



Public Private Partnerships in the Caribbean:
Building on Early Lessons



Public-Private Partnerships in the Caribbean: Building on Early Lessons

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Public-Private Partnerships in the Caribbean

© Caribbean Development Bank

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Foreword

Models of Public-Private Partnerships (PPPs) are receiving significant policy attention in the Caribbean and, indeed, further afield. As fiscal pressures constrain public sector-led investment, Borrowing Member Countries (BMCs) of the Caribbean Development Bank (CDB) are critically examining alternative funding models for delivering important economic and social services.

In addition to giving high priority to dealing with relatively weak public sector balance sheets, regional governments are also seeking to find creative ways for the private sector to participate meaningfully in economic activity. Smart partnerships between public and private sector actors provide such an entry point.

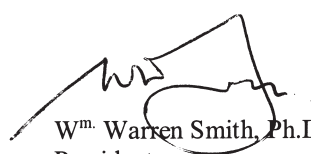
To date, the Caribbean's track record with respect to PPP application has been less than stellar. Missteps by several countries have caused project costs to greatly exceed budgeted amounts and benefits to fall below expectations. Such situations often point to a genuine lack of understanding of project dynamics, including financing structures and a miscalculation of projects risks, which leads to fiscal surprises.

Improving the landscape for PPP application calls for a genuine and sustained effort to build technical capacity in the public and private sectors across the Caribbean. Further, if countries are to learn from each other's experiences, then a platform that facilitates ongoing dialogue is also required.

CDB plans to play a critical role in helping its BMCs develop the requisite capacity to better understand and apply PPPs. Information gathering and, ultimately, knowledge dissemination are also critical areas in which CDB can make a significant contribution.

In this regard, "Public-Private Partnerships in the Caribbean: Building on Early Lessons" opens the door for BMCs to share their PPP experiences and learn from those experiences. The value of this report, which is targeted at development practitioners and policymakers across the Region, lies in the large number of economic and social sectors case studies presented from inside and outside the Region. The document undertakes a detailed examination of deals including the Sangster International Airport in Jamaica, the Water and Sewerage Company in St. Lucia and Queen Mamohato Hospital in Lesotho, among others. The report is also very clear about the pros and cons that underpin PPP structuring, and easily lends itself to the distillation of some very useful lessons. In my view, this is the most significant contribution of this work.

I invite you to peruse the pages of this study carefully and examine each lesson to determine its applicability to your specific circumstances. As the Region seeks to craft a future anchored on sound policies and solid institutions, it is imperative that we arm ourselves with the knowledge that can enhance the likelihood of success.



W^m. Warren Smith, Ph.D.
President
Caribbean Development Bank
May, 2014

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Abbreviations

€	Euro
%	per cent
AAJ	Airports Authority of Jamaica
AfD	Agence Francaise de Developpement
bn	billion
BMCs	Borrowing Member Countries
CDB	Caribbean Development Bank
CARILEC	Caribbean Electric Utility Services Corporation
CGHD	Center for Global Health and Development
DBJ	Development Bank of Jamaica
DBOM	Design-Build-Operate-Maintain
DBFOM	Design-Build-Finance-Operate-Maintain
DOMLEC	Dominica Electricity Services
EDF	Electricite de France
ESA	European System of Accounts
EU	European Union
FBO	Fixed-Based Operation
GDP	Gross Domestic Product
GFSM	Government Finance Statistics Manual
GoD	Government of Dominica
GoJ	Government of Jamaica
GoRTT	Government of the Republic of Trinidad and Tobago
GoSL	Government of St. Lucia
GPOBA	Global Partnership on Output-Based Aid
GW	gigawatts
HFO	Heavy Fuel Oil
IATA	International Air Transport Association
ICT	Information and Communication Technologies
ICU	Intensive Care Unit
IDB	Inter-American Development Bank
IEA	International Energy Agency
IFC	International Finance Corporation
IM	Information Memorandum
IMF	International Monetary Fund
IPP	Independent Power Producer
IPSAS	International Public Sector Accounting Standards
IRENA	International Renewable Energy Agency
JPS	Jamaica Public Service Company
KCT	Kingston Container Terminal
km	kilometres
kWh	kilowatt/hour
LeBoHA	Lesotho Boston Health Alliance
LNG	Liquefied Natural Gas

MDAs	Ministries, Departments and Agencies
MDBs	Multilateral Development Banks
MDGs	Millennium Development Goals
MGD	million Gallons per day
MIGD	million Imperial Gallons per day
mn	million
MoF	Ministry of Finance
MoH	Ministry of Health
MoT	Ministry of Transport
MW	megawatts
NewCo	New Water and Sanitation Company
NIBJ	National Investment Bank of Jamaica
NICU	Neonatal Intensive Care Unit
NMIA	Norman Manley International Airport
NRW	Non-Revenue Water
NWC	National Water Commission
NWSC	National Water and Sewerage Commission
OBA	Output-Based Aid
OECS	Organisation of Eastern Caribbean States
OECD	Organisation for Economic Cooperation and Development
OUR	Office of Utilities Regulation
O&M	Operations and Maintenance
PCJ	Petroleum Corporation of Jamaica
PCS	Port Community System
PPAs	Power Purchase Agreements
PPPs	Public-Private Partnerships
PSP	Private Sector Participation
QEII	Queen Elizabeth II
QMMH	Queen Mamohato Memorial Hospital
RE	Renewal Energy
RFP	Request for Proposals
SLASPA	St. Lucia Air and Sea Ports Authority
SPVs	Special Purpose Vehicles
T&D	Transmission and Distribution
TA	Technical Assistance
TEU	twenty-foot equivalent unit
USA	United States of America
VfM	Value for Money
WASA	Water and Sewerage Authority
WASCO	Water and Sewerage Company
WB	World Bank
WBG	World Bank Group
WHO	World Health Organisation
WSC	Water and Sewerage Corporation

Executive Summary

Good quality infrastructure is a prerequisite for economic growth. Infrastructure stocks in the Caribbean are not adequate for much of the Region's population. Many of the Borrowing Member Countries (BMCs) of the Caribbean Development Bank (CDB) are struggling to improve their infrastructure services — against the challenges of high debt burdens, tight budgets, declining investment and lagging economies.

Infrastructure services in electricity, transport and water and sanitation in the BMCs need improvement in order to meet higher service quality standards, keep pace with population growth and support economic development. Costs of infrastructure services need to come down, particularly in electricity.

There is room for improvement in many transportation sectors such as airports and ports. Road quality, in particular, is a recurrent issue throughout the Caribbean. A few countries such as Barbados and the Cayman Islands have almost all of their roads paved and maintained in good condition but most others lag behind.

Conservative estimates indicate that in order to increase and improve the Caribbean Region's infrastructure stocks to acceptable international standards, total investment of about USD21.4 billion (bn) is required over the next 11 years. Based on our analysis of public expenditure patterns in BMCs, we estimate that under the “business as usual” scenario, BMC governments would be able to finance about USD10.8 bn of this amount — leaving a financing gap of about USD10.6 bn over the next decade.

In the Caribbean Region, traditional public procurement of infrastructure services has failed to deliver value for money (VfM). High construction costs and poor quality, together with under-investment and poor maintenance, have prevented governments from succeeding in their efforts to improve infrastructure services and catalyse economic growth. Faced with the challenges of climate resiliency, much of the Caribbean's physical infrastructure under traditional public procurement has been found “unfit for purpose”.

To find a way around the problems resulting from public procurement of infrastructure, Public-Private Partnerships (PPPs) have evolved in many countries around the world. PPPs are long-term contracts between a government and a private party to deliver an infrastructure service — involving the sharing of risks and rewards among the contracting parties.

Governments of CDB's BMCs can address key infrastructure challenges by implementing PPPs. CDB can assist BMC governments in this process by leveraging support from other development partners aimed at building the requisite technical capacity to better understand the PPP model.

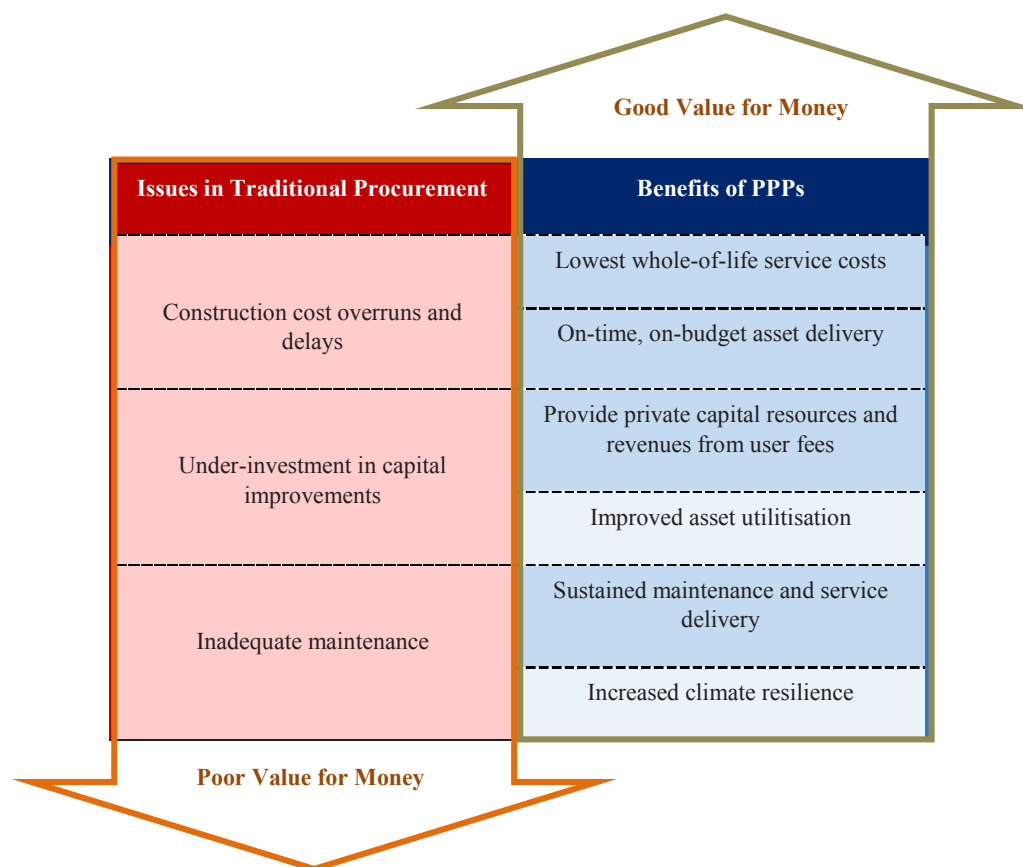
PPPs can deliver infrastructure services more rapidly, with higher quality, and at a lower cost than traditional government projects. PPPs are also used in the social sectors; in health, education and other areas including prisons. However, PPPs also involve significant risks and they are not right for all projects. Governments therefore need to know how PPPs can deliver value for money (VfM), how to structure projects so they deliver these benefits, how to avoid common risks, and in what kind of projects are PPPs most likely to add value.

PPPs deliver several advantages, including:

- (a) lowest whole-of-life service costs;
- (b) on-time, on-budget asset delivery;
- (c) mobilisation of private capital resources;
- (d) improved asset utilisation;
- (e) increased climate resilience; and
- (f) advancement of the social agenda.

Figure 0.1

Public-Private Partnerships Address Key Issues in Traditional Public Procurement



However, PPPs also bring their own risks. These risks can be managed and mitigated, but where they are not managed well, serious problems can result. These risks include:

- (a) Failure to attract qualified bids.
- (b) Poor value for the public sector from lack of competition.
- (c) Hidden fiscal costs.
- (d) Policy inflexibility (PPP contracts can be difficult and expensive to amend/terminate).

Most BMC governments have embraced the PPP concept — to greater or lesser degrees. Jamaica, Trinidad and Tobago and Haiti are the three BMCs that have established PPP Units and are currently refining their PPP policies and process manuals. In the smaller countries of the Organisation of Eastern Caribbean States (OECS), most countries do not possess sufficiently large project pipelines (usually one to three projects) to warrant a full-time unit.

Although there are several PPP success stories in the Caribbean Region, there are also cases where PPPs have been badly structured at the outset and therefore did not deliver VfM. BMC governments must set the rules and build implementation capacity, if they are to take advantage of the potential of PPPs for improving their infrastructure services, including:

- (a) **Develop PPP policies and processes:** Set the rules, define the priorities and establish the processes for the development and implementation of PPPs.
- (b) **Create legal environments:** Enabling environments that allow PPPs to be implemented.
- (c) **Build institutional capacity:** Allocate responsibility for implementation of the PPP policy.
- (d) **Develop human capacity:** Ensure that CDB staff members have the skills needed to carry out institutional responsibilities.
- (e) **Create fiscal management and accounting frameworks:** Create processes and define methods for defining and managing fiscal costs in PPPs, thereby helping governments achieve true VFM.

CDB's strategic response seeks to leverage well-targeted support from development partners aimed at building technical capacity in its BMCs on a sustained basis.

The Bank will pursue efforts aimed at enhancing the enabling environment for PPP application in the Region and also seek to strengthen institutional capacity across the board. There is considerable scope to leverage support from other key development partners in the Region in this drive. A collaborative effort will therefore aim to support Caribbean countries in building the PPP architecture needed to select, plan design and oversee the implementation of successful PPP contracts. This will be pursued at both the regional and national level. At the regional level, the initiative will build upon work already underway in those countries with PPP units and seek to develop harmonised best practice documents that can be adopted by governments to fit the local regulatory and legal and institutional environment. Given training needs, the joint support will also increase capacity to implement PPPs throughout the Region, through training and building PPP networks.

Chapter 1

Introduction

The Case for Public-Private Partnerships in the Caribbean

The Caribbean faces a challenge of having relatively large infrastructure deficits against a backdrop of limited fiscal space to respond. Infrastructure is required for growth because it provides key services to businesses. Infrastructure services are also important to households and, as economies grow, more infrastructure services are demanded. There is a sense that infrastructure in the Caribbean does not deliver adequate quality services to much of the Region's population. Caribbean governments, many of them members of CDB, are struggling to improve their infrastructure against the challenges of high debt burdens, tight budgets, declining terms of trade and lagging economies. Table 1.1 provides key statistics and benchmarks that highlight deficiencies in three important sectors in the Caribbean, viz: electricity, transport and water:

Table 1.1

Key Caribbean Infrastructure Benchmarks

Electricity:	
Average residential tariff in BMCs	35 US cents per Kilowatt/hour (kWh)
Average residential tariff in the Organisation for Economic Cooperation and Development (OECD)	16 US cents per kWh
Average residential tariff in group of 10 comparator countries ^{1/}	21 US cents per kWh
Water:	
% of rural access to improved water sources	90%
% of rural water access in 10 comparator countries	96%
Average Non-Revenue Water (NRW) in BMCs	39%
Transport:	
% of paved roads in BMCs	50%
% of paved roads in five comparator countries ^{2/}	69%

Sources: Caribbean Electric Utility Services Corporation (CARILEC) 2013, The World Bank (WB), World Development Indicators, accessed February 20, 2014, and the International Renewable Energy Agency (IRENA) country reports.

