

* *i.e.* the amount of gas required to produce a given power output.

commercial and industrial users.* Songas' pipeline has to be made available to the joint venture on a pre-agreed tariff.

The benefit of this arrangement is shared between the joint venture, GoT in the form of additional gas fees and Tanesco (thus providing a subsidy towards Tanesco's capacity payments under the PPA). Songas pays about 25% of the market price for its gas, which takes account of the fact that it paid for the gas infrastructure.

About 45% of the pipeline capacity (100 MMCF/day) is used to supply Songas, and PAT sells a further 45% to Tanesco and 10% to other industrial users in Dar-es-Salaam. The total gas produced by PAT now powers 50% of the Tanzanian national grid.

Finance

At financial close in 2001, the total projected cost of the project (excluding the 65 MW expansion) was $313m, with financing wholly in US dollars, at a 75:25 debt:equity ratio.

- **Equity.** At financial close the equity structure was a complex mix of common stock and two classes of preferred stock (see Fact Sheet). However, AES, as the main sponsor, invested 50% of the total equity and effectively controlled Songas. CDC held 23% of the total equity. GoT retained an equity interest in the project and the balance of equity was held by Tanesco and TPDC, as well as Tanzania Development Finance Company Ltd (TDFL).†
- **Debt.** It was clear in 1995 that because of Tanzania's weak balance of payments performance and heavy external debt burden, and Tanesco's poor financial and operational performance, there would be no interest from commercial banks in providing debt for the project, nor from other sources such as export-credit agencies. By 2001 the World Bank had developed its partial-risk guarantee, which could have been used to cover the political risks in the project, but it would have required a new set of negotiations that would have delayed the project unnecessarily, and hence involved the sponsors in substantial extra development cost. Therefore, the decision was taken to keep the debt structure as originally agreed in 1995: the World Bank's soft-loan agency International Development Association (IDA)‡ and EIB lent $238m of 20-year debt to GoT, which then on-lent this sum to Songas.
- **Equity security.** A feature of the debt finance, and one that became significant in later years, is that if Tanesco does not make the required payments under the PPA, Songas can offset these amounts against the debt service due on the GoT loan.§ The result is that the debt is effectively subordinated to the equity (other than in the case of poor performance by Songas); a very unusual structure.

* This meant that ITPL could be converted to gas firing, but to date this has not happened. Recent estimates are that this failure is costing GoT $11m per month in extra fuel import charges. ITPL has defaulted on its debt, originally provided by Malaysian banks but now held by Standard Chartered Bank (UK), which means that effectively the bank controls the project.

† TDFL was state-owned at the time, but subsequently privatised; GoT retains a 32% shareholding. TDFL's investment was financed by the European Union's DFI, European Investment Bank (EIB).

‡ The rôle of IDA in this project has remained unique: normally one might have expected International Finance Corporation (IFC), the World Bank's private-sector lending arm to have become involved, but IFC had had a very limited rôle and it was easier to continue with IDA, which had already been extensively involved in financing Tanzania's energy sector.

§ In 2005 Tanesco ceased to pay Songas the portion of the capacity charge (about one-third) that covered the latter's payments on the GoT loan. Thus, Songas also ceased to make debt-service payments on the GoT loan.

Furthermore, from 1996 onwards GoT imposed a petroleum surcharge, used to fund an escrow account that reached $50m by 2001. This sum was in effect security for the equity investment should the project be terminated on default by Tanesco or GoT. After completion of construction GoT was allowed to draw $2.5m *p.a.* from the account so long as Tanesco made its payments on time.

GoT also established a $25m liquidity facility, equivalent to four months' capacity payment, that could be used if Tanesco failed to make the payments due under the PPA (other than debt service due to GoT, that is deemed to have been paid in this situation).

Withdrawal of AES

Soon after financial close AES ran into problems after the collapse of Enron (*cf.* **Bujagali Hydropower**), and was forced by its bankers to sell off assets, including Songas. In 2002 the majority of AES' shareholding was purchased by CDC's power-generation subsidiary Globeleq. Globeleq now controls Songas and runs project operations. The balance of AES's shares was purchased by FMO, the Dutch DFI.

Construction

Construction of the project was not carried out under one EPC contract, under which the EPC contractor would have had single-point responsibility for ensuring that the project was completed on-time, on-budget and to specification, presumably because of the complex nature of the works. Instead the separate works packages were managed by AES and PAT. As mentioned above, AES took on some of the financial responsibility for these risks.

Despite the lack of an overall EPC 'wrap',* there were no major interface problems between the contracts, the construction contingency was not used, and the works were completed in 2004 only six weeks behind schedule. The tariff was fixed at the end of construction based on actual costs, but given that these costs were as originally agreed the sharing of cost overruns set out in the PPA did not apply.

'AFUDC'

Another major issue hanging over the project during the construction phase was the so-called 'Allowance for (Equity) Funds Utilized During Construction' ('AFUDC'). This claim was derived from development costs going back to 1997 and further equity investment made during construction, the sums being increased by a compound interest rate of 22%, reflecting the fact that costs in the development phase of a project are very high-risk (because the project may not go ahead and these costs would therefore not be recovered). The AFUDC came to a total of $103m by 2003. This sum would have been repayable from completion of construction over the life of the project at a rate of return of at least 18% *p.a.*, the effect of which would have been to increase the capacity charge to 30% of Tanesco's total revenues.

Although it was fully entitled to these payments, Globeleq, as a subsidiary of a DFI rather than a purely commercial operation, agreed that GoT could 'buy down' the AFUDC, meaning that the whole $103m could be paid off at once, rather than at a very high interest rate through future capacity charges. The resources for the repayment came, firstly, from Globeleq agreeing that the $50m escrow account mentioned above

* *i.e.* one EPC contractor taking responsibility for the construction of the whole project

would not be required and so could be used for the buy-down, and secondly from payments by GoT and Tanesco.

Ubungo Expansion

The 65 MW expansion of Ubungo, postponed as a result of the ITPL capacity becoming available, was carried out in 2005 once demand made this necessary. Its $50m cost of this was funded by equity from Globeleq, *i.e.* there was no new debt, which might have been expensive for Tanesco, given that equity costs far more than debt. However, Globeleq allowed Tanesco to buy down $43m of this cost, as had been done with the AFUDC, thus substantially reducing the long-term financial burden.*

Operations

At the time of signing the PPA, Tanesco was suffering from the effect of years of inefficient operation and poor collection rates. Moreover, it had been obliged by GoT to invest in rural schemes that, while socially important, were not financially viable. GoT had also been slow to pay its own electricity bills and to approve necessary tariff increases.