Oftentimes high construction costs and poor quality, together with under-investments and poor maintenance, have prevented governments from succeeding in their efforts to improve infrastructure services and catalyse economic growth.

^{1/} Botswana, Costa Rica, Fiji, Maldives, Malta, Mauritius, Palau, Seychelles, Tonga, Uruguay.

^{2/} Botswana, Costa Rica, Malta, Mauritius, Seychelles.

PPPs have evolved in many countries around the world as a robust approach to relax tight budget constraints in the delivery of infrastructure services. PPPs are long-term contracts between a government and a private party to deliver an infrastructure service. In a PPP, both the public and the private partner use their comparative strengths to contribute value and share risks, thereby creating better VfM if the arrangement is well-structured and managed.

PPPs offer the potential to reduce public sector costs for providing services, as well as deploy private sector capital to finance infrastructure investments. These benefits are not achieved automatically, however, as PPPs carry certain risks. Governments must manage these risks carefully throughout the PPP implementation process. In the Caribbean context, governments need to take critical steps to prepare themselves to identify, structure, implement and manage PPPs.

This study takes a very pragmatic approach in the examination of the PPP landscape in the Caribbean. This includes a detailed assessment of the legal and regulatory frameworks that currently exists in the Bank's BMCs that can potentially facilitate or impede the use of PPPs. Within this context, it suggests a reform agenda that would enable the use of PPPs to support growth. This includes identification of the requisite support structures and organisational changes that promote improved PPP outcomes. Importantly, by highlighting several case studies drawn from inside and outside the Region, in both social and economic sectors, the work seeks to assist Caribbean policymakers in understanding the model of structured project financing. Finally, the study offers possible entry points through which CDB can reinforce BMC's capacity building needs.

The Caribbean's infrastructure challenges flow directly from the inadequacy of existing infrastructure services in the Region, the Region's limited fiscal capacity, and public sector practices for delivering infrastructure services. Section 2 explains the importance of infrastructure, the inadequacy of infrastructure in the BMCs, the size of the investment need through 2025 and the potential problems with public sector service delivery.

PPPs can play a significant role to address many of the infrastructure challenges in the BMCs. Section 3 describes the business case for PPPs — how they can help, what kinds of PPP contracts are available and what risks PPPs carry.

Governments need to lay the foundations for successful PPPs by setting the rules for using PPPs, building institutional and human capacity, and creating sound fiscal management practices. These actions that governments can take are described in Section 4.

Section 5 describes possible approaches through which CDB can leverage support to meet BMCs capacity building needs with respect to PPP utilisation. The final section provides a conclusion.

Chapter 2

Infrastructure Gaps and Growth in the Caribbean

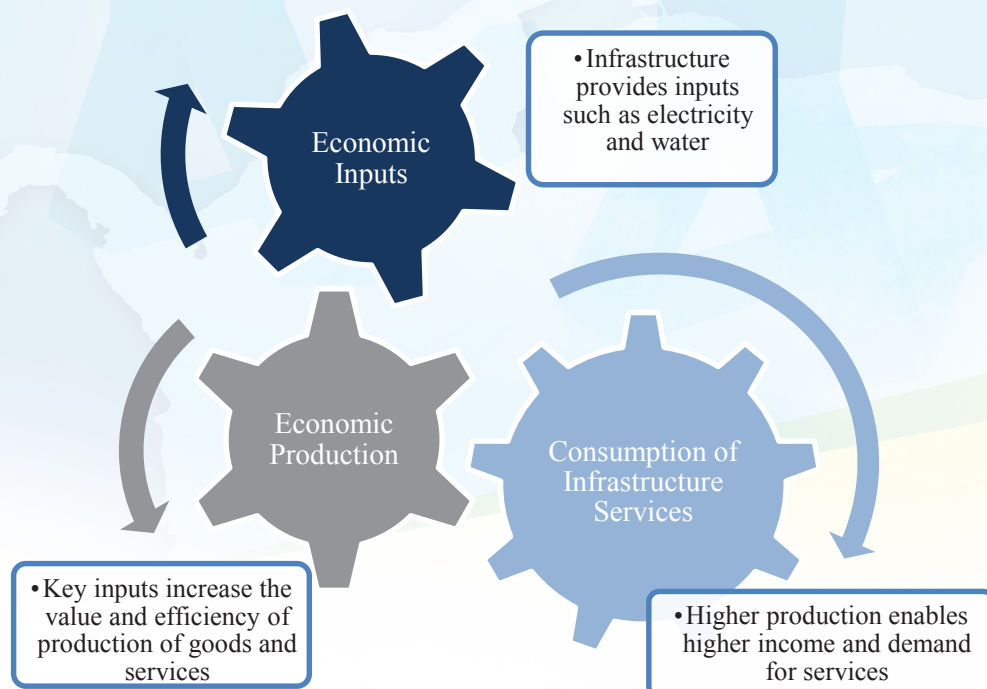
Better infrastructure services are essential inputs to productivity and economic growth. In this section, we estimate the investment requirements in the Caribbean by making basic assumptions with respect to three representative sectors. These are transport, electricity and water. BMCs need to invest in improved infrastructure to support economic growth and meet the aspirations of their citizens. The capital costs are significant, possibly exceeding USD21 bn over the period 2015 to 2025. Under the “business as usual” scenario, the public financing and management approaches previously adopted by BMCs are insufficient and may be inadequate for the task of significantly improving infrastructure stocks. This therefore creates an entry point for countries to consider the use of PPPs to raise finance and increase VfM.

2.1 Infrastructure is Required for Growth

Infrastructure services are important economic inputs as they provide key services to businesses and households. As economies grow, more and better infrastructure services are demanded. Figure 2.1 depicts this relationship:

Figure 2.1

Infrastructure Services are Inputs and Consumption Goods



Further, infrastructure services are key economic inputs which enable economic exchange and add value in the production of goods and services.

Transport infrastructure allows for the movement of goods and also facilitates economic interactions between producers and consumers. Improvements in transport increase the volume of people and goods that can be moved in a given amount of time. Businesses use roads to transport their goods to market, while consumers use these same roads to access markets and purchase goods.^{3/}

Transport costs in the Caribbean are high, which contributes to higher prices for goods and services. Consumers suffer from higher prices and producers face higher input costs which erode their competitive edge. In agriculture, for example, Caribbean producers find themselves at a disadvantage having to transport perishable products over inadequate road networks due, in part, to poor road conditions stemming from inadequate maintenance standards. Improving transportation infrastructure can lower transportation costs and raise international trade volumes.^{4/}

Electricity and water infrastructure also provides vital inputs to production processes. Electricity is needed for modern factories, offices and hotels. Water systems deliver potable water to businesses, as well as households, and significantly improve the overall quality of life. Wastewater infrastructure removes and treats wastewater streams, providing sustained benefits to the environment. All these services need to be widely available, reliable and reasonably priced, if businesses are to be competitive.

Improved infrastructure can also increase productivity of the labor force. Road and telecommunications networks allow workers to access distant job opportunities. Transport and water infrastructure can also contribute to improving the participation rate of women in the economy by making it easier for women to work outside their homes.^{5/} For instance, access to infrastructure in Mexico and Brazil has been correlated with a higher female labor participation rate.^{6/} Telecommunications infrastructure allows Caribbean countries to provide information technology-related, customer services and business process outsourcing services on a global platform.

Infrastructure demand rises as incomes grow

Higher income levels lead to higher demand for infrastructure services by consumers. For example, electricity consumption is strongly correlated with higher income levels. Figure 2.2 illustrates this relationship for 96 countries, where a strong correlation can be seen between per capita electricity consumption and per capita Gross Domestic Product (GDP).

^{3/} T.R. Lakshmana. "The Wider Economic Benefits of Transportation: An Overview." OECD. Discussion Paper No. 2007-8. December 2007.

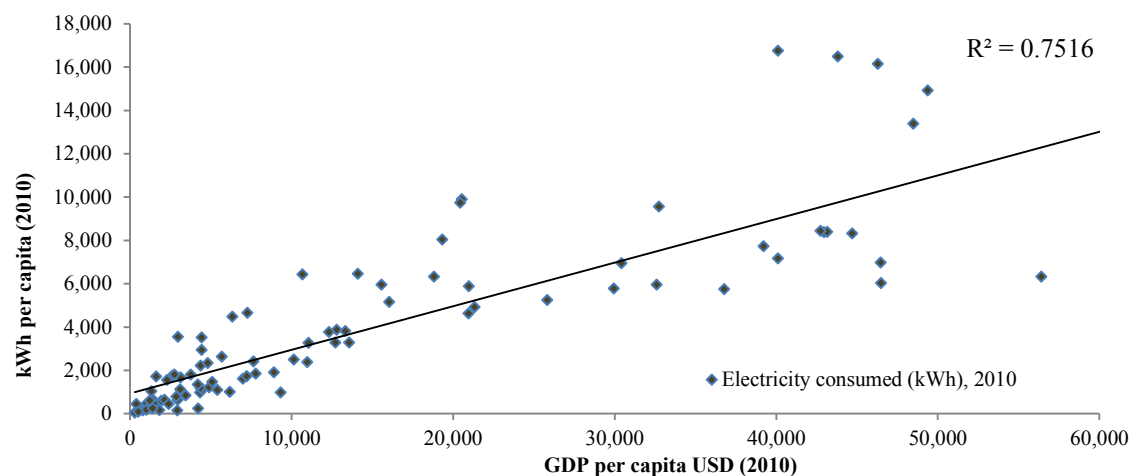
^{4/} Stéphane Straub, *Infrastructure and Growth in Developing Countries: Recent Advances and Research Challenges*. WB. January 2008.

^{5/} Katrin Elborgh-Woytek. *Women, Work, and the Economy: Macroeconomic Gains From Gender Equity*. International Monetary Fund (IMF). September 2013.

^{6/} German Cubas. "Distortions, Infrastructure and Female Labor Force Participation in Latin American Countries." University of Iowa. May 2010.

Figure 2.2

Electricity Consumption Increases with Income



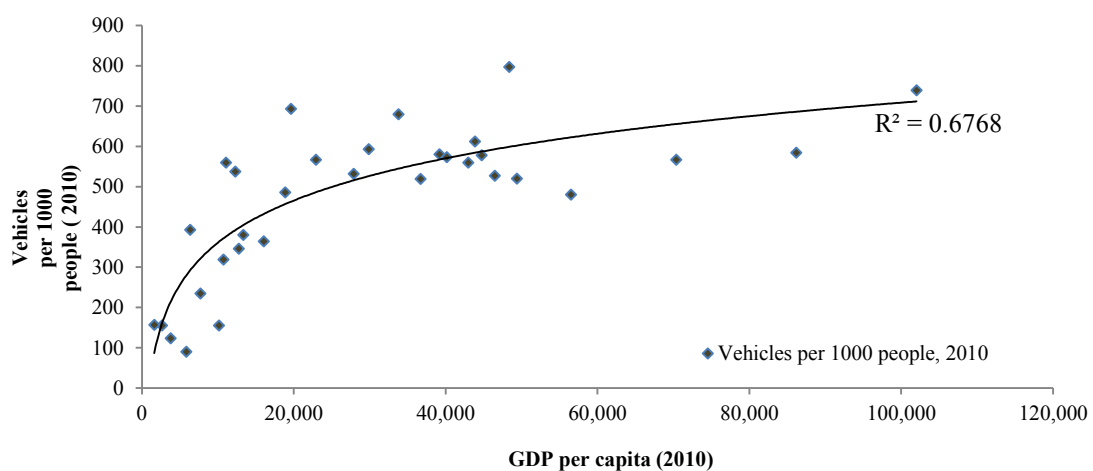
Source: WB, World Databank, accessed 22 Feb 2014. Data uses sample of 96 countries. GDP values converted to United States dollars (USD) at market exchange rates.

Demand for transportation also rises with income, as captured by a strong positive relationship between vehicle ownership rates and per capita GDP.

Figure 2.3 illustrates this relationship.

Figure 2.3

Vehicle Ownership Increases with Income



Source: United Nations Economic Commission for Europe Transport Division Database (2014), WB, World DataBank, accessed 25 Feb 2014. Data uses sample of 31 countries. GDP values converted to USD at market exchange rates.

While it is difficult to determine the direction of causation, that is, whether better infrastructure causes or is caused by economic growth, infrastructure and national income have been observed to be highly correlated. Social infrastructure, too, is correlated with economic growth and rising living standards. Better schools and health clinics boost productivity and they are increasingly demanded by families as incomes and aspirations grow.

2.2 Caribbean Infrastructure Deficits

Infrastructure services in electricity, transport, and water and sanitation in the BMCs need improvement in order to meet higher service standards, to keep pace with population growth and support economic development. Costs also need to be put on a downward trajectory, especially in electricity.

Electricity

Access to electricity is near universal for most BMCs — 4 out of 19 BMCs have access rates at or above 95%.^{7/} However, Haiti has a significant deficit with only 20% access, while Guyana and Belize also lag behind at 60 and 81.4%, respectively.^{8/} The biggest issue for most BMCs is cost. This notwithstanding, service levels also need to improve, for example, how long it takes to get a new connection.

Table 2.1

Electricity Tariffs for Household Customers Using 100 KWh per Month

Electricity Tariffs for Domestic Consumer using 100 kWh per month, 2012	
Country	Tariff Rate (US cents/kWh)
Turks & Caicos Islands	50.55
Montserrat	49.90
Cayman Islands	46.78
Anguilla	44.98
Dominica	41.04
Grenada	40.37
The Bahamas (GBPC)	39.08
St. Vincent and the Grenadines	38.03
Barbados	36.54
The Bahamas (BEC)	36.29
Jamaica	35.92
St. Lucia	33.83
Belize	18.50
Suriname	4.99
Trinidad and Tobago	4.51
(Arithmetic) Average	34.75

Source: CARILEC. *Benchmark Study of Caribbean Utilities: Final Report (2013)*. Montserrat and Trinidad and Tobago figures from CARILEC *Tariff Survey among Member Electric Utilities – September 2012 (2012)*.

^{7/} CARILEC 2013, WB, World Development Indicators, accessed February 20, 2014, and IRENA country reports.

^{8/} WB, World Development Indicators, accessed February 20, 2014, and IRENA country reports.

Electricity tariffs in the Borrowing Member Countries are among the highest in the world

Electricity rates in the Caribbean are among the highest worldwide. In 2012, nearly every Caribbean nation saw electricity tariffs over 30 US cents per kWh.^{9/} In comparison, the average OECD residential tariff was 16 US cents/kWh (see Table 2.1).^{10/}

All Borrowing Member Countries are promoting the Green Agenda

With limited domestic energy resources, most Caribbean nations currently depend on expensive diesel and heavy fuel oil (HFO) for the majority of their generation. Investing in renewable energy (RE) is one key strategy by which BMCs can reduce their future electricity tariffs. Switching to liquefied natural gas (LNG) as a fuel^{11/} is also a promising strategy for the larger economies.