As part of its conditions for the IDA loan, the World Bank set targets for privatisation of Tanesco. In 2002 it became a limited company but its shares remain wholly owned by GoT.† Similarly an unbundling of the electricity sector into generation, transmission and distribution, combined with the introduction of private-sector capital and management (*cf.* **Bujagali Hydropower**), another of the World Bank's requirements, has not taken place.

When Songas and ITPL came on stream this transformed power generation in Tanzania; from being nearly 90% dependent on hydropower, 60% of power generation (33% of capacity) came from thermal plants, mostly these two IPPs. Tanzania was therefore able to avoid load shedding, unlike the situation in other East African countries at that time. Songas has performed well since beginning operations in 2004, with Ubungo's availability averaging around 96%. It is run as base load (90% load factor) except during the rainy season when the hydropower plants are cheaper. It now has only four expatriate staff, with 70 local staff.

Tanesco Problems, 2012–2016

However, during periods of drought capacity remained inadequate, and in 2006 the first load shedding took place since the arrival of the IPPs, although this ceased in 2007 under normal hydrological conditions. With prolonged drought conditions in 2011–2015, Tanesco was forced to rely on expensive emergency power projects (EPPs) using diesel or heavy fuel oil.

* This buy-down was in effect a capital grant (*cf.* **Mbombela Water**, **Tšepong**).

† In 2002–2006 a South African company had a management contract for Tanesco but this is no longer the case.

In 2013, with half of its thermal capacity coming from EPPs, Tanesco's average cost of power, at 15¢/kWh, was said to be three times the tariffs charged to consumers.* Power from Tanesco's own generation cost 10¢/kWh, Songas 5¢,† IPTL 31¢ and the EPPs 40¢.‡

Tanesco's latest available financial statements for 2013 show revenues of TZS933bn (approx. $575m), and a net loss of TZS468bn. As is evident from these accounts, the cost of the EPPs had become too great for Tanesco to manage, and as a result from 2012 onwards Tanesco fell into arrears in its monthly tariff payments to Songas.§

Tanesco was able to stop using the EPPs at the end of 2015,¶ and has been able to make current monthly tariff payments to Songas in 2016, but it does not have the resources to pay off the tariff arrears that accrued in 2012–2015, amounting to some $90m. From late 2015 onwards Songas threatened to shut down its generation if the arrears are not paid, and in May 2016 it shut down five of its six generators, reducing capacity to 38 MW. (Under the PPA Songas is entitled to do this if it is not paid and Tanesco is obliged to keep paying the capacity payment despite the capacity reduction.) This did not result in any load shedding as the hydropower projects were able to operate at full capacity. Further talks with GoT and Tanesco led to assurances that arrears would be paid, and Songas resumed full production during the summer of 2016. However, these payments remained outstanding. In late 2016 Tanesco asked GoT for an increase in consumer tariffs of 8.5% to try to begin sorting out its financial situation; the only result of this was that President Magafuli dismissed Tanesco's Managing Director.

Songas could increase capacity from 180 MW to 240 MW by upgrading the Ubungo plant and would also be willing to make new investments, but that is on hold at the time of writing.

Benefit of the Project

Despite the current difficulties, Songas has been very beneficial to Tanzania, not just because of the additional power-generation capacity but also because of its saving on imported fuel oil for power generation. TPDC said in 2015 that the project had saved some $5bn of oil imports.

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* In 2013 Songas provided about 12% of the total capacity but 23% of the actual generation of power in Tanzania.

† It has to be borne in mind that this figure includes the cost of the gas infrastructure.

‡ These figures include both capacity payments (except for Tanesco's own generation) and variable (fuel) payments.

§ This also caused Songas to fall into arrears in gas payments to PAT (and Tanesco is also in arrears in its payments to PAT for Additional Gas).

¶ All the hydropower plants were switched off in October 2015 because of lack of water, but were able to restart after the long rains in December.

Policy Points

General

- **PPPs *versus* public procurement**. The original reasoning that led GoT to use a PPP approach for this project has been proved correct. Songas has been very beneficial to the Tanzanian economy, both in terms of vital power-generation capacity and the huge savings on imported fuel oil. It is unfortunate that Tanesco's problems have begun to undermine this benefit.
- **Political interference**. To a large extent Tanesco's difficulties are not of its own making, but result from GoT requiring them to purchase expensive temporary power from EPPs without providing any subsidy or allowing Tanesco to recover the extra costs through its own tariffs. Like all political interference, this was short-sighted, as it is hardly likely to encourage new investment in IPPs.
- **Sectoral reform**. Another of the underlying causes of the problems that Tanesco, and hence Songas, has suffered in recent years is the failure to reform the electricity system, with GoT instead relying on short-term solutions (ITPL, EPPs) to meet immediate crises (*cf*. **Bujagali Hydropower**).

Project Structuring

- **Interface risk**. Procurement by Songas of both the gas production and transport and the power-generation sides of the project as one ensured that a situation did not develop where the gas side would not start until the electricity side was ready, and *vice versa*, so neither project could get started.

  Splitting the construction works into separate packages—i.e. with no turnkey EPC contract—was a risky procedure, although it was managed well in this case.

Procurement

- **Development risk**. If it takes too long to reach financial close, the sponsors' costs can become unsustainable. In this case the accrued costs (the AFUDC) reached over $100m, almost a third of the total project costs. Had Globeleq not agreed to the buy-down of these costs, and thus sacrificed a substantial part of the future equity return to which it was entitled, the tariff payments would have been significantly higher.
- **Unsolicited bid**. Far from being a 'fast-track' solution, ITPL took years to deliver, and even worse, delayed Songas by four years. Unsolicited bids often just disrupt an orderly development of a PPP programme.

Finance

- **Currency risk**. Since financial close the value of the Tanzanian shilling against the US dollar has halved. Fortunately, in this case—not least because the gas comes from domestic sources—only a small proportion of the tariff is denominated in US dollars, and hence the currency risk for Tanesco is limited.

- **Capital grant**. The benefit for Tanesco of paying off part of the development costs was considerable, but this was an unusual case because in effect the grant was used to pay off only part of the high-return equity investment. Usually the grant is allocated *pro rata* between debt and equity. The buy-down of the Ubungo expansion in 2005 was on a similar basis.

- **DFI support**. Although the debt structure used for Songas has not been applied to other projects, there is some merit in a DFI lending to the government and the latter then on-lending, with the ability to offset payments against the PPP payments. The alternatives, generally used now, of either a direct DFI loan or a commercial-bank loan with a partial-risk guarantee for political risks including default by the public authority, does not really help a project in cash-flow difficulty, as the loan instalments have to be paid, but a PRG can usually be called upon only if the PPP contract is terminated.

- **PPP with no private finance**. Arguably Songas is not a PPP, in the sense that Songas actually has no investors or lenders from the private sector, so it is more of a 'public-public partnership'. If Tanzania is to invest in infrastructure on the scale its economy needs, more will need to be done to attract private-sector capital. Unfortunately, the recent history of non-payment is likely to make this difficult.

Handback

- **Asset reversion**. By the end of the 20-year PPP, Tanesco will have paid for the full cost of the project and given the investors a high rate of return, and yet it will not own the project assets. There is seldom a good reason why PPP assets should not revert to a public authority at the end of the contract—a PPP is not privatisation. This may be one of the reasons that an unnamed DFI officer told the *Financial Times* in 2005 that the contract had been 'poorly negotiated'.

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Fact Sheet

<table>
<tr><td>PROJECT NAME</td><td>Songas</td></tr>
<tr><td>Country</td><td>Tanzania</td></tr>
<tr><td>Project summary</td><td>Integrated gas-to-electricity project, including:
• rehabilitation of wells in gas field 25 km off the Tanzanian mainland;
• gas processing facility on Songo Songo Island;
• 25-km sub-sea and 207-km onshore gas pipeline to Dar-es-Salaam;
• conversion of existing Ubungo 115 MW power station from fuel oil to gas-firing
• 65MW expansion of Ubungo</td></tr>
<tr><td>Public authority</td><td>Tanzania Electric Supply Company Limited (Tanesco)</td></tr>
<tr><td>Project company</td><td>Songas Limited (Songas)</td></tr>
<tr><td>PPP contract type / term</td><td>Power-purchase agreement / 20 years</td></tr>
<tr><td>Project cost / funding</td><td>$313m, funded by equity of $76m (25%) and debt of $238m (75%).
The later 65 MW expansion of Ubungo was 100% equity-financed by Globeleq (see below)</td></tr>
<tr><td>Equity investors

(N.B. figures exclude the $50m funding for the 65MW expansion of Ubungo.)</td><td>Development phase
The original sponsor-developers of the project were:
• TransCanada PipeLines Limited (TCP); investment sold to AES Corporation (AES) in 1999;
• PanAfrican (see below); sold its investment to AES in 2001;
CDC Group (formerly Commonwealth Development Corp.) was involved in the project from 1996. IFC and DEG were also initially involved but later withdrew because of the ITPL dispute. These DFIs were to own the Preferred B shares (see below). CDC took over their interests in the project.

At financial close (2001)
The equity structure was as follows ($m):
<table>
<tr><th></th><th colspan="3">Class of equity</th><th>Total</th><th>%</th></tr>
<tr><th></th><th>Common</th><th>Preferred A</th><th>Preferred B</th><th></th><th></th></tr>
<tr><td>AES</td><td>2.06</td><td>47.94</td><td></td><td>50.0</td><td>65.7</td></tr>
<tr><td>CDC</td><td>3.60</td><td></td><td>14.40</td><td>18.0</td><td>23.8</td></tr>
<tr><td>Tanesco</td><td>3.00</td><td></td><td></td><td>3.0</td><td>4.0</td></tr>
<tr><td>TPDC</td><td>1.00</td><td></td><td></td><td>1.0</td><td>1.3</td></tr>
<tr><td>TDFL</td><td>0.80</td><td></td><td>3.20</td><td>4.0</td><td>5.3</td></tr>
<tr><td>Total</td><td>10.46</td><td>47.94</td><td>17.60</td><td>76.0</td><td>100.0</td></tr>
</table></td></tr>
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<table>
<tr><td>PROJECT NAME</td><td>Songas</td></tr>
<tr><td>Equity investors (contd.)</td><td>
Common stock:
• The Tanesco investment was in kind, based on the value of Ubungo.
• Tanzania Petroleum Development Corporation (TPDC) investment was also in kind, based on contribution of existing Songo Songo gas field assets.
• Tanzania Development Finance Company Limited's (TDFL) investment was funded by European Investment Bank (EIB); TDFL was state-owned, but since 2004 has been owned 68% by BancABC (since 2014 owned by Atlas Mara Ltd.) and 32% by the Government of Tanzania (GoT).
The projected return on the common stock was 20% p.a.; it was to be listed on the Tanzanian Stock Exchange in the tenth year of operations (this has not happened).
Preferred A stock was partly paid in cash and partly in agreed development fees; repayable over 20 years at a return of 18%. While Preferred A stock is outstanding it controls the votes of the common stock, and hence the management of Songas.
Preferred B stock was repayable over 10 years at a return of 18% and has now been repaid. This stock had certain blocking rights on major decisions and gave GoT reassurance on these issues as it was held by a DFI.
N.B. As the name implies, should Songas have a shortage of cash flow, payments to the preferred stockholders are made in priority to the common stockholders.

AES withdrawal
AES withdrew from the project in 2001. Globeleq (established by CDC Group for power projects) purchased the majority of AES' shares, funded the full $50m cost of the 65 MW capacity increase at Ubungo, and now controls Songas. (Globeleq is now owned 70% by CDC Group and 30% by Norfund.)
FMO took over the Preferred B stock from CDC.
Current position
The current shareholding structure is as follows ($m):
<table>
<tr><th></th><th colspan="3">Class of equity</th><th>Total</th><th>%</th></tr>
<tr><th></th><th>Common</th><th>Preferred A</th><th>Preferred B</th><th></th><th></th></tr>
<tr><td>Globeleq</td><td>5.7</td><td>13.9</td><td></td><td>19.6</td><td>80%</td></tr>
<tr><td>Tanesco</td><td>1.0</td><td></td><td></td><td>1.0</td><td rowspan="3">20%</td></tr>
<tr><td>TPDC</td><td>3.0</td><td></td><td></td><td>3.0</td></tr>
<tr><td>TDFL</td><td>0.8</td><td></td><td></td><td>0.8</td></tr>
<tr><td>Total</td><td>10.5</td><td>13.9</td><td>Repaid</td><td>24.4</td><td></td></tr>
</table>
</td></tr>
<tr><td>Lenders</td><td>International Development Association (IDA) loan of $183m at 0.75% interest, and EIB loan of $55m; loans are for 20 years. The loans are to GoT, which on-lends to Songas.
The GoT loans to Songas are for 20 years, with 3.5 years' grace, at an interest rate of 7.1%</td></tr>
</table>