In addition to developing RE resources, there is great potential for BMCs to reduce energy costs by saving on energy consumption through energy efficiency measures. For example, Castalia analysis in Belize indicates that an economically viable energy efficiency programme could reduce electricity consumption by 26% over the next 20 years, compared with current consumption patterns.

Significant delays in connecting customers exist in many Borrowing Member Countries

While most of the BMCs have relatively high rates of electricity access, connecting new customers takes a long time. Most BMCs have significant waiting periods for new customer connections. Table 2.2 shows typical wait times for new electricity customers in 14 of the BMCs. On average, new customers must wait 73 days for a new electricity connection.

Table 2.2**Typical Wait Times for New Electricity Connections in the Borrowing Member Countries**

Average time required to get electricity (days), 2013	
Guyana	109
Jamaica	96
Bahamas, The	67
Belize	66
Barbados	65
Dominica	61
Trinidad and Tobago	61
Haiti	60
Suriname	58
St. Vincent and the Grenadines	52
Grenada	49
Antigua and Barbuda	42
St. Lucia	26
St. Kitts and Nevis	18
Average	73

Source: WB, World Databank, accessed 24 February 2014.

^{9/} “The Caribbean has some of the world’s highest energy costs – now is the time to transform the Region’s energy market,” Inter-American Development Bank (IDB), November 14, 2013, <http://blogs.iadb.org/caribbean-dev-trends/2013/11/14/the-caribbean-has-some-of-the-worlds-highest-energy-costs-now-is-the-time-to-transform-the-regions-energy-market/>.

^{10/} “International Energy Agency (IEA) Statistics—Electricity Information,” IEA, OECD 2012, Table 3.9 (page 133).

^{11/} Which is a strategy being contemplated by the Jamaican authorities.

Transportation

There is room for improvement in transportation subsectors, including airports and seaports. Road quality, in particular, is a recurrent issue throughout the Caribbean. According to data from the WB World Development Indicators, a few countries including Barbados have almost all of their roads paved and maintained in good condition, but others lag behind. Belize, Haiti and Antigua and Barbuda all have paved road rates below 50% (at 17, 18 and 33%, respectively). ^{12/} Table 2.3 provides data on roads in the BMCs and in selected comparator countries.

Table 2.3

Total Roads and Paved Roads per Capita in the Borrowing Member Countries and Comparators

Country	Road Density (km per 100 sq. km)	Roads (km) per 1000 persons	Paved Roads (%)	Paved Roads (km) per 1000 persons	Year of Data
Borrowing Member Countries					
Antigua and Barbuda	264.8	14.6	33	4.8	2002
Bahamas, The	26.9	9.0	57	5.2	2000
Barbados	372.1	5.9	100	5.9	2004
Dominica	201.6	21.2	50	10.7	2010
Grenada	331.5	11.1	61	6.8	2000
Guyana	4.0	10.7	7	0.8	2000
Haiti	15.1	0.5	24	0.1	2000
Jamaica	204.3	8.2	73	6.0	2010
St. Kitts and Nevis	123.1	7.1	43	3.0	1999
St. Vincent and the Grenadines	212.6	7.7	70	5.4	2003
Suriname	2.8	8.8	2	2.3	2003
Trinidad and Tobago	162.2	6.6	51	3.4	2000
Comparable Regions					
East Asia & Pacific (all income levels)	28.5	3.2	66	2.1	2010
Europe & Central Asia (developing only)	22.6	5.3	86	4.6	2010
Latin America & Caribbean (all income levels)	16.8	5.7	23	1.3	2010

Source: WB. World Development Indicators. Accessed March 23, 2014. <http://databank.worldbank.org>

Note: Some BMCs were excluded due to gaps in the data

^{12/} “The World Factbook: Field Listing: Roadways,” Central Intelligence Agency, 2014.
World DataBank, WB, 2014.

In a group of five comparator countries,^{13/} an average 69% of all roads are paved. However, the percentage of paved roads is not necessarily an appropriate measure of the adequacy of a country's road network. In some cases, considering the distances involved and the infrequency of vehicular traffic, unpaved roads represent an appropriate use of scarce resources. Beyond this, it should be emphasised that the percentage of paved roads contains little information regarding the quality and resistance to weather, which constitute a particular challenge in the Caribbean setting.

Moreover, indiscriminate road usage, heavy axle loads and inadequate maintenance practices together compromise asset life. A lack of high-quality transportation options in the BMCs can be an inhibitor to trade, labor mobility and tourism.

Water and Sanitation

Citizens of most Caribbean countries have good access to improved water services — with the notable exception of Haiti. Sanitation services are more inconsistent, with several countries needing to improve citizen's access to improved sanitation, and many needing to invest in improved wastewater treatment facilities. The biggest problem for most BMCs is a high level of NRW — an inefficiency that cripples utilities' financial performance and reduces service levels. Several Caribbean countries are also water stressed and need to conserve water or invest in desalination plants which represent a very costly option. Table 2.4 shows freshwater resources per country, in cubic meters per capita per year:

Table 2.4

Renewable Internal Freshwater Resources per capita in the Borrowing Member Countries

Country	Renewable internal freshwater resources per capita (cubic meters)
Borrowing Member Countries	
Antigua and Barbuda	590
The Bahamas	55
Barbados	284
Belize	50,588
Guyana	304,723
Haiti	1,297
Jamaica	3,475
St. Kitts and Nevis	453
Suriname	166,113
Trinidad and Tobago	2,881
Comparable Regions	
East Asia & Pacific (developing only)	4,438
Europe & Central Asia (developing only)	2,731
Latin America & Caribbean (all income levels)	22,364

Source: WB. World Development Indicators. Accessed March 23, 2014. <http://databank.worldbank.org>

Note: Some BMCs were excluded due to gaps in the data

^{13/} Botswana, Costa Rica, Malta, Mauritius, Seychelles

Antigua and Barbuda, the Bahamas, Barbados, and St. Kitts and Nevis all have very low levels of renewable freshwater resources. These countries and others such as the Cayman Islands are being forced to rely on the augmentation of high-cost desalination plants to meet their domestic water needs. There is a significant disparity between island BMCs and the BMCs in Central and South America — Guyana, Suriname, and Belize all have ample freshwater supplies. For the island BMCs, their freshwater resources are low when compared with developing economies in East Asia and the Pacific, Europe, and Central Asia. Improving the efficiency of water use, including reducing technical losses in piped systems, will be a key challenge for the water-stressed island BMCs to meet their water needs in a cost-effective manner.

Access to improved water sources is high overall, except in Haiti

In all BMCs except Haiti, access to improved water sources is above 90%, whereas in Haiti, only 64% of the population has access. Overall, there is high penetration of piped water connections in the Caribbean, with 94% of urban households having access to improved water via a piped connection. However, only 62% of rural households have a piped connection.^{14/} While most countries do well with respect to water access, there is still substantial room for improvement. This is particularly the case in Haiti, where water access is a huge development challenge.

Non-revenue water levels are high in most Borrowing Member Countries

At least 11 BMCs have NRW levels higher than 30% of total water production.^{15/} NRW is the difference between the water that is produced, and the water that is billed for by the water utility. NRW comprises technical losses, where water leaks out of the pipes and commercial losses, where water is delivered to customers without revenue being received. Commercial losses are often a result of illegal connection, while other causes include meters that under-register water consumption, meter-reading errors and failures to send bills.

High levels of NRW are costly because raw water is being processed into potable form, but not paid for. Leaks in the water system not only waste ‘good’ water, but also allows the water in the system to be contaminated by external pollutants. Leakage reduces water available to customers, reduces services levels and requires more raw water resources to be exploited. Commercial losses reduce the revenue available to the utility, contributing to poor financial performance of Caribbean utilities.

Renewable natural water resources are declining in the Borrowing Member Countries

Several of the BMCs have seen their renewable water resource stocks fall in absolute terms, and at least 10 of the BMCs have declining per capita resources. In countries where water resources are stressed conserving water is an economic imperative, as accessing new resources through desalination is very costly (especially given the high price of electricity, the biggest cost in desalination). In order to combat this decline in water resources, the BMCs will need to invest in additional water production capacity, non-revenue water reduction programmes, and water efficiency measures.

^{14/} Hutton, Guy, and Jamie Bartram, “Regional and Global Costs of Attaining the Water Supply and Sanitation Target (Target 10) of the Millennium Development Goals (MDGs),” World Health Organisation, 2008.

^{15/} Estimates drawn from Castalia database and discussions with regional water utilities.

Table 2.5 summarises the declines in per capita renewable water resources in 10 BMCs. In countries where water resources are stressed conserving water is an economic imperative, as accessing new resources though desalination is very costly (especially given the high price of electricity, the biggest cost in desalination).

In order to combat this decline in water resources, the BMCs will need to invest in additional water production capacity, non-revenue water reduction programmes, and water efficiency measures.

Table 2.5

Renewable Water Resources Per Capita are Declining in Many Borrowing Member Countries

Total renewable water resources per capita (m3/inhabitants/year)			
Country	1987	2011	% Change
Antigua and Barbuda	812.5	571.4	(29.67)
Bahamas	82.3	56.98	(30.77)
Barbados	311.3	290.9	(6.55)
Belize	106,000	57,253	(45.99)
Guyana	326,116	317,942	(2.51)
Haiti	2,098	1,368	(34.80)
Jamaica	4,034	3,406	(15.57)
Saint Kitts and Nevis	585.4	444.4	(24.09)
Suriname	315,245	228,464	(27.53)
Trinidad and Tobago	3,216	2,842	(11.63)
Average	75,850	61,263	(22.91)

Source: Food and Agriculture Organisation of the United Nations (UN). AquaStat. 2014. "Total renewable water resources per capita (actual) (m3/inhab/yr)" defined as "The sum of internal renewable water resources and external actual renewable water resources (ERWR_actual). It corresponds to the maximum theoretical yearly amount of water actually available for a country at a given moment" on a per capita basis.

Social Infrastructure

The Millennium Development Goals (MDGs) show that there is room for improvement in education access in the Caribbean. Similar percentages of boys and girls are currently enrolled in primary school, suggesting the Region is doing a good job of tackling the issue of gender equity. However, primary school enrollment is not yet universal. In 1990, average primary school enrollment was 76.5% — in 2011 it had risen to 81.4%. Over the same period, Latin America saw a jump from 88.6% to 96.4% and developing nations globally saw a 90.5% primary school enrollment rate in 2011.^{16/}

^{16/} MDGs, targets and indicators, 2013: statistical tables, UN, 2013, 32, 38-39.
<http://unstats.un.org/unsd/mdg/Resources/Static/Products/Progress2013/Statistical%20Annex.doc>

2.3 Substantial Investments Needed to Close the Gap

Substantial investments are needed in order to close the infrastructure services gap in the BMCs —increases in both quality and access to infrastructure services. Electricity, transport and improved water and sanitation must all be achieved, in order to enable greater economic growth and development in the Region. The amount of investment needed for infrastructure improvements is dependent upon the type and extent of improvements required. The following estimates of the investment needs in the BMCs are based on target service levels and estimated investment costs.

Estimation Methodology

The estimation methodology identifies gaps in infrastructure services, estimates the unit costs of providing the required services, and quantifies the investment needed by sector and country. The estimates of investment need are intended to provide orders of magnitude for country and sector comparisons, but these estimates are not intended to substitute or replicate detailed country or sector-level engineering plans, nor as to serve as firm financial forecasts.

Specifically, investment need for each infrastructure sector in each BMC was estimated using the following steps:

- (a) Define the level of adequacy for infrastructure services in each sector.
- (b) Quantify the infrastructure services gap as the difference between current infrastructure services and the desired target service levels. The target service levels are defined for each infrastructure sector and they represent goals for the quality and access to infrastructure services. For example, the target service level in the water sector could be 100% of households having an improved water connection. The services gap in the water sector is thus the difference between the number of households which already have improved water connections and the total number of households in the country. For a detailed description of target service levels for each infrastructure sector, see Appendix A.
- (c) Calculate the investment needed to close the infrastructure services gap over the forecast period. For example, the unit costs of providing urban and rural households (respectively) with access to improved water sources can be multiplied by the number of urban and rural households (respectively) needing access to improved sources
- (d) Classify the infrastructure sector (or sub-sector) as either public or private according to the ownership of the sector.
- (e) Sum the investment needs to determine the total public and private investment for each sector and country.
- (f) Finally, some of the results were adjusted due to known conditions in each sector and country — where high-value investment projects have recently been implemented, the forecast capital expenditures were adjusted accordingly.

By applying these steps to the three infrastructure sectors assessed, we are able to estimate the investment need for each sector and identify major drivers of investment cost. A detailed description of the methodology is included in Appendix A.

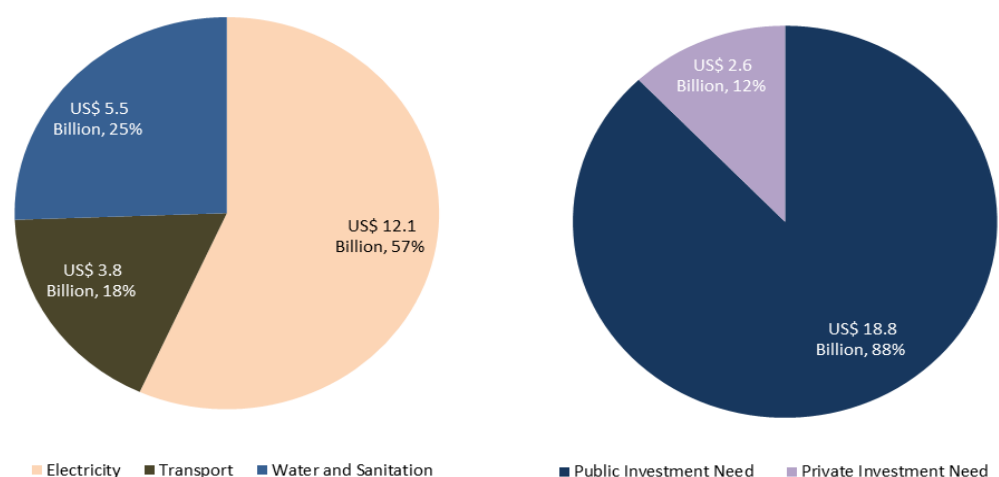
In all BMCs, the telecoms and Information and Communication Technologies (ICT) sectors have benefitted from liberalisation and private sector led investment and growth. Commencing with Jamaica in the late 1980s, BMC governments increasingly divested their telecom sectors, letting the private sector lead the innovations and advances in telecoms/ICT technology that subsequently followed. Currently, virtually all telecommunications investments are in private sector hands in BMCs. For this reason, we have not included this sector in the estimated investment needs.

Infrastructure investment needs by sector

In order to significantly improve the amount and quality of infrastructure services in the BMCs by 2025, total capital expenditure of more than USD21 bn is required. Figure 2.4 summarises the investment needs by sector:

Figure 2.4

Over USD21 bn is Needed for Infrastructure Investment in the Borrowing Member Countries to 2025



Over half of new infrastructure investment will be needed for electricity, with water and sanitation comprising one-quarter and transport forming the remainder.

In most of the BMCs, the public sector is responsible for the bulk of the transport, water, and sanitation infrastructure. The electricity sector is largely private in many BMCs, but not all. Current allocations of responsibility suggest that as a result, 89% of the investment needs (USD18.8 bn) falls to the public sector under current policies.

Table 2.6 presents the capital expenditure estimates, by country and sector. Countries are listed in order of total investment need. Because of the use of common unit capital expenditure estimates across countries and sectors, the actual costs per country may vary from those shown below. However, on an aggregate basis, these estimates are indicative of where the greatest investment needs exist.

The estimates show:

- (a) Haiti alone has over USD12 bn in investment needs, largely in electricity to expand access and build new generation capacity. Much investment is also needed in new road construction.
- (b) After Haiti, Jamaica has the next highest investment need (USD3.2 bn), evenly divided among the electricity, transport and water and sanitation sectors.
- (c) The electricity sector needs the most investment overall, largely due to new investments in power generation in order to expand capacity and replace existing petroleum-fired capacity that is old and expensive.
- (d) Water and sanitation is the sector with the next largest investment need. While the Region has generally good rates of water access, much investment is needed for improving sanitation services, as well for network improvements (focused on reducing NRW).

Table 2.6

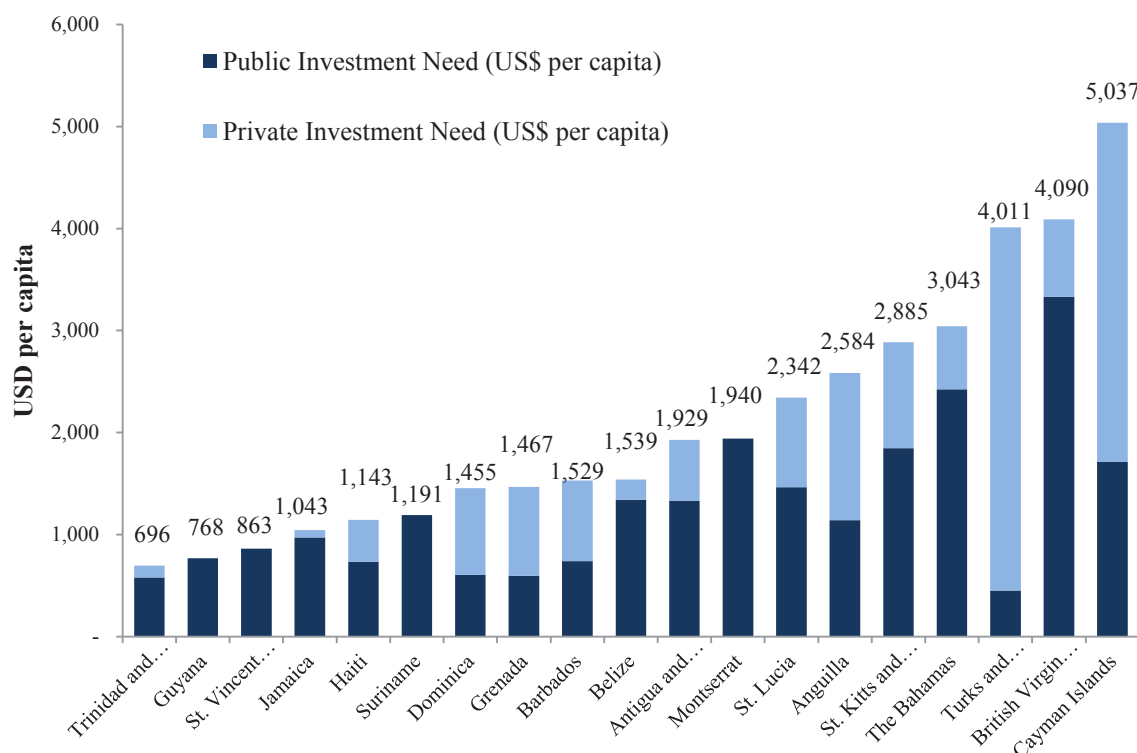
Total Public and Private Investment Need by Country and Sector 2015-2025

All Values are in USD Millions				
Country	Electricity	Transport	Water and Sanitation	Total
Haiti	8,584	79	3,552	12,214
Jamaica	1,109	1,199	891	3,198
The Bahamas	409	640	71	1,121
Trinidad and Tobago	165	544	226	935
Guyana	353	36	231	621
Belize	244	142	110	496
Suriname	269	48	146	463
Barbados	168	198	66	432
St. Lucia	104	284	37	424
Cayman Islands	109	173	4	286
Antigua and Barbuda	69	81	22	172
Grenada	66	59	31	157
St. Kitts and Nevis	49	91	15	155
Turks and Caicos Islands	51	72	5	128
St. Vincent and the Grenadines	66	18	33	116
British Virgin Islands	46	61	8	115
Dominica	31	55	18	105
Anguilla	20	15	1	36
Montserrat	7	2	1	10
Total	11,919	3,796	5,467	21,183

Figure 2.5 summarises our estimates of public and private investment needs for each BMC on a per capita basis.

Figure 2.5

Per Capita Public and Private Investment Needs in the Borrowing Member Countries, 2015-2025



The high per capita investment needs in the smaller islands (The Bahamas, Turks and Caicos Islands, British Virgin Islands and Cayman Islands) is largely driven by tourism, coupled with small resident populations. These islands have high per capita electricity consumption, due to the many large hotels and very small domestic populations. Furthermore, these islands will need to invest in upgrades to their airports and cruise ship terminals to meet the needs of their tourist industries.

The Turks and Caicos Islands have privatised electricity, water and sanitation services, which is why the majority of new investments are expected to come from the private sector.

At the lowest end of the per capita investment need is Trinidad and Tobago, which is one of the most developed BMCs in terms of infrastructure. Trinidad and Tobago also has the third highest population in the Region (behind Haiti and Jamaica), and a smaller tourism industry compared to the smaller islands.

Jamaica and Haiti have smaller per capita needs when compared with the other BMCs, but this should not be allowed to obscure the fact that their total investment needs are the largest. At over 10 million (mn) people, Haiti has a larger population than the rest of the BMCs combined. Jamaica is the second most populous of the BMCs.

2.4 Public Finance is Not Sufficient to Meet Investment Needs

Given the magnitude of the capital investment required, the next question is: ‘How will this USD21 bn in capital expenditure be financed?’ The analysis presented below shows most of the BMCs are spending less on infrastructure than would be needed to close the service gaps identified above. This creates a ‘funding gap’ — the difference between the amounts that governments are currently spending and the public infrastructure investment needs identified above. For the Region as a whole this estimated funding gap exceeds USD10 bn for the period 2015 to 2025. Table 2.7 shows the estimated funding gaps by BMC.

Table 2.7

Estimated Public Investment Infrastructure Gap in Borrowing Member Countries, 2015-2025

Country	All Values are in USD Millions		
	Public Investment Need	BaU Public CAPEX	Total Expenditure Gap
Haiti	12,214	3,886	8,328
Jamaica	2,050	1,276	774
Belize	432	172	261
The Bahamas	893	742	151
Antigua and Barbuda	119	17	102
Barbados	209	119	90
St. Lucia	265	190	75
St. Vincent and the Grenadines	108	43	65
British Virgin Islands	94	57	36
St. Kitts and Nevis	99	68	31
Guyana	621	590	31
Anguilla	16	8	9
Suriname	463	467	0
Montserrat	10	22	0
Dominica	44	136	0
Grenada	64	86	0
Cayman Islands	97	321	0
Trinidad and Tobago	779	2,579	0
Total:	18,575	10,778	9,952

The way in which ‘Business as Usual’ public capital expenditure was estimated is described in Box 2.1.

Only public sector investment responsibilities are included in the funding gap analysis. This is because private infrastructure providers, such as electricity utilities, are expected to be able to raise the capital they need to expand service. The funding gap estimates are biased downward because not all investment needs have been included in the analysis.

Substantial additional investments will be needed that are not estimated here — for example, road rehabilitation in Haiti and other BMCs will be very expensive but is also certainly needed. Furthermore, capital investments in sewerage treatment plants and water networks are likely to be much higher than these estimates show. Sewerage treatment plant upgrades and new investments were not included in these estimates. The capital expenditure plan for the National Water Commission (NWC) in Jamaica, for example, forecasts annual spending levels that are about twice as high as our NRW and new connections investments. The NWC investment plan reflects the additional network storage, monitoring and systems improvements that are needed in Jamaica but which have not been captured here.

The following comments address the key drivers of the estimated funding gaps in selected BMC economies:

Haiti: Widespread lack of access in electricity and water and sanitation is the most important driver of Haiti's investment need. In electricity, Haiti's per capita consumption is one-eighth that of Guyana, the next closest BMC. Haiti's electricity access rate (20%) is only one-third of Guyana's (60%). Similar service deficits can be found in water and sanitation — Haiti is the only BMC with a water access rate below 90% (64%) and sanitation access in Haiti (26%) lags far behind the next closest BMC (St. Lucia with 65%). Haiti will likely need to invest much more in road rehabilitation, which is not included in our transport estimate, meaning that the investment gap in transport is likely much higher. Haiti has been spending heavily on capital expenditures (21.1% of GDP in 2012), but this spending would not have been possible without donor support in the form of large grants and concessional loans.

Jamaica: Significant investments in transport, water, and sanitation drive Jamaica's public investment need, and tight budget constraints contribute to under-investment. Jamaica has already pursued a number of PPP options to help close its public investment gap — for example, the concessioning of Sangster airport and the privatisation of the electricity sector. Funding for improvements to roads and the water and sanitation sector remain key challenges for Jamaican public authorities.

Trinidad and Tobago: With high access rates in electricity, water, and sanitation and cheap domestic energy sources, the investment need in Trinidad and Tobago is less than many of the other BMCs. Transport, particularly in new roads to connect Trinidad's northern and southern population centers, is a substantial investment need. Unlike many other BMCs, Trinidad and Tobago enjoys substantial domestic natural gas resources and large export revenues. There is no obvious funding gap in Trinidad and Tobago, as the Government has ample fiscal space to make the necessary public sector investments. Ensuring that public investments actually provide VfM is a worthy focus for the public sector.

Dominica and Montserrat are both are spending a lot on capital investments compared to their GDP: in 2012, Dominica spent 13.3% of GDP on capital expenditure and Montserrat spent 16.5%.^{17/} This high level of capital expenditure explains why these countries do not appear to have a funding gap. However, it will be important to check that such levels of

^{17/} "Government Capital Expenditures in the BMCs," CDB, accessed January 2014.

expenditure are sustainable — they may not be. Moreover, in the case of Dominica the IMF has commented that it would be desirable for a greater proportion of the Government capital investment to go into infrastructure, rather than other fixed assets such as housing.^{18/}

Guyana has substantial investment needs but the Government has also been spending a lot on capital expenditures (9.7% of GDP in 2012). If this expenditure is not sustainable, the funding gap would be larger than shown.

Box 2.1: Estimation of Business-as-Usual Public Capital Expenditures

The Business-as-Usual (BaU) case is based on public capital expenditures from the 2012 fiscal year in the BMCs. It does not assume any changes in government spending priorities, tax revenues or fiscal policies.

Data from CDB was used to estimate the total capital expenditures in 2012 for each BMC. This total includes all forms of government capital expenditure, from water systems to hospitals and housing projects, and as a result these estimates are not indicative of what governments are spending on the three key sectors we assessed: electricity, transport, and water and sanitation.

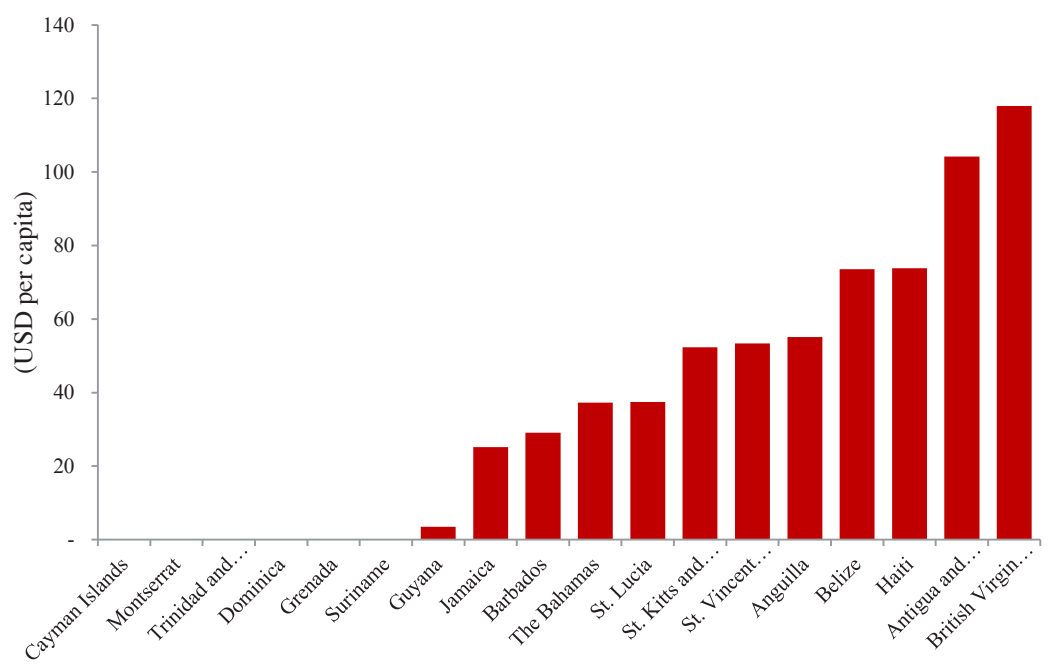
To scale this estimates appropriately, we examined the capital expenditures from fiscal year 2012-2013 in Jamaica and Trinidad and Tobago. We chose these two countries because they are two of the largest economies in the BMCs; they have very different budgetary constraints; and detailed data was available. We reviewed these countries' expenditures line by line and comparing their investments in the three key sectors against their total public capital expenditures. Both countries spent close to 18% of their total capital expenditures on the three key sectors. By applying this proportion to total capital expenditure in the rest of the BMCs, we estimated the capital expenditures on electricity, transport, and water and sanitation.

The biggest countries tend to have the biggest funding gaps in dollar terms. However, to assess how difficult it would be for countries to close these gaps it is helpful to look at them on a per capita basis, as shown in Figure 2.6.

^{18/} "Dominica: 2012 Article IV Consultation, IMF Country Report No. 13/31" IMF, (Washington, IMF, January 2013). 17.