PROJECT NAME	**Songas**
Construction	There was no EPC contract; works packages were managed by AES. Larsen & Toubro constructed the gas infrastructure and pipeline.
Gas supply	Gas is produced and processed by PanAfrican Energy Tanzania Limited (PAT, a subsidiary of Orca Exploration Group Inc. (formerly part of Ocelot International Inc. [Ocelot]) as an upstream contractor on behalf of Songas.
Operation & maintenance	Managed by Songas' staff
Public-sector support	Implementation Agreement between Songas and GoT
Project development	1974: SongoSongo gas field discovered by AGIP (Italy) 1991: Ocelot signed exclusive agreement to develop reserves 1993: GoT invited international tenders for the development of the project 1994: Awarded to Ocelot in joint venture with TCP 1997: Key project contracts signed 2000: TCP sold its interest to AES 2001: Financial close 2004: Original construction of the different project elements completed and Songas began operation 2005: Ubungo capacity increased by 65 MW to 180 MW

Historical exchange rates: Tanzanian shillings per US$1.00.

(Annual, as at 1 January)

Year	Rate	Year	Rate	Year	Rate
2000	798	2006	1,181	2012	1,592
2001	810	2007	1,292	2013	1,618
2002	935	2008	1,160	2014	1,624
2003	1,019	2009	1,308	2015	1,765
2004	1,111	2010	1.336	2016	2,187
2005	1,100	2011	1,505	1 Sep 16	2,186

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(* = internet download)

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TŠEPONG (LESOTHO)

Introduction

The 425-bed Queen 'Mamohato Memorial Hospital (QMMH) in Maseru,* the capital of Lesotho, opened in 2011 as the national referral (tertiary) hospital† for Lesotho and the district hospital for Maseru. It replaced the dilapidated Queen Elizabeth II hospital (QEII), over 50-years old. QEII and its associated clinics were treating some 25% of Lesotho's population,‡ dealing with around 15,000 in-patients and 165,000 outpatients *p.a.* This ground-breaking PPP includes not only the hospital building and its associated clinics but all the clinical services in the hospital:§ this is the first such project in Africa, and indeed there are few precedents anywhere in the world.¶

At the official opening of QMMH in 2011, Dr Mphu Ramatlapeng, Minister for Health and Social Welfare, said:

> Thanks to the innovative PPP structure … [p]atients will have access to greatly improved medical services and care, but pay the same minimal charge they currently do at any other public hospital in Lesotho … For the people of Lesotho, however, this day marks so much more. It represents improved healthcare access, a vision that we have long held dear.

But her successor took a different view, according to the South African Health Minister Aaron Motsoaledi:

> The minister of health in Lesotho (Molotsi Monyamane) gave me a huge file in October last year [2015], and said 'you guys in South Africa you are a big brother, you have lots of lawyers, please take us out of this contract, it is terrible'.

Clearly the Government of Lesotho (GoL) is not happy with the PPP. Is this just politics between members of Lesotho's coalition government from different parties or, if not, what has caused this change in GoL's view of the project?

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* Although QMMH is the official name, people in Lesotho often refer to the hospital as 'Tšepong', which means 'place of hope' in seSotho. As will be seen, this is also the name of the project company.

† *I.e.* it is at the top of the three-level hospital-services pyramid, the level below being 10 district hospitals, and below that 138 primary healthcare clinics (clinics) mainly dealing with outpatients. About half of these are operated by GoL and half by the Christian Health Association of Lesotho, with funding from GoL.

‡ The population of Lesotho is about two million.

§ The term 'clinical' as used in this Case Study covers diagnosing and treating patients. This includes medical services, *i.e.* those provided by doctors, but also the work of non-medically qualified clinicians such as nurses and pharmacists. (However as can be seen in some of the sources quoted below, 'medical' is sometimes used with the same meaning as 'clinical').

¶ This type of hospital PPP including clinical services is sometimes referred to as a Public-Private Integrated Partnership ('PPIP').

Options Analysis

In 2002 a study by the Lesotho-Boston Health Alliance (LeBoHA), based at Boston University, concluded that repair of the QEII was not feasible, and therefore a new hospital should be built on a different site in Maseru. GoL considered four options for achieving this:

- **Public finance.** Financing the capital cost of the new hospital from the Ministry of Health and Social Welfare's ('MoHSW')* own capital budget. In 2006–2007 MoHSW's capital budget was M80m,† 6% of GoL's total capital spend. The estimated capital cost of the new hospital was M1,200m, and the most GoL could finance was M400m, plus costs for a connecting road and connection of services, so 100% public-sector finance was obviously not a viable approach.
- **DFI loan.** Borrow the capital cost from a DFI such as the World Bank and have the construction supervised by the Ministry of Works. But GoL was concerned about keeping to time and budget with such a large project, and moreover it was clear that the World Bank's preferred approach was a PPP solution.
- **Availability-based PPP.** Use an availability-based PPP structure GoL had some experience of this. The only other PPP concluded before Tšepong was an availability-based PPP for the MoHSW's own building (*cf*. **DTI Campus** for a similar project). This project seems to have produced a good, though rather expensive, result.
- **PPP including clinical services.** Combine the previous option with the provision of full clinical services. This approach was attractive because GoL was having great difficulty maintaining the standard of clinical services throughout the country, mainly because staff were attracted to better pay in better-equipped hospitals and clinics in South Africa. It would also bring in high-quality hospital operational expertise lacking in Lesotho and so improve the quality of service to patients.

GoL decided to proceed with the fourth option and appointed International Finance Corporation (IFC), the World Bank's private-sector lending arm, as its overall adviser.

Affordability

Ensuring that the project was affordable within MoHSW's budget was a key aspect in structuring the project. The annual budget for the QEII (including filter clinics and Maseru District health centres) in 2006/2007 was M124m and in 2008/2009 M162m. Typically, QEII took up around 30% of MoHSW's budget. Referrals to South Africa, especially for oncology, were a further significant cost. (Under an agreement between GoL and the South African government, these referral patients are treated in Bloemfontein public hospitals at GoL's expense.)

GoL's aim was to keep the new hospital 'cost neutral'.‡ After taking account of a capital grant of M400m that GoL would provide towards the construction cost (and thus reduce the future cost of the PPP contract), it was decided that the 'affordability

* This was later split into two ministries, Health (MoH) and Social Welfare.