Figure 2.6

Annual Funding Gaps in the Borrowing Member Countries in USD per Capita, 2015-2025

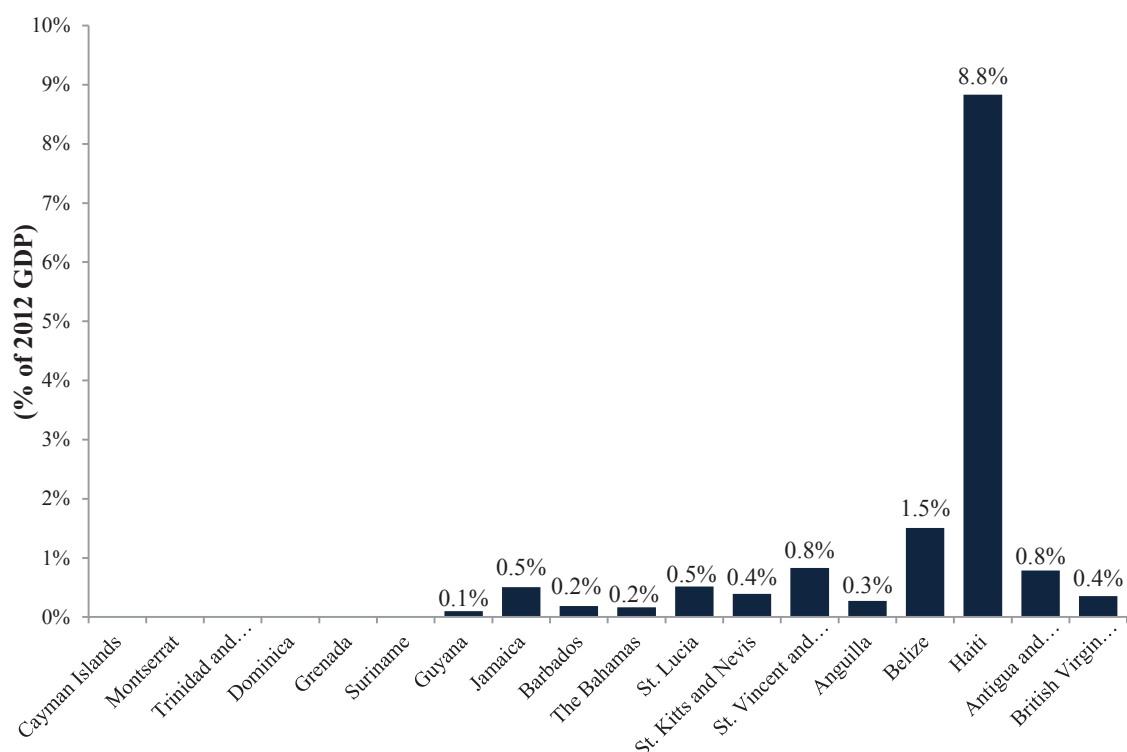


It is also helpful to contextualise the funding gap by a country's wealth, as well as by its population. For example, some countries such as the British Virgin Islands seem to have high funding gaps when viewed in per capita terms, but these gaps are actually much more manageable when measured in terms of the country's GDP. Small, higher income islands which have small domestic populations but high tourism levels (including the Cayman Islands and British Virgin Islands) will likely be able to fund their investment gaps with tourism revenues.

For other BMCs such as Haiti, larger populations and lower national income means that the funding gap appears to be substantial when expressed either in per capita terms or as a percentage of GDP.

Figure 2.7

Annual Funding Gaps in the Borrowing Member Countries as a Percentage of Gross Domestic Product, 2015-2025



Source: Castalia estimations. GDP converted to USD at market exchange rates.

For all of the BMCs except Haiti and Belize, the annual funding gap is less than 1% of GDP. Haiti's funding gap is even larger in terms of GDP than in terms of per capita investment; at 8.8% of GDP, Haiti's public investment deficit is far above all of the other BMCs.

Indebtedness adds to financing problems

In principle, countries could increase their public investment in infrastructure. However, fiscal constraints and debt market conditions create difficulties for many BMCs to borrow to fund additional investments. If capital expenditure cannot be financed from debt, the levels of public investment could actually decrease in the future, thereby widening the funding gap for infrastructure improvements in the Region.

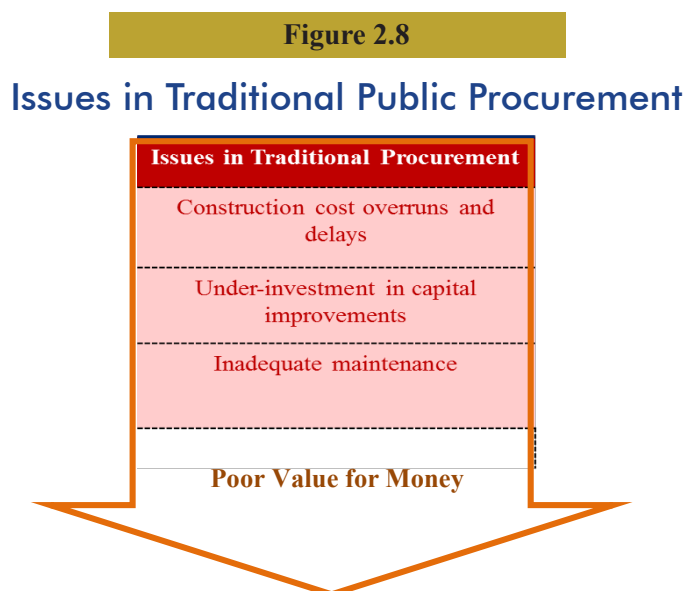
One of the factors affecting the borrowing capacity of the BMCs is their relatively high levels of public debt. The average Debt-to-GDP ratio in the BMCs is 71.8%,^{19/} much higher than the average of 43.1% in the IMF's Emerging Markets grouping and almost as high as the average of

^{19/} Source: IMF; Moody's; Standard & Poor's.

75.2% for Advanced Economies.^{20/} Out of 176 countries for which the IMF has data, 10 out of the 19 BMCs are in the top 25% of all countries by Debt/GDP ratio.^{21/} These high debt levels are likely to limit the ability of many BMC governments to borrow in order to finance much needed capital expenditure.

2.5 Traditional Procurement Can Result in Poor Value for Money

Caribbean infrastructure gaps result as much from poor value for the funds that are spent as they do from inadequate expenditure. High construction costs and poor maintenance mean service delivered per dollar of expenditure is less what could be achieved under ‘efficient’ procurement. BMCs need to switch from a focus on ‘asset creation’ and instead focus on ‘sustained service delivery’. The major problems with traditional public procurement are summarised in Figure 2.8.



Poor design and construction leads to high whole-of-life service costs

Poor design decisions, often resulting from a desire (often misplaced) to reduce initial capital expenditure, lead to higher costs over the asset’s entire life. In traditional public procurement projects, the objective of both the Government and the construction contractor is generally to minimise the up-front capital costs. The effect is often to push up maintenance or operating costs above where they would be if more money was invested up-front, and so to increase the total cost of service over the asset’s lifetime. For example, many roads in the Caribbean are constructed with improper drainage. As recently evidenced, heavy rains which hit St. Lucia on Christmas Eve of 2013^{22/} caused extensive erosion and incidences of roads and bridges washing out, requiring costly repairs.

^{20/} World Economic Outlook Database, IMF, October 2013, accessed February 11, 2014, <http://www.imf.org/external/pubs/ft/weo/2013/02/weodata/weoselgr.aspx>

^{21/} IMF. World Economic Outlook Database.

^{22/} “Island-wide flooding dampens Christmas spirit,” St. Lucia News Online, December 25, 2013, accessed February 27, 2014, <http://www.stlucianewsonline.com/islandwide-floods-dampen-christmas-spirit/>

Moreover pressure for low upfront capital costs can contribute to poor construction in the form of cheap materials and improper execution of the project design. While potentially saving money immediately, poor construction is not cost-effective in the long term because assets will wear out before the end of their design life and have to be rebuilt.

Construction cost overruns and delays are common

Many Caribbean infrastructure projects go over budget and are delivered late. These overruns substantially increase costs to Government. As an example, the Montego Bay to Negril section of the North Coast Highway in Jamaica was contracted to Bosung Engineering for USD25 mn in 1997 under a standard public procurement process.^{23/} The project was delivered two years late and USD47 mn over budget, costing the Government of Jamaica (GoJ) USD72.7 mn in total.^{24/}

Under-investment in capital improvements increases operational costs

Even when there is clear need for capital improvements to relieve over-burdened infrastructure assets, fiscal constraints and government budgetary processes lead public authorities to avoid making necessary investments. Underinvesting in the existing infrastructure assets accelerates the deterioration of the assets and increases operational costs for the public authority.

The costs of underinvestment are clearly evident in the water sectors in many BMCs, which suffer from high levels of NRW. At least 10 of the BMCs have NRW rates that are higher than 30% of total production, while four BMCs have NRW rates above 50%.^{25/} High levels of NRW increase costs to the water utility in at least two ways:

- (a) Technical losses in NRW increase the water utility's operating costs because the utility is producing water that is leaking out of the system.
- (b) Commercial losses in NRW both increase operating costs and prevent the utility from receiving user fees.

The costs of NRW further reduce a water utility's ability to make capital improvements from its own funds. Furthermore, many Caribbean water utilities are just breaking even or operating at a loss, which significantly reduces their ability to adequately invest in capital improvements and leads to a cycle of underinvestment in the sector.

Inadequate maintenance leads to low service quality and costly asset deterioration

Public infrastructure across the Caribbean is plagued by inadequate maintenance, which contributes to low service quality and costly asset deterioration. Inadequate maintenance occurs for a number of reasons under public authorities. Budgetary pressures squeeze funds earmarked for maintenance to a minimum and a lack of performance incentives for managers and staff leads to insufficient and inadequate maintenance coverage and quality.

^{23/} Charmaine R. Clarke, "First leg of delay-plagued North Coast Highway opened Cost overrun at \$2 bn," *The Jamaica Observer*, September 8, 2002, http://www.jamaicaobserver.com/news/31594_1st-leg-of-delay-plagued-North-Coast-Highway-opened-Cost-overrun-at-2-bn.

^{24/} Charmaine R. Clarke, 2002.

^{25/} Castalia estimates based on data from publicly-available annual reports of BMC water utilities and the World Development Indicators from WB.

Chapter 3

The Business Case for Public-Private Partnerships

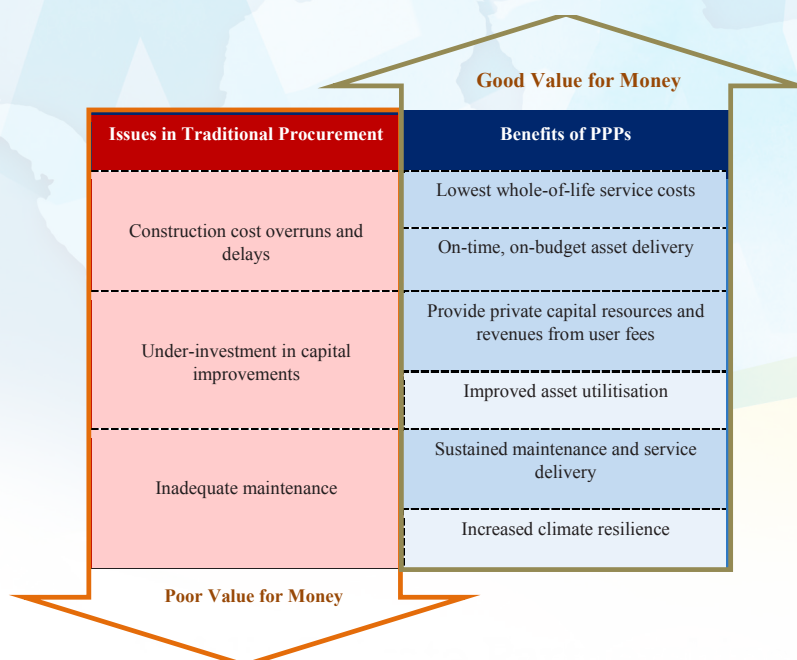
PPPs have the potential to deliver infrastructure services more rapidly, with higher quality, and at a lower cost than traditional government projects. However, PPPs also involve significant risks, and they are not right for all projects. Governments therefore need to know how PPPs can deliver VfM; how to structure projects so they deliver these benefits; how to avoid common risks; and in what kind of projects are PPPs most likely to add value.

3.1 Public-Private Partnerships Can Deliver Better Value for Money

PPPs benefit infrastructure service delivery by addressing many of the challenges inherent to traditional government procurement practices. These challenges, and how PPPs can overcome them, are summarised in Figure 3.1. The following sections go into more detail on each of the benefits.

Figure 3.1

Public-Private Partnerships Address Key Issues in Traditional Public Procurement



Lowest whole-of-life service costs

Under a PPP contract, a private party finances, operates and maintains the asset, and thus profits from minimising the cost of service delivery over the entire life of the project. The private operator in a PPP will usually make decisions regarding the project's design, construction and maintenance based on the entire period of the contract. Matching the contract period to the asset's life encourages the operator to find the lowest lifetime service costs.

In the Caribbean there are significant opportunities to minimise whole-of-life costs in areas such as designing more energy efficient schools, government buildings and water utilities, and by reducing road maintenance costs through higher quality initial construction — in particular, avoiding the drainage problems that destroy road surfaces in many Caribbean countries. PPPs can help in all these areas by giving contractors incentives to deliver quality, sustainable assets which are efficient to run and durable.

On-time, on-budget asset delivery

A number of countries have found that PPPs help to deliver projects on time and on budget. In the United Kingdom, the National Audit Office found that while 73% of traditional projects ran over budget, the proportion was just 22% for PPP projects. Seventy percent of traditional projects were late, while only 23% of PPPs were late.^{26/} In Australia similar results have been found, as PPPs consistently perform better in achieving lower project cost overruns.^{27/}

Provide capital resources and revenues from user fees

Caribbean governments often lack funds for vital infrastructure investments. While PPPs cannot solve all funding problems, they offer the potential to do better in three ways:

Mobilising private capital resources — sometimes governments want to fund projects, but do not have the cash or borrowing capacity to finance the capital expenditure. Where this is the case, PPPs can sometimes bring in additional capital that will allow the project to go ahead. A PPP is most likely to mobilise additional capital when there is a revenue stream from users, which provides an opportunity for a private operator to earn greater profit by investing in asset improvements to enhance earning potential. On the other hand, where a PPP is funded by government **availability payments**,^{28/} the fiscal capacity of the Government is backing the revenue stream. In these cases a PPP would not generally allow the Government to mobilise more capital than it could through direct borrowing (although in some cases quirks in financial market perceptions or other special factors could allow private financing to relieve a capital constraint).

Additional revenues from the collection of user fees — PPPs offer an opportunity to collect additional funds from users, and thus make the provision and expansion of infrastructure services financially sustainable. As examples, toll roads in the Dominican Republic and

^{26/} Finlay, et al, "PDI: Construction Performance Report by the Comptroller and Auditor General," under the direction of Richard Eales, National Audit Office, 2003.

^{27/} "Performance of PPPs and Traditional Procurement in Australia," Infrastructure Partnerships Australia, 2007.

^{28/} Availability payments are performance-based compensation paid by the Government to a private party in a PPP based on how well the private party is performing in its management of the asset, regardless of the level of user demand. For example, an availability payment for a school might specify a fixed monthly sum to be awarded to the private operator of the building based on the building remaining open, accessible, and usable for every working day in the month. If the private operator fails to meet these operating standards, the availability payment would decrease to reflect the decrease in the availability of the school for use.

Jamaica have enabled the charging of fees that recognise the value of the transport services being provided. In principle governments could charge user fees themselves, and often do so, but in some cases it is socially and politically more acceptable to charge fees if it is linked to private finance of the service. Moreover, government entities that charge fees often do a poor job of collecting payment. In contrast, private operators whose profits depend on collection of revenue may be more likely to ensure that user fees are actually paid. Box 3.1 illustrates how a private operator can outperform a public operator in collecting user fees in the water sector.

Box 3.1: Performance-based Non-Revenue Water Reduction in the Bahamas

Private sector incentives and expertise reduce losses and increase fee collection

The Water and Sewerage Corporation (WSC) in Bahamas supplies drinking water to 250,000 people. For three decades there has been limited success in coping with increasing levels of NRW. Because 90% of the water comes from expensive desalination plants, reducing water losses was especially urgent. NRW was estimated at 58% in 2012, which equals 6.87 million imperial gallons per day (MIGD).

WSC structured, procured and awarded a performance-based NRW reduction PPP contract to reduce potable water leakage. The contract was awarded in February 2012 to Miya/Veritec — an Israeli firm specialised in NRW reduction. The scope of the contract included an NRW audit, infrastructure improvements (including, water pressure control, district metering, locating and repairing leaks and repairing or replacing pipes), implementation of an advanced water data and system management solution, and training WSC staff in NRW reduction activities.

The contract aimed to reduce NRW by four MIGD in five years, and by five MIGD in seven years. These targets are written into the PPP contract between WSC and Miya/Veritec.

The total cost of the programme is USD83 mn, while the projected savings of the project are over \$80 mn. Thirty percent of Miya's payments are linked to achieving NRW reduction targets.

After its first two years, the contract has achieved positive results. Miya's work in the Bahamas began with a baseline survey and the use of local NRW audits to design a cost-effective plan for NRW reduction.

A manual cutback system had been implemented to reduce leaks. After the installation of a new automated pressure control system, this need was eliminated. Leak detection teams were deployed into high leakage zones throughout New Providence, and have already located and repaired hundreds of leaks. At the same time, Miya and WSC began the installation of new service lines perpendicular to the existing main with updated corrosion-resistant valves.^{1/}

Improved asset utilisation — private infrastructure operators are often creative in finding additional uses for a facility and generating additional revenue. While governments tend to focus on a facility as providing a single public service, private firms look for ways that the facility can provide additional services and thus additional benefits and revenues. A classic example is airport retailing. Box 3.2 describes how a private operator of Sangster International Airport in Montego Bay, Jamaica not only provided better services, but generated additional revenue from the terminal by installing more retail space.

Box 3.2: Sangster International Airport in Jamaica

Profitability and better service achieved through private management

In the early 1990s, GoJ recognised the need to privatise the Sangster International Airport, which served as the gateway for all of Jamaica's tourists in the North coast resorts. Under public ownership, the airport was becoming more crowded and its assets were ageing. Furthermore, the airport's operations were becoming a significant drain on the Government's fiscal resources while Jamaica's national debt levels were high and rising, leaving the Government with little ability to pay for the required capital investment.

After a first aborted privatisation attempt, Cabinet in May 1998 approved the establishment of an Enterprise Team under the direction of the National Investment Bank of Jamaica (NIBJ).

In 2003, the Vancouver Airport Services Consortium took over operations of Sangster International Airport in Montego Bay, Jamaica, under a 30-year concession agreement. Under the concession, the consortium took responsibility for the management, operations and capital improvements of the airport, with the eventual prospect of handing the airport back to the Government.

After 10 years of operations, the consortium has delivered sustained improvements to the airport, including:

- doubling the airport capacity to seven million passengers per year;
- creating 43 new spaces for retailers to serve passengers food, drink, and other goods; and
- improving the financial health of the airport by using additional retail revenues to fund a portion of the airport's expansion and upgrading.

In light of the success of the Sangster Airport privatisation, GoJ is pursuing a similar PPP concession for the Norman Manley International Airport in Kingston.

The transaction included a number of replicable features:

- Competitive bids rather than one-on-one negotiations. The first transaction foundered when negotiations with the sole bidder broke down and GoJ had no other bidders to turn to. Experience suggests that governments obtain better VfM through competitive tenders, rather than sole-source negotiations.
- Specialised PPP staff members are critical to a successful transaction process. The staff at the Development Bank of Jamaica (DBJ) had previous experience in divestment transactions, which greatly assisted the PPP process.
- Tight agency coordination, driven by strong political will, is critical. With strong political leadership, DBJ elicited timely responses where needed and kept all the agencies informed.
- Hiring qualified experts help to ensure a strong business plan and a well-structured Request for Proposals (RFP) and bidding process. DBJ hired experienced international legal and technical consultants, with local partners to ensure retention of knowledge.

However, there were a number of challenges:

- Regulatory framework needed to be established prior to the transaction. The transaction was delayed for two years while the Airport (Economic Regulation) Act, 2002 was passed; this should have been completed prior to the transaction.
- Roles and responsibilities of government agencies must be clear and reliable. The Airports Authority of Jamaica (AAJ) was in effect the technical advisor to DBJ.

Be proactive in seeking solutions to obvious problems before they become deal-breakers. The Air Jamaica payment problem was not resolved until late in the transaction.

Sustained maintenance and service delivery

PPPs have the potential to deliver better maintenance and service delivery because the private partner only gets paid if the service continues to be provided. Thus, private infrastructure operators seek to ensure that: (i) the PPP contract provides sufficient funds for maintenance over the life of the project; and (ii) the maintenance is carried out in way that ensures preservation of the asset and continued service delivery. In Jamaica, the privately-financed Highway 2000 is consistently better maintained than other national highways. The few privately operated water assets in the Caribbean are also generally better maintained than the typical public water infrastructure.

Increased climate resilience

The geographical location and topography of Caribbean countries make their infrastructure vulnerable to climate change. Infrastructure projects in the Caribbean are particularly exposed to the high winds and heavy rainfall of tropical storms. As a result, assets and services often deteriorate rapidly. Roads wash out, as do water-intake structures.

PPPs can bring the innovation, incentives and experience needed to build resilient infrastructure projects. Because their capital will only be recovered if the asset is operating, private investors will carefully assess the climate change risk and identify innovative and proven approaches to manage risks.

Private road contractors can pay their engineers better than the public sector and tend to encourage innovation in design and construction methods. They can also mobilise financial and technical resources to implement large infrastructure projects. For example, in Colombia a USD2.7 bn privately funded project was implemented in 2010, with advisory assistance from the International Finance Corporation (IFC), to build the Ruta del Sol highway. This 1,071-km road connects Bogotá with Cali, Medellín and the Caribbean coast. Traversing the country's mountainous terrain, it will reduce travel time by about four hours. It will also increase road safety and cut transport costs.

Private-Public Partnerships can also advance the social agenda

The improvements in service quality and operational efficiency from PPPs can also be realised to improve how the Government delivers on its social agenda (See Box 3.3). In addition to health care, PPPs can be used in the education sector to create incentives for private parties to provide a range of high-quality and efficient services. Generally, PPPs in education can be used for three main types of services:

- (a) **Delivering educational facilities** — Governments can use PPP contracts to procure new educational facilities from a private sector partner. These arrangements involve competitive bidding processes to select the winning design and construction cost from a pool of private bidders. PPP contracts with design and construction elements can also include provisions for the financing, operations, and maintenance of a facility. Combining design, construction and operations can result in greater VFM, as the private sector developer is incentivised to provide the lowest lifecycle cost of creating and maintaining the facility.

The United Kingdom and Australia have extensive experience with using such PPP arrangements for the design, construction and operations of new schools. Both countries have used the Design-Build-Finance-Maintain type of PPP arrangement,

wherein the private partner raises financing and then designs, constructs and operates the facility. In turn, the Government pays a monthly fee to the private operator based on the availability of the school building.

- (b) Delivering management and operations services — Private sector partners can be contracted through PPPs to manage human resources, as well as to provide grounds-keeping, maintenance and security services. Often, operations and management services are bundled with design and construction in a single PPP contract, but operations and management contracts can be implemented on a stand-alone basis as well.
- (c) **Delivering educational services** — Private partners can be contracted through a PPP arrangement to provide a full range of education services from online courses to curriculum design and classroom-based teaching. PPPs for education services are usually intended to increase student choice and competition in the school system and thereby improve the quality of education for reasonable and appropriate costs. A PPP may also provide the private sector partner with greater flexibility on human resources management to allow for increases in teacher compensation, performance evaluations, and hiring decisions.

PPPs for educational services may be structured in a number of ways, including as voucher systems. Under voucher systems, the Government pays schools based upon student enrollments and student performance and students are given the opportunity to use government vouchers to attend the schools of their choice, although students may be subject to enrollment eligibility criteria. The voucher system in the Netherlands has been widely regarded as successful. Most of the schools in the Netherlands are privately operated and must compete with one another for enrollments and students consistently score well relative to other countries on international benchmarks.

Private provision of educational services is often contentious, however, and the empirical performance of PPP arrangements such as voucher systems remain mixed in the academic literature. The design and implementation of a PPP for educational services must ultimately be tailored to the specific needs and capabilities of the local school system and environment.

In the Caribbean, education PPPs are quite new and have thus far been limited to the cost-effective delivery of educational facilities. In Trinidad and Tobago, the Government is seeking to develop a business case to use PPPs for the design and construction of new schools. The benefits of such a PPP will be dependent upon the cost savings of the private partner's delivery of the school facilities relative to the Government's standard procurement and operations processes.

Box 3.3: The Queen Mamohato Hospital in Lesotho**Increased quality through operator expertise**

Prior to the Lesotho Hospital PPP, the country's main public hospital was Queen Elizabeth II (QEII), located in Lesotho's capital Maseru. The 100-year-old hospital was plagued with equipment and maintenance issues, and suffered from a shortage of qualified health care staff.

The Government ended up referring most of the complicated cases to neighboring South Africa because QEII facilities could not accommodate them. The Government decided to involve private sector participation to take advantage of private finance, risk transfers, international expertise and private sector innovation.

The Government engaged the IFC as transaction advisor for the project. The 18-year design, build, operate, and transfer contract included a new 390-bed public hospital, the renovation of three public filter clinics (24 beds) and a 35-bed private hospital facility. The contract was signed in October 2008 and reached financial close in March 2009. The new hospital — Queen Mamohato Memorial Hospital (QMMH) — opened in October 2011.

Findings from the evaluation of performance at QMMH demonstrate a strong improvement in performance, over that of QEII that preceded it. Data showed strong improvements in utilisation, clinical quality, patient satisfaction and health outcomes. However, the new hospital ended up costing considerably more than the former public hospital.

This transaction had numerous strengths:

- Align incentives for high-quality performance.
- Combine multiple stages of a project into one contract.
- Monitoring entities have the neutrality to assess performance.
- Consultative process to refine contract terms.

However, there are lessons to be learned:

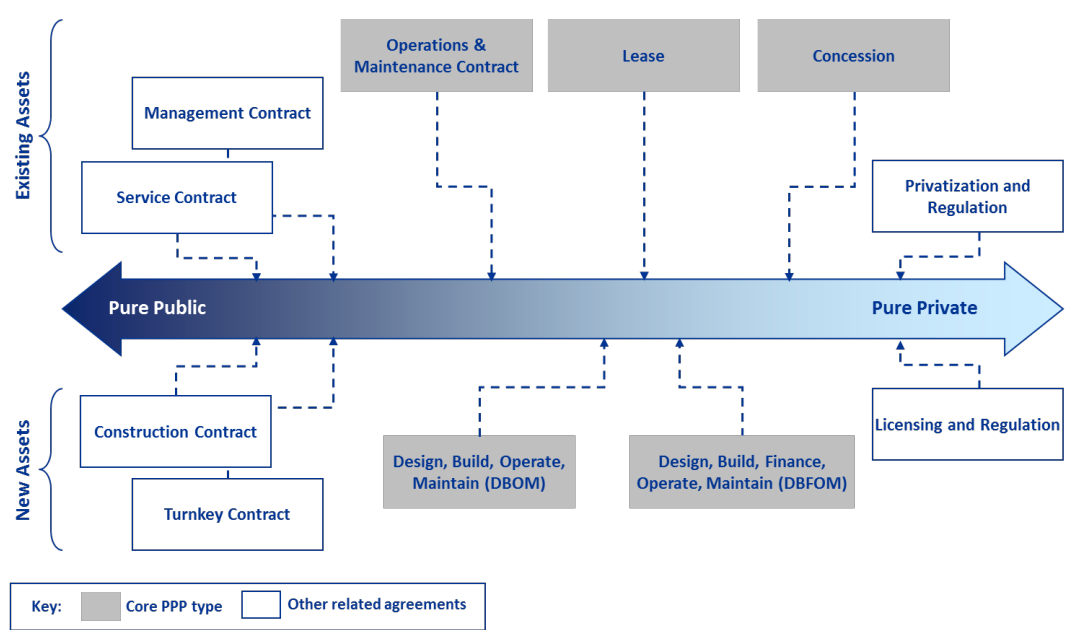
3.2 Different Types of Private-Public Partnerships Address Different Needs

PPPs can take many different forms to address a range of needs in the delivery of infrastructure services. Each type of PPP is designed to meet a specific set of goals and governments have a wide range of options as to which type of PPP is best for the infrastructure service being considered.

Some common types of PPPs are illustrated in Figure 3.2, in a spectrum from pure public on the left, to pure private service delivery on the right. Below the line are contracts for new facilities, while above the line are contracts for existing facilities. Shown in grey are types of arrangements that are commonly referred to as PPPs.

Figure 3.2

Common Types of Private-Public Partnerships

**Public-Private Partnerships can improve the operations and management of existing assets**

For existing assets, PPPs can introduce a profit incentive to achieve better operations and asset management when compared with a public service provider. Three common types of PPPs for existing assets can achieve operational improvements with varying degrees of freedom for the private operator:

Operations and Maintenance contracts — the private operator is given the responsibility to operate and maintain an asset within clearly defined service standards. An operations and maintenance contract provides the least amount of decision-making freedom for the private operator and allows the Government to maintain the greatest control over the asset. The best operations and maintenance contracts provide performance-based compensation to incentivise the private operator to achieve the best result for the lowest cost.

Operations and Maintenance contracts are most appropriate when the Government wishes to avoid operations and maintenance tasks which are easily defined and measured — for example, road maintenance. These contracts offer minimal risk to the Government because payments are typically fixed with some additional amounts tied to performance metrics. Because private operators are given limited scope to deliver on the parameters of the contract, there is also limited potential for cost savings compared with other types of PPP contracts.