† The Lesotho Loti (plural maloti) is at par with the South African rand. See the Fact Sheet for historic exchange rates between the rand and the US dollar.

‡ The new hospital also had to be cost neutral for patients, who pay very low fees that are often waived. This income accrues to GoL under the PPP contract, but does not have a significant effect on overall project economics.

envelope'—*i.e.* the maximum annual payment that GoL could afford—was M180m *p.a.* (plus future inflation). This was equivalent to what the QEII would have cost. Further cost savings were anticipated from reducing the level of referrals to Bloemfontein.

The 2002 LeBoHA study concluded that a new hospital would need 435 beds by 2006 and 653 by 2026, but the cost constraints meant that GoL had to limit the number of beds to 425.

Procurement

An international competitive tender was launched in 2007. GoL had no PPP policy or institutional framework at this time, so the project was tendered using Lesotho's existing public-procurement framework and best practice from South Africa and elsewhere. In total, 14 possible bidders had been identified, but only two bid consortia submitted bids, led by Life Healthcare and Netcare (both leading private-hospital operators in South Africa; Netcare is also the largest private-hospital group in Britain through a majority-owned subsidiary). Life Healthcare embraced the concept of offering clinical services but was less enthusiastic about taking on some of the other risks inherent in the PPP agreement. There were two rounds of bidding—the initial one and a BAFO ('best and final offer') round after negotiations with the bidders had taken place.

Bid evaluation was to be primarily based on the quality of services, including the number of patients that could be treated, within the affordability envelope. However, the best bid at the BAFO stage, from the Netcare consortium, was M244m.* GoL was then faced with the dilemma of whether to stick to the affordability envelope, and so cancel the procurement and try again with a much scaled-down project, or to continue with a PPP contract at this higher price.

A substantial part of Lesotho's revenues (65% in 2008/2009) are derived from its membership of the Southern Africa Customs Union (SACU), under which South Africa effectively provides aid from customs revenues to support the economic viability of Lesotho and other countries in SACU. At that time the commodity boom meant that these revenues were buoyant. Relying on this, GoL decided to proceed despite the higher cost, and so the Netcare consortium was selected as the preferred bidder.

The project company, Tšepong (Pty) Ltd (Tšepong) is owned 40% by Netcare and 60% by local partners in Lesotho and South Africa (see Fact Sheet).

By the end of the negotiations with Tšepong, the initial annual unitary fee for the project had increased further to M256m. Amongst the reasons for this were that

- GoL decided to add a gateway clinic (see below) to the specification.
- GoL also added a number of additional services to the contract, such as a neonatal intensive-care unit, laparoscopy, neurosurgery and magnetic resonance imaging facilities.
- DBSA had to change its original financing terms to reflect the deterioration in financial markets that took place after the 2008 financial crisis, including an increase in its interest rate from approximately 7 to 11.6%.

* A large part of the unitary fee (probably over half) relates to paying for the cost of the hospital building (and clinics). This did not apply to QEII's continuing capital costs (if any), which would have been paid by the Ministry of Public Works. It is therefore not surprising that it proved impossible to keep the costs of the new hospital at the same level as the QEII.

The increase in financing costs was inevitable. The other additions increased the types and quality of health services available, which was obviously a good thing, but they put a further strain on affordability.

The PPP Contract

Negotiations on the PPP contract signed in 2008 were led by the Ministry of Finance (MoF), with technical support from MoHSW, and external advice from IFC as well as South African lawyers familiar with PPPs. Key terms of the contract are as follows:

- The parties are GoL, acting through MoF, and Tšepong.
- The contract term is 18 years from signature.
- As in any PPP, Tšepong is responsible for the design, construction, finance and facilities management of QMMH.
- In addition, however, it is responsible for all clinical services, medical supplies and equipment (including maintenance and eventual replacement), laboratories, staffing and training.
- The contract scope also includes the construction of a new gateway clinic,* the refurbishment of three other filter clinics in Maseru and their staffing and operation.†
- Certain clinical procedures are not covered by the contract, and continue to be referred to Bloemfontein, namely chemotherapy, radiotherapy, organ transplants, colonoscopy and chronic renal dialysis.‡
- The annual unitary fee of M255.6m is payable in monthly instalments. Payments were due only after QMMH was complete and operating.
- The unitary fee is 100% inflation-indexed (from 2008) against a combination of Lesotho CPI, medical equipment and utilities indices and South African CPI and medical-costs indices.
- The contract covers up to 20,000 in-patients and 310,000 outpatients *p.a.* Increases above this level cost M8,326 and M50 per patient, respectively (again, subject to indexation as above).§
- 35 of the beds in the hospital were for private patients who subscribe to medical insurance and thus can afford to pay for the same treatment but in more comfortable surroundings.¶
- There are a number of KPIs, which, if not met, result in deductions from the unitary fee. These are calibrated according to their importance to the project—so failure to meet infection-control standards attracts a higher penalty than failure to meet those for linen and laundry.
- Penalty deductions from the unitary fee cannot exceed 8% of any quarterly payment.

* This is at the entrance to the hospital and deals with patients that have not been referred by district hospitals or health clinics.

† In effect, the PPP contract creates an upgraded district health system for Maseru, in addition to QMMH's rôle as the national referral hospital.

‡ Cancer treatments are the main reason for referrals. These referrals are managed by Tšepong but continue to be paid for by GoL, as discussed above.

§ The RfP required a minimum of 16,500 inpatients and 258,000 outpatients. The Tšepong bid exceeded this requirement.

¶ These were intended to subsidise the hospital's operations. However, the high level of demand (see below) has meant that the private beds are actually being used by public patients.

- As GoL was concerned that it did not have the internal capacity to monitor the contract, an independent monitor was appointed (the British construction and project-management consultants Turner & Townsend, through their Sandton office). Turner & Townsend monitors the KPIs and calculates any performance penalties.
- A Joint Services Committee of officials from Tšepong and MoHSW meets quarterly to discuss any issues with the contract, including whether amendments to any of its provisions, including KPIs, are required; for example, to meet changes in national health policies or disease profiles. If necessary, amendments to the contract then have to be agreed accordingly.
- The hospital must be certified by Council of Health Services Accreditation of Southern Africa (COHSASA). COHSASA monitors the quality of hospital services and failure to maintain this certification is a default under the PPP contract.
- Local economic empowerment for Lesotho citizens. There are provisions to increase the Lesotho-owned shareholding* in Tšepong from 40 to 55% over 13 years, as well as to increase the proportion of local staff and their skills development, together with subcontracting to local enterprises.
- Handover requirements at the end of the 18-year term should ensure that MoH receives the hospital building and medical equipment back in a good state of maintenance.

Tšepong signed three major subcontracts, thus transferring risks to these subcontractors:

- *Construction risk* was covered by a design and construction contract with RPP, a South African contractor and property investor.
- *Clinical services and soft FM risks* are covered by a subcontract for clinical and 'soft' FM services (*i.e.* FM services such as security, cleaning, gardening, linen and laundry), as well as medical equipment, with a subsidiary of Netcare that further subcontracts the soft FM services to the local shareholders (see Fact Sheet).†
- *'Hard' FM risks* (*i.e.* building maintenance) are covered by a subcontract with a Lesotho-based FM company.

Finance

As mentioned above, GoL provided a grant of M400m (33%) towards the project cost of M1.2m, reducing the capital repayment element of the unitary fee accordingly. GoL also funded M86m of ancillary capital works including access roads, electricity, sewage and telecommunications

The remaining M800m capital cost was financed at a debt:equity ratio of 86:14. The equity investment of M110m was divided into M10m of ordinary shares split between all the shareholders, subordinated debt of M40m provided by Netcare and a mezzanine loan of M60m provided by DBSA (see below) on behalf of the non-Netcare shareholders.‡ The World Bank provided Netcare with a partial-risk guarantee against non-payment by GoL (so long as Tšepong is not in default). There was no commercial-bank interest

* See Fact Sheet for details.
† Clinical staff are employed by Tšepong but managed by Netcare under this subcontract.
‡ See Fact Sheet, and *cf.* **DTI Campus** and **Platinum Highway** for a similar equity structure.

in providing the debt for the project, so this was provided by the South African DFI, the DBSA, with a guarantee from GoL.

Global Partnership for Output-Based Aid (administered by the World Bank) provided a grant of $6.25m, primarily to cover the costs of operating the clinics, so helping affordability in the first two years of the project.*

Financial close was reached at the end of 2009, the total procurement process having taken three years.

Operational Outcome

Construction of the clinics was completed in 2010, and of the hospital in 2011, in both cases ahead of schedule. The health outcomes are beyond the scope of this Case Study,† but there seems to be little doubt that there has been a considerable improvement in the quality of clinical services, and in the hospital environment generally.

The numbers of patients treated have been significantly above the original provision within the unitary fee for 20,000 in-patients and 310,000 outpatients a year. In calendar-year 2015, the numbers were 27,388 and 348,941, respectively. In the 2002 study LeBoHA said:

> As currently designed, the referral system is expected to lead from the network of primary care centers (supervised by the District Hospitals) to these hospitals, then on to QEII if the District Hospital lacks the skills and equipment necessary to render a definitive diagnosis or provide treatment. There is no firm referral requirement in the system—a patient can seek care at any level without a reference from a lower level of care. While patients may receive some referral services without paying an additional user fee, there is no penalty assessed against a patient who self-refers to an unnecessarily high level of care.

Basically, this system has continued and, not surprisingly, wherever possible patients will come to QMMH in preference to anywhere else. This is especially the case with maternity and childcare cases—as a result these occupy an extraordinarily high proportion, some 60%, of the beds in QMMH. To relieve the pressure on GoL caused by payments for patients above the PPP contract levels, QEII was partially reopened in 2014 as the district hospital for Maseru.

A key factor causing this excess demand is the poor quality of care offered in the clinics and regional hospitals. The LeBoHA 2002 report recommended that there should be 'staffing, funding and maintenance changes to enable district hospitals to fully meet their role in the healthcare system,'‡ but this does not seem to have been done. An investment of some $73m was made in the clinics, under a programme funded by Millennium Challenge Corporation (a US DFI, independent of USAID), but a report by its Inspector-General in 2011 concluded that, since no assessment was made of how many clinics were actually needed,

* In fact, this grant was not received until 2012 and Netcare had to make a temporary loan to Tšepong to cover this timing gap.

† See the Bibliography for studies on this.

‡ The 2002 study also pointed out that 93% of the QEII patients had travelled less than an hour to hospital, meaning that most visited the hospital in its capacity as a district hospital rather than a referral hospital. However, QMMH patients from outside Maseru now make up around 25% of the total.

MCC cannot be assured that its project to renovate 138 health centers was necessary to provide essential health service coverage to the people of Lesotho and is likely expending more funds than necessary. Further, too many health centers compound existing issues such as staffing shortages, drug distribution, and medical waste management.

Financial Outcome

Recent payments to Tšepong by MoH are as follows:

(maloti millions)	Unitary fee	Excess patients	Other costs	**Sub-total**	VAT	Total	**Total MoH expenditure**	**Tšepong %**
2012–13	376	N/A	6	**382**	53	435	**1,138**	
2013–14	395	55	14	**464**	70	534	**1,712**	**27**
2014–15	417	61	7	**485**	73	558	**1,642**	**30**
2015–16	431	70	12	**513**	78	*591*	**1,731**	**30**
2016–17	461						**1,755**	

Other costs = doctors' accommodation, transport and interest on late payments
VAT is added to Tšepong invoices to MoH but recycles back to GoL; hence the sub-totals are the net cost to GoL.
2015-16 excess patient costs have not yet been agreed; this figure is the author's estimate.
2016-17 unitary fee includes budget figure for doctors' accommodation & transport.
2016-17 MoH expenditure is the budget amount.
(*Source:* MoH, Tšepong)

The basic unitary fee has increased substantially. For 2015–2016, at M431m, it is 68% greater than the original M256m. However, this is just due to inflation indexation. Based on the original inflation assumption of 7% *p.a.*, the unitary fee for 2015–2016 would have been R454m, but as can be seen, out-turn cumulative inflation has been lower than projected. The additional costs of excess patients have been significant, although it is worth noting that QMMH now treats some 50% of the in-patients and 30% of the outpatients in Lesotho.

From 2013–2014 the Tšepong payments have been around 30% of MoH's expenditure, a similar proportion to the QEII. However, there are two factors that have to be taken into account in this respect:

- There was a large increase in MoH's expenditure in 2013–2014 reflecting the 40% pay increase in the public-health sector discussed below. Hence MoH's budget is not entirely comparable with previous years.
- Overall GoL receipts from SACU dropped sharply as a result of the collapse of the commodity boom, which affects the affordability of the Tšepong PPP within the total government budget.

There have been some delays in unitary-fee payments by GoL to Tšepong (hence the interest on late payments included above), that have even put Tšepong into difficulty with its loan from DBSA. It is not clear whether these have been caused by processing problems within GoL or a shortage of funds.