Leases — under lease agreements, the public authority charges the private operator for the right to use the asset and receive revenues from its operations. Lease agreements

typically grant the private party greater autonomy in operations and management decisions, compared with operations and maintenance contracts. Leases allow the Government to earn a revenue stream, but private parties will only be willing to pay the lease fees if there is sufficient revenue potential in the underlying asset.

Leases are most appropriate when there is an underlying revenue stream for an asset, such that a private sector operator would be willing to pay for the right to use the asset. Furthermore, a lease arrangement is best applied when the underlying asset is in a usable condition and does not require extensive capital improvements. For assets with revenue potential but which require additional investment, a concession may be preferred to a lease. The risks of a lease are dependent upon the lease structure and contract provisions, but lease arrangements would typically present lower financial risks to the Government than a concession contract. Monitoring of the asset's condition under the private operator, especially towards the end of the lease, remains an important consideration.

Concessions — of these three contract types, concessions typically offer private operators the greatest freedom to operate as long as the contractual service standards are met. Concessions can be structured in many ways to target operational inefficiencies, attract private capital for capital improvements and introduce user fees to the infrastructure service being considered. Concessions require the private company to finance some or all of the infrastructure needed for the business to grow and improve. They are therefore long term contracts; 20 to 30 year terms are common.

Concessions are most used when there is a revenue stream from user fees. By granting the private operator freedom in the management of the asset to capture user revenues, concessions have the potential to capture the greatest benefits from optimal asset utilisation, cost-efficiency, and high quality service delivery. In cases where there is insufficient potential for profitability from user fees alone, governments may provide additional payment streams under a concession agreement. This is often referred to as 'Viability Gap Funding'.

Compared with operations and maintenance contracts and leases, concessions have higher risks for the Government. The Government must have the ability to monitor the private operator's performance and enforce the contract's provisions. Furthermore, concessions involve capital investments along with revenues from user fees and thus concessions typically have a lot of economic value at stake under the contract.

Public-Private Partnerships can improve the design, construction, and operations of new assets

Where a new asset is being built, governments typically contract with a private company for the construction, but then operate, maintain and finance the asset themselves. This is a 'pure public' delivery model. PPPs can add value by bundling operations and maintenance with Design-Build-Operate-Maintain (DBOM), or by adding finance as well to create a Design-Build-Finance-Operate-Maintain (DBFOM).

- **Design Build Operate Maintain** — under DBOM contracts, the private party is responsible for the design and construction of the asset. Financing is provided by the Government, which pays for the construction when the facility is complete. However, the private company remains responsible for operating and maintaining the asset for the

public sector owner. Where the asset is revenue generating, the private party typically collects the revenues. Its operating and maintenance costs are paid out of the revenues, with the rest of the revenues going to the Government.

The twinning of construction and operations responsibility can create the potential for the private party to achieve the lowest whole-of-life service cost. It also ensures a single point of accountability in case of any problems. Paying the operator out of revenues can also help with incentives for service delivery and revenue collection.

- **Design Build Finance Operate Maintain** — These contracts add private finance to the DBOM model. Apart from mobilising non-government capital, the key advantage of adding private finance is that it achieves risk transfer which underpins the delivery of the other benefits such as whole-of-life costing and transfer of risks. The hidden weakness of DBOM contracts is that in the case of unforeseen adverse events after the operations period commences, the private party may ‘walk away’ with little loss — since typically they will have made the bulk of their money on the construction. Thus the intended benefits such as minimising whole-of-life costing may not be achieved. In contrast, with private finance backing the assets during the life of the project, the investors and lenders work hard to ensure that the asset performs as planned — and if it does not, it is the private investor that suffers the loss, not the public sector.

The PPP for the Queen Mamohato Hospital in Lesotho is an example of a DBFOM contract in the health care sector (see Box 3.3).

PPP contracts can be structured in many different ways to address the particular circumstances and needs of an infrastructure project. As Figure 3.2 describes some common PPP contract types along a public to private spectrum, Table 3.1 defines a number of other PPP contract types to provide an overview of the various possibilities for structuring PPP arrangements.

Table 3.1

Definitions of Public-Private Partnership Contract Types

Acronym	Definition	Existing Asset or New Asset	Key Features
O&M	Operations and Maintenance	Existing	The private party is contracted by the public authority to operate and maintain an asset or set of assets, with compensation based on performance relative to the service levels specified in the contract.
OMM	Operations, Maintenance, and Management	Existing	Similar to the O&M contract, but the private party is also given broader responsibilities to manage the asset or assets.
Sale-Leaseback	-	Existing	The owner of an asset sells the asset and then leases it back from the new owner. Such an arrangement could be done with the public sector as the original owner, leasing the asset back from a private buyer, or it could be done in reverse.
Lease-Purchase	-	Existing	The private party builds an asset and leases it to the public authority. The public authority operates the asset and accrues equity in the asset with each lease payment such that the public authority has full ownership of the asset at the end of the contract.
BOOT	Build-Own-Operate-Transfer	New	Similar to a design-build arrangement except that the design specifications are pre-determined by the public entity, thus restricting the private party from any potential changes or improvements to the asset's design.
BOLT	Build-Own-Lease-Transfer	New	The private party builds an asset and owns it, but then leases it to the public authority. Similar to a Lease-Purchase, the public authority accrues equity and ownership is transferred completely to the public authority at the end of the contract.
DB	Design-Build	New	This is most similar to a traditional competitive public procurement; the private party designs and builds the asset, but the public sector owns and operates it
DBOM	Design-Build-Operate-Maintain	New	In addition to the DB arrangement, the private party also operates and maintains the asset, creating more space for cost-savings and a better incentive for the private sector to minimise lifetime service costs.
DBFOM	Design-Build-Finance-Operate-Maintain	New	Like a DBOM, but the private party also raises financing for the project.
DBOT	Design-Build-Operate-Transfer	New	Like a DBOM, but the private party owns the asset and then transfers ownership to the public sector at the end of the contract period.
DBOO	Design-Build-Own-Operate	New	Similar to the DBOT, but the private party does not transfer ownership to the public sector; this is most similar to a full privatisation of the asset.

Sources: Castalia; National Council on Public-Private Partnerships. "Types of Partnerships". Accessed March 21, 2014. <http://www.ncppp.org/ppp-basics/types-of-partnerships/>

3.3 Public-Private Partnerships Have Certain Risks

PPPs bring their own risks. Key risks are discussed below. These risks can be managed and mitigated. However, where they are not managed well, serious problems can result.

Risks during the bidding process

Risks during the bidding process for a PPP include: the failure to attract qualified bids; lawsuits from losing bidders; and poor value for the public sector from a lack of competition.

Failure to attract qualified bids

If PPPs are not structured well, with appropriate sharing of risks and rewards, they may fail to attract qualified bidders. In 2008, the Government of Haiti had to terminate an attempt to concession the Port-au-Prince Airport when the public and private interests failed to reach common agreement. Failed bidding processes not only fail to deliver results after bidding costs are paid, but such failures can set poor precedents with the private sector, thereby hurting future bidding attempts.

Lawsuits from losing bidders

PPP transactions run the risk of litigation from losing bidders. Inconsistent or unclear bidding rules can open up the possibility of dissatisfied losing bidders suing the Government for lost profits or to recoup the costs of assembling their bids. Such lawsuits may damage the Government's reputation as a PPP partner in addition to costing the Government in legal fees and possible awarded damages. For example, the Government of St. Lucia was threatened with a lawsuit from a losing bidder during an attempted privatisation of the publicly-owned Water and Sewerage Company (WASCO). Box 3.5 describes the failed privatisation attempts of WASCO in St. Lucia.

Box 3.4: The Attempted Privatisation of WASCO in St. Lucia

In 2008, the Government of St. Lucia (GoSL) announced a transaction to sell a majority of shares in WASCO to a strategic investor. A previous attempt at privatising the Corporation in 2005 had stalled and by 2008 GoSL had successfully established a framework within which a PPP would function effectively in the water sector.

The IFC was appointed as the lead advisor on the transaction. A special purpose vehicle or NewCo would be a mixed company with the combined private sector shareholders holding majority ownership. The strategic partner would have management control over the NewCo.

The WASCO transaction followed a transparent and competitive process, in line with best practice. The Global Partnership on Output-Based Aid (GPOBA) agreed to fund a grant of USD1.6 mn to finance increased access to piped water services to low income households in St. Lucia.

Within weeks of the Bid Day, it became apparent that the local investors did not have the capacity to take up their allotted 20% of the shares in NewCo. In order to save the transaction, IFC agreed to take up the missing 20%.

On Bid Day, two bids were received. However, due to procedural irregularities on the Bid Day, one of the bidders threatened legal action. This eventually led to GoSL cancelling the PPP transaction in November 2009.

The transaction had many advantageous features:

- coordinated support from World Bank Group;
 - regulatory changes made before transaction; and
- IFC as transaction advisor and investor, when needed.

Poor value for the public sector from lack of competition (Unsolicited Bids)

In the Caribbean (as elsewhere), it is common for private companies to approach government agencies and negotiate contracts directly. In some cases, such unsolicited bids may offer VfM, but generally government agencies are at a disadvantage when negotiating these bids, as the private party may have much more knowledge of the project in question. Without competition through a bidding process, governments may not receive good VfM and they may accept costly risks on the private contractor's terms.

Risks of hidden fiscal costs

Governments often agree to bear some of the costs or risks of PPP projects. This can make sense, but, at times, it can also lead to government signing up to projects that end up costing much more than expected. Such problems typically arise when the Government underwrites demand risk, or guarantees loans. In other cases, failure to honor contracts can lead to obligations to make termination payments which in some cases exceed the cost of the project.

Sharing user demand risk

It is quite common in PPP contracts for governments to promise to make the contractor whole if demand is below the expected level. Where demand forecasts are not accurate — and they often are not — this can expose government to considerable risk. For example, in the Dominican Republic, the Government accepted the risk of traffic demand by agreeing to minimum revenue guarantees for a private operator. When actual traffic was below the forecasts, the Government tried to avoid paying its obligations. The private operator took the Government to international arbitration and won thus costing the authorities some \$42 mn in damages.

Loan guarantees

Governments sometimes guarantee the private operator's debt. Guarantees on the operator's debt expose the Government to all of the risks faced by the operator, thereby reducing the benefits of risk transfer in the PPP. If the operator defaults on its loans, government can face unexpected fiscal costs.

Termination payments

Another common feature of PPP contracts is a termination payment that the Government agrees to pay to the private operator if the contract is breached, or in case of force majeure. If government breaches the contract, it may have to pay the whole cost of the project plus allowance for lost profit. In the case of a natural disaster that destroys the asset, the Government may have to pay out a substantial part of the value of the project to the investors.

Policy inflexibility

Long-term PPP contracts may restrict the Government from changing its policy priorities in the future. Governments are frequently accused by private investors of altering key aspects of their regulation or sector policies, to the detriment of private operators.

Inadequate asset maintenance at hand-over

There is a risk that towards the end of a contract, private operators may hold back on major maintenance or rehabilitation works. This will reduce the quality of the asset when it returns to the Government. In Antigua, a water desalination plant was poorly maintained towards the end of the life of the PPP contract — this led to a reduction in the dependable capacity of the plant. As a result, the plant was unable to meet the water needs of the island during the 2010 drought.^{29/}

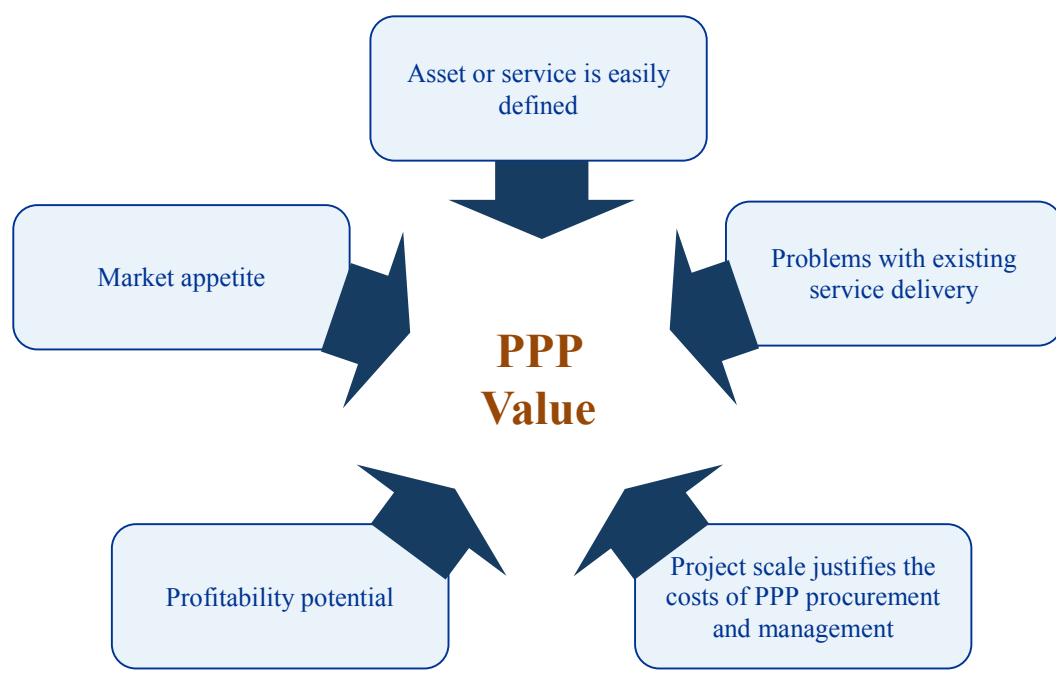
3.4 Public-Private Partnerships Add the Most Value when Certain Factors are Present

PPPs create the most value when applied in the right circumstances. Figure 3.3 illustrates five key factors that contribute to how much value is added through a PPP. The following sections discuss each of these factors.

^{29/} Management of Antigua Public Utilities Authority, interview by Brian Samuel, Cassada Gardens, Antigua, June 2013.

Figure 3.3

Finding the Greatest Value from Private-Public Partnerships for Caribbean Governments



Asset or service is easily defined

The power of PPPs comes from accountability for service delivery. Accountability can only be achieved if the service can be clearly defined. International experience shows that it is comparatively straightforward to define services from discrete assets, such as airports, intercity highways and water and wastewater plants. Projects of this variety have worked relatively well in the Caribbean; for example, the Sangster International Airport concession and the Highway 2000 Project, both in Jamaica. The take-off of logistic hubs hold strong potential in PPP type arrangements (see Box 3.5).

Box 3.5: The Development of Logistics Hubs

The Caribbean Region is ideally situated to take advantages of recent growth in the global freight trans-shipment and logistics industry. In 2015, the Panama Canal expansion project is set to double the capacity of the Canal, allowing more and larger ships to transit. This, linked to the massive increase in trade from China to the Western Hemisphere, creates opportunities for investments in port and logistical facilities at locations along or near the major ocean trade routes. In the Caribbean, the Bahamas and Jamaica are leading the way in the development of trans-shipment and logistics hubs.