Referrals to Bloemfontein were originally to be managed by MoH, but MoH asked Tšepong to take over this process. The referrals are still supposed to be subject to approval by MoH, but the procedures for this are not clear, and it seems that MoH has not been adequately involved in the referral process. Meanwhile GoL's liabilities to the South African Ministry of Health for the bills of referred patients have mounted up and amounted to R86m in 2016.*

Staff

Staff at QEII were offered the choice of transferring to other government facilities or to Tšepong. Most of the staff of QEII transferred to QMMH to enjoy a better working environment. However, in 2014 MoH increased the public-sector salaries in the health sector by 40% to try to reduce the loss of staff to South Africa. Tšepong, however, offered a pay increase of only 4% to its staff, which resulted in a violent strike. Tšepong claimed that it was not able to offer a higher increase, and suggested that if it had to do so to retain staff, the unitary fee should be increased accordingly. The matter has now been referred to arbitration.†

Shareholder Relationships

The non-Netcare shareholders include Afri'nnai Health, an investment company for Bloemfontein-based doctors, Excel Health (Pty) Ltd (Excel) an investment company for Lesotho-based doctors and D10 Investments, the investment arm of the Lesotho Chamber of Commerce. There have been a series of disputes, both within these companies, and between them and Netcare, some of which have ended up in court. The disputes seem to relate to control of Afri'nnai and Excel, as well as of a company set up by them to procure medical equipment for QMMH (see Fact Sheet), and to the allocation of work to the doctors controlling these companies. There has also been a long-running dispute with the representatives of these companies at the Tšepong board level, relating to the level of dividend payments, which has caused some difficulties for Tšepong itself, for example, in relation to some members of the board approving the signing of its annual financial statements.

Contract Monitoring

Because contract monitoring has been outsourced to Turner & Townsend, GoL has been left at a disadvantage, both if it wishes to dispute any aspect of the unitary-fee bills and if it wishes to make changes to the PPP contract (including KPIs), as it does not have a detailed understanding of the calculations behind these payments.

Furthermore, each time there has been a change of government in Lesotho (twice since 2008), the civil servants dealing with PPPs in the MoF and MoH have been replaced: hence there is little institutional memory.

In late 2016 GoL advertised for a contract-management adviser to 'maintain cost effectiveness' and 'good partner relationships', with funding from IFC.

* Referrals are not just made by QMMH: other hospitals also refer patients to Bloemfontein.

† Presumably Tšepong is claiming that GoL's pay increase was a 'Material Adverse Government Action' (*cf.* **Mbombela Water**).

'This Contract ... is Terrible'

So, to return to the Lesotho Minister of Health's reported comment quoted at the beginning of this Case Study, in what sense can this PPP contract be described as 'terrible'? Clearly, there is some politics involved here, but there are also genuine issues. The contract certainly provides a high level of care for far more patients than QEII, albeit at a cost that is substantially higher than had originally been envisaged by GoL.

But the key issue appears to be that GoL feels it has lost control of the project and hence its costs, *e.g.* with patients referring themselves to QMMH instead of going through the normal assessment procedures, no control over excess patients, and a similar lack of control over referrals to Bloemfontein. This lack of control probably derives mainly from a lack of capacity to monitor this highly-complex project, and hence also a lack of detailed understanding of it, well-expressed by Mr Monyamane's despair over his 'huge file'.

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Policy Points

Project Structuring

- **Affordability**. Affordability is probably the greatest challenge to the development of PPPs in the social sector (*e.g.* schools and hospitals) in sub-Saharan Africa. Although these may charge fees to users, like a concession, the fees are usually far too low to be useful as a basis for raising finance. In this case GoL and its advisers initially considered the affordability issue carefully, but—as is not uncommon—the cost estimates that supported this analysis were found to be too low when the bids were submitted (*cf.* **DTI Campus**). Given the desperate need for improved medical services, it is understandable that GoL decided to go ahead anyway, assuming that SACU revenues would be maintained. But the reduction in these revenues illustrates how difficult it is to predict affordability over a long period of time.

- **Contract scope**. It is understandable that GoL felt it necessary to include clinical services in the contract, but it might have been better to procure two separate contracts—an availability-based PPP contract for the hospital building, and a management contract for the clinical services:

  - There might have been more bidders and hence more competition for a standard availability-based PPP limited to the design, construction, FM and maintenance, and finance of the hospital building. More competition could have resulted in a lower cost for this element of the contract. (An argument against this is that the hospital may be better designed if the provider of clinical services is involved in its design.)

  - Similarly, other clinical-services providers beside Netcare and Life Healthcare might have been willing to bid for a clinical-services contract. Netcare operates such contracts in South Africa, *i.e.* where a hospital has been built by another party, whether under a PPP contract or otherwise, and it seems that Life Healthcare would also have preferred this structure. Again, more competition could have led to a lower cost.

  - Furthermore, a clinical-services contract for 18 years seems far too long. It is not likely that MoH can predict its requirements for such a long period. A shorter clinical-services contract, separate from an availability-based PPP for the hospital building, would have given MoH much more flexibility and perhaps have made it easier to control costs.

- **Excess demand**. A PPP contract often needs to cater for excess demand. For concessions, such as toll roads, excess demand is generally a benefit as it increases revenue more than projected (albeit at the cost of greater maintenance) and it is usual to split this benefit between the public authority and the project company (*cf.* **Platinum Highway**). For an availability-based PPP demand risk is usually passed to the public authority—but demand risk in this context means the risk that, for example, a school or hospital might not be needed in future, *i.e.* low demand. In this case, however, GoL takes both the risk of low demand (*i.e.* the

number of patients being below the contracted levels) and the much greater risk of high demand. Tšepong has no incentive to control demand, as the more patients it treats the more it is paid (although in some cases the set fee per patient may be below Tšepong's costs—*e.g.* an outpatient may receive an MRI scan, the cost of which is greater than the set fee). As in any publicly-funded healthcare system, GoL, should have the ability to control what it spends on clinical services, which means that it should have the right to control maximum patient numbers and exclude patients that do not need tertiary care from QMMH.

› **Network connections**. A PPP is often connected to some kind of network, *e.g.* a grid connection for an IPP project, connecting roads for a toll-road concession or, as in this case, QMMH's links to the regional hospitals and clinics. Even though the network connection may be outside the scope of a PPP project, it is important, for the long-term stability of the project, that the network is upgraded at the same time. Clearly, the weakness of the primary-care network has caused significant problems for QMMH.

Finance

› **Capital grant**. GoL used a capital grant of 33% of the capital cost of the project to reduce its future financing costs, and hence the cost to MoH (*cf.* **Mbombela Water**, **Songas**). (There are other names for this type of public-sector finance, *e.g.* capital contribution or viability-gap funding.) The public authority should ensure that risk transfer is not affected by a capital grant. So, the grant should be only for a portion of the capital cost—33%, as here is probably a prudent maximum—and it is preferable for the grant to be paid after the construction of the project is complete, which did not happen in this case.

› **Inflation indexation**. As discussed in other cases (*cf.* **DTI Campus**), 100% inflation indexation of the unitary fee is theoretically not appropriate because a large proportion of the project company's costs that are being covered by this fee are fixed, especially the debt service. There is a dilemma in a case like this. If part of the unitary fee is fixed rather than subject to inflation indexation, this will result in a higher initial unitary fee (because this part of the fee does not increase later), and hence this may create an initial affordability problem. But 100% indexation increases the public authority's risk on inflation, and hence the unitary fees may become unaffordable later. In this case the 80% increase of the basic unitary fee since the PPP contract was signed illustrates how rapidly 100% inflation indexation can increase a project's cost.

Operation Phase

› **Monitoring**. It is understandable that GoL felt that an independent monitor could fill the gap in its own capacity to monitor the contract but, to put it bluntly, if a public authority cannot monitor a contract it should not sign the contract. Disputes inevitably arise on contract performance, and the public authority needs to have a team of people who have got to know the PPP contract well through their monitoring activities. Moreover, MoH is at a disadvantage in negotiating any changes to the contract because of this lack of capacity. The obvious answer in this case is to cancel the independent monitor's contract and use the savings from this to provide professional support and training to MoH, but if turnover of

staff for political reasons continues, this will always leave MoH in a weak position. However, if the search for an external contract-monitoring adviser is successful, this should help to improve the situation.

› **Flexibility**. Lack of long-term flexibility, resulting from being tied to a long-term contract, is an argument often used against PPPs. However, it is possible to introduce a reasonable degree of flexibility where a PPP contract relates mainly to a physical asset. This can be done by giving the public authority the right to make changes in the asset so long as they do not exceed a certain proportion of its original cost (say 10%), and so long as project risk is not increased. The project company can also be required to procure such changes on an arm's-length basis, if necessary from unrelated parties. Long-term flexibility in the provision of complex contract services, however, is more difficult to achieve. Had the clinical-services contract been procured separately, as suggested above, it would probably have been for a much shorter period, say five to seven years, since it is very difficult to predict such service requirements over 18 years. This would have given GoL much more flexibility.

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Fact Sheet

PROJECT NAME	**Tšepong**
Country	Lesotho
Project summary	Construction and operation of the 425-bed Queen 'Mamohato Memorial Hospital (QMMH) and related clinics. QMMH is the national referral (tertiary) hospital, and provides primary care to the 500,000 inhabitants of Maseru
Public authority	Lesotho Ministry of Health, advised by International Finance Corporation (IFC)
Project company	Tšepong (Pty) Limited (Tšepong)
PPP contract type / term	Availability-based (*re* hospital building), plus medical services / 18 years
Project cost / funding	Total project cost M1.2m, funded 33% (M400m) by Government of Lesotho (GoL), and 67% (M800m) by Tšepong, as follows: Equity (ordinary shares) M10m Shareholder subordinated loan M40m } (14%) Mezzanine loan M60m Senior loan M690m (86%) **Total M800m** GoL also funded M86m of ancillary capital works including access roads, electric-ity, sewerage and telecommunications Global Partnership for Output-Based Aid provided a grant of $6.25m over the initial years of the project to aid affordability.
Investors	**Equity** / **Subordinated loan** Netcare Ltd. (South African healthcare company) 40% 100% Afri'nnai Health (Pty) Ltd (investment company for Bloemfontein-based doctors) (Afri'nnai) 20% Excel Health (Pty) Ltd (investment company for Lesotho- based doctors) (Excel) 20% Basotho Women Investment Company (WIC) 10% D10 Investments (investment arm of the Lesotho Chamber of Commerce) 10% Equity held by Lesotho-based investors will increase from the current 40% to 45% in year 8 and 55% in year 13 Non-Netcare shareholders funded by separate loans from DBSA
Lenders	Development Bank of Southern Africa (DBSA) M690m senior loan @ 11.6% for 15 years, and M60m mezzanine loan on behalf of the non-Netcare shareholders.
Construction	RPP Developments

<table>
<tr><td>PROJECT NAME</td><td colspan="6">Tšepong</td></tr>
<tr><td>Operation</td><td colspan="6">Clinical, Soft FM & Equipment Contractor — Netcare Hospitals (Pty) Ltd
Hard FM Contractor — Botle Facilities Management
Provision of doctors for private beds — Afri'nnai & Excel*
Security, gardening, linen and laundry — WIC*
Catering, vending machines, office stationery — D10 Investments*
Procurement & maintenance of medical equipment & furniture. (Maintenance element of this contract has been terminated.) — Medical Equipment Procurement Company (Pty) Ltd,* a joint venture of Afri'nnai & Excel
* subcontractors to Netcare Hospitals (Pty) Ltd</td></tr>
<tr><td>Public-sector support</td><td colspan="6">All payments under the PPP are obligations of GoL
Repayment of senior and mezzanine debt on termination for contractor default</td></tr>
<tr><td>Project development</td><td colspan="6">2007: RfP issued
2007: Tšepong consortium selected as preferred bidder
2008: Project agreement signed (= commercial close)
2009: Financial close
2010: Completion of construction of clinics
2011: Hospital construction completed</td></tr>
<tr><td>Historical exchange rates:
Tanzanian shillings per US$1.00.

(Annual, as at 1 January)</td><td><u>Year</u>
2000
2001
2002
2003
2004
2005</td><td><u>Rate</u>
6.31
7.75
11.43
8.51
7.10
5.99</td><td><u>Year</u>
2006
2007
2008
2009
2010
2011</td><td><u>Rate</u>
6.06
7.21
7.49
10.21
7.62
7.19</td><td><u>Year</u>
2012
2013
2014
2015
2016
1 Sep 16</td><td><u>Rate</u>
7.82
8.96
11.12
11.64
15.89
14.59</td></tr>
</table>

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(* = internet download)

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- Leadership is the key to achieving sustainable development
- The development of a leader requires specialised grooming
- An African model of leadership is vital for achieving the most favourable development outcomes for Africa.

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