In the Bahamas, Hutchinson Whampoa from Hong Kong has invested heavily in the transport and logistics sector:

- Grand Bahamas Airport – 50%
- Freeport Harbor – 50%
- Freeport Container Port – 51%
- Sea Air Business Center – 50%

In Jamaica, the Government is pursuing a major development, the Global Logistics Hub Initiative — commonly referred to as the Goat Island Project. This project seeks to establish several Special Economic Zones to promote value-added industries that take advantage of Jamaica's favorable geographic position, its trained workforce, infrastructure and participation in global trading blocs.



In early 2014, the Port Authority of Jamaica and China Harbour Engineering Company Limited arrived at an Initial Framework Agreement that provides the general terms and conditions under which discussions will continue. The project envisages extensive investments in infrastructure development, dredging of a deepwater harbor capable of accommodating the new Post-Panamax container ships, construction of factory shells and ancillary industries.

It is more difficult but still very possible to define networked services like water and electricity distribution. Private provision of electricity has been successful in many Caribbean countries, including Barbados, St Lucia and Grenada.

However, where a service is closely integrated with another service that will not be part of the PPP, or subject to rapidly changing needs or technology, contractual service requirements may be hard to establish. For example, PPPs for information technology services to government often run into trouble. The reason is that the service specifications constantly change as both technological standards and government structures evolve. More generally, PPPs will be challenging any time output specifications cannot be defined clearly and are not expected to remain stable over the life of a contract.

Problems with existing service delivery

If there is a type of infrastructure that has traditionally suffered from construction cost overruns, delays, poor maintenance, or difficulty in sustaining service delivery, it may be a good candidate for PPP. A failure in government ownership is good empirical evidence that public delivery models are not working. It thus provides a prompt to consider alternatives. Moreover, if the failure is apparent, public support for change will be more likely. Private power plants have been welcomed in many countries (including Jamaica and Antigua) after the public became disillusioned with the publicly owned utility's ability to maintain acceptable service standards.

Sometimes the difficulties will be obvious, as in the case of power cuts. Other times, benchmarking may be needed to uncover excess costs which Caribbean countries take as normal. For example, many Caribbean water utilities have long accepted NRW levels of more than 50% of production. International benchmarking reveals that this is highly inefficient compared to well-performing utilities. This in turn can create demand for PPPs to fix the problem, as happened in the Bahamas (see Box 3.1).

Project scale justifies the costs of Public-Private Partnership procurement and management

The benefits of PPPs often come at the cost of more complex contracting arrangements and procurement. Bidders, too, find it more expensive to respond to PPP procurements than to traditional public sector tenders. These contracting costs are not proportional to the size of the transaction — it can cost as much to design and run a transaction worth \$20 mn as one worth \$200 mn. For the benefits of PPP to outweigh the costs, the projects need to be large enough to justify the additional overhead of PPP procurement. This is a particularly important factor in many Caribbean countries, where projects are often small.

Profitability potential

Revenue generating assets such as seaports, airports and water utilities offer a real potential for profitability because users are generally willing to pay fees for the services they receive. The profit potential of an asset provides an incentive for the private sector operator to invest in capital improvements and it provides a revenue stream to raise capital for these improvements from private sources.

Many BMC governments have severely limited public sector borrowing ability and are not able to finance infrastructure expansion even when the revenue generated from the investment would exceed the cost of debt service. In these circumstances, a PPP can unlock the inherent capital-

raising ability of the asset in question by taking it out of the constrained sphere of government finance and into a private investment sphere. The proposed concession for the Norman Manley International Airport in Jamaica falls into this category.

Market appetite

A successful PPP requires a competitive field of bidders. Markets follow fashions — for example, there was almost no interest in PPPs for parking before Chicago privatised four parking garages in 2006. After that investment, bankers started looking for parking PPPs all across the USA and by 2010 they were searching for parking deals in Jamaica too.

Market capacity is limited and can be affected by events far outside the Caribbean. For example, the current slew of airport privatisations in Europe is taking up the attention of international airport operators and investors, making it harder to attract interest in smaller Caribbean airport PPPs. Governments will be more likely to succeed with PPPs that are launched into an interested market that is not saturated with other opportunities. Market appetite helps explain the outstanding success of Jamaica's second RE capacity tender, after a slow start with the first tender, as Box 3.6 explains.

Box 3.6: The Office of Utilities Regulation Renewable Energy Auction in Jamaica

Harnessing competitive forces to deliver renewable energy capacity

In 2013, the Office of Utilities Regulation ran the second auction process for the addition of RE capacity. These auctions were the only competitive procurement of independently owned and operated RE capacity in the BMCs.

OUR's timing was fortunate: the global financial crisis had contributed to a downturn in the large United States and European RE markets, and many project developers were hungry for opportunities.

A total of 17 bids received were generally detailed and competitive, and three preferred bidders were selected:

- WRB Enterprises, for 20 MW of solar PV
- Blue Mountain Wind for 34 MW of wind capacity
- Wigton Windfarm Ltd. for another 24 MW of wind capacity

Jamaica's RE auctions illustrated key success factors that should be replicated by other countries wishing to conduct similar procurement processes for RE, including:

- Strong government leadership. The GoJ demonstrated its commitment to RE by research and investment in the sector.
- Competition in procurement brings better deals. Experience suggests that governments obtain better VfM through competitive tenders, rather than sole-source negotiations.
- Multiple procurement rounds increases investor confidence. With each succeeding round of RE procurement, investors' knowledge of and confidence in the process increases.
- Qualified bidders submit better bids. The bids submitted in the second auction were generally of a high quality.

However, the auction also resulted in lessons for the future:

- Have an integrated grid planning process. Uncertainty on interconnections with the grid reduces quality of bids.
- The utility must be part of the procurement process. As an offtaker and interconnector, the utility has an integral part to play in the PPP process.

Government should provide assistance in locating and securing land for RE projects. Land access is particularly critical for RE projects, which are very site specific.

There must also be sufficient capacity in the Government to implement a Public-Private Partnership

PPPs are institutionally demanding, especially for small Caribbean governments that are not experienced in running transactions. PPP implementation capacity can be built, and a great way to build it can be through learning-by-doing. But wise governments will think carefully about how they can hire or create the capacity to design and manage a PPP transaction before embarking on a project. Chapter 4 describes steps that governments in the BMCs can take to build their capacity and create good environments for implementing PPPs.



Chapter 4

Strengthening the Public-Private Partnership Policy and Regulatory Regime in the Caribbean: Some Building Blocks

Governments in the Region must set the rules, define priorities and build implementation capacity if they are to take advantage of the potential of PPPs for improving their infrastructure services. There are five building blocks for creating good environments for PPPs:

- (a) **Develop PPP policies and processes:** Set the rules, define the priorities and establish the processes for the development and implementation of PPPs.
- (b) **Create legal environments:** Enabling environments that allow PPPs to be implemented.
- (c) **Build institutional capacity:** Allocate responsibility for implementation of the PPP policy.
- (d) **Develop human capacity:** Ensure that core staff members have the skills needed to carry out institutional responsibilities.
- (e) **Create fiscal management and accounting frameworks:** Create processes and define methods for defining and managing fiscal costs in PPPs, thereby helping governments achieve true VfM.

The value of these building blocks has been proven in the numerous countries that have used them, including the United Kingdom, the Netherlands, Australia and Jamaica. It is also illustrated by the difficulties that face countries as they first seek to use PPPs such as St Lucia (see Box 4.1). The building blocks described in this section will help such countries to overcome initial obstacles and use PPPs successfully.

Box 4.1: Public-Private Partnership Potential and Implementation Challenges in St. Lucia

There are numerous PPP opportunities which could help St. Lucia improve its infrastructures. The Government of St. Lucia (GoSL) is planning extensive infrastructure development over the next two decades. This is a key component of St. Lucia's National Vision Plan, a framework designed in 2009 through which the GoSL plans to accomplish its economic development goals.

In his 2013 budget speech, the Prime Minister stated that the Government is exploring PPPs to finance and implement these public investments. However, the small size and limited resources of the island, especially in PPP technical capacity and ability to pay for technical advisors, hinder PPP project development. These are some of the institutional problems highlighted:

No institutional, policy or legal framework guiding the development of PPPs:

- No clear definition of PPPs in the law, or a separate legal framework to guide PPPs.
- Institutional responsibilities for developing and implementing PPP projects are not clearly defined.

Limited understanding of what PPPs are and how to structure transactions:

- Ministries are aware of the PPP concept, but definitions of "PPP" vary widely.
- GoSL's support for PPPs is affected by the limited understanding of PPPs.

No structured process to decide which PPP projects to pursue, and how to identify and contract with private partners:

- The PPP programme benefits from strong leadership from the Prime Minister, however there is no overarching policy that matches with the needs of individual sectors.
- Most PPP projects evolve from unsolicited proposals that investors negotiate directly with the Government.

Many of these unsolicited proposals have several shortcomings, and do not always fit the GoSL's needs. Driving the PPP process by sending specific requests for proposals that dictate the GoSL's criteria could help address this problem.

4.1 Develop Public-Private Partnership Policies and Processes

Most countries with a successful PPP programme have built that programme on a sound PPP policy framework. PPP policies set the Government's PPP priorities and objectives, define the scope of PPP activity and set the standards and practices for implementing PPPs.

Of all the BMCs, only Jamaica and Trinidad and Tobago currently have established PPP policies. Both countries are currently seeking to define their PPP process manuals. Haiti has an established PPP Unit, but has not yet defined its PPP policies.

Why Public-Private Partnership policies are needed

Countries will benefit from consensus on where and why the country wishes to use PPPs. PPP policy frameworks are typically established in an overarching policy document or law that sets out at a high level the key parameters of the PPP programme.

These policies are designed to accomplish three objectives:

- (a) Provide direction to public authorities on how to take advantage of opportunities to add value through PPPs.
- (b) Ensure that PPPs are designed to deliver VfM and limit contractual and contingent liabilities to the Government.
- (c) Avoid pursuing and implementing PPPs for projects that are not likely to deliver VfM or are not suitable for PPPs.

PPP policies improve the country's market for PPPs, by reassuring potential investors and bidders of the Government's support, objectives and processes. Having a PPP policy helps to ensure that the Government takes a consistent approach to implementing and managing PPP contracts.

Policies are clearly country-level decisions. Nevertheless, there are opportunities to benefit from regional cooperation in developing policy frameworks. Harmonised policies with similar PPP development processes would help foster a PPP 'market', with the advantages described above. Moreover, process manuals and tools would likely be similar for many countries, meaning Governments could save time and money by developing and using common materials.

Regional cooperation on PPP policy frameworks could involve developing a 'Caribbean model' policy, process manual and tools — based on existing examples, such as those in Jamaica and Trinidad and Tobago (See Boxes 4.2 and 4.3) — from which BMCs could draw when developing their own national PPP policies.

Content of Public-Private Partnership policies

The PPP policy should include a clear statement of what the Government wants to achieve through PPPs (VfM, accountability, private sector investment capital, technical expertise in operations, innovation, etc.). Contents of a PPP policy would typically include:

Target sectors: Governments may wish to state which economic and social sectors are slated for development via PPPs.

Screening criteria: Rules or guidance would need to be provided on projects to be implemented as PPPs. These criteria would typically include requirements of economic and technical feasibility, as well as environmental and social factors. The need to demonstrate that a PPP approach adds value may be included. Australia, Brazil, Colombia, and Singapore all have minimum project investment costs that must be met in order for projects to qualify for PPP procurement.^{30/}

^{30/} PPIAF. 2012. 73-74.

Implementing principles for PPPs: Budgetary principles, risk allocation, VfM standards and competitiveness benchmarks for procurement may all be included.

Institutional responsibilities: who should develop PPP projects, and how decisions to proceed are made, are fundamental to most PPP policies.

Consultation and transparency policies: It can be helpful to include a policy commitment to publication of information and consultation with all stakeholders

Box 4.2: Trinidad and Tobago's Public-Private Partnership Policy

As part of an initiative to promote PPPs for infrastructure in Trinidad and Tobago, the Government of the Republic of Trinidad and Tobago (GoRTT) in August 2011 established a PPP Unit in the Ministry of Finance (MoF) and the Economy, Investments Division.

The National PPP Policy was approved by Cabinet on May 31, 2012, an institutional framework for the development and implementation of project through the PPP modality was established. A PPP Ministerial Committee established to oversee the development and implementation of PPP project. The PPP Unit provides secretariat services to the PPP Ministerial Committee and has principal responsibility for the following:

- Developing and disseminating PPP policy throughout the public and private sectors;
- Regulating the PPP programme to ensure PPP projects are developed in accordance with policy, principles and processes;
- Contributing to the development of PPP projects by screening projects submitted by Ministries and agencies for consideration by the Ministerial Committee and subsequently becoming part of the PPP execution team responsible for implementing the project; and

Becoming a repository of skills and knowledge by continually building knowledge on managing PPPs drawing from domestic and international experience to inform PPP programme development.

Structure of the Public-Private Partnership Unit:



Currently, Trinidad and Tobago is moving ahead with the first two projects in the PPP process:

- Early Childhood Education Centers and Primary Schools
- National Diagnostic Centers in the Health sector

RFP to hire Advisor are due to be received in February 2014 and the Initial Business Cases are completed within two months. In addition, GoRTT is seeking a resident PPP Advisor to provide technical assistance (TA) to the fledgling PPP Unit.

4.2 Public-Private Partnership Policy Development Process

A typical policy development process includes the following key steps:

- (a) **Define objectives:** Development of policy must start with a clear articulation from government of its objectives in implementing PPPs.
- (b) **Engage specialist consultants:** Governments will require high quality independent advice on all the technical, legal and social parameters of the various policy options. The selected consultants must possess the necessary experience in policy formulation, particularly within a Regional context.
- (c) **Review international experiences and practices:** In the development of their PPP policies, Governments should pay close attention to the experiences of other countries: those that have implemented successful PPP programmes, as well as countries that have made mistakes. It would be particularly instructive to examine the experiences in other Caribbean countries with similar legal and regulatory regimes.
- (d) **Consult with stakeholders and research local environment:** All PPP policies must be country specific; there is no one size that fits all, even among countries with similar legal and regulatory regimes. Local conditions that would affect PPPs must be extensively researched, with widespread consultation among local Government agencies, private sector bodies, labor organisations, civil society and other stakeholders.
- (e) **Develop draft of the policy:** The draft PPP policy must pull together all the threads of the preceding tasks and propose a policy that seeks to achieve the Government's objectives – while being in harmony with local conditions.
- (f) **Consult widely on draft policy:** The consultation process on the draft policy involves several rounds of discussions — individually and collectively — with interested stakeholders in the PPP programme. Typically, a strong political “champion” is required, to lend weight to the discussions and promote consensus.
- (g) **Submit policy to Cabinet for approval:** Possibly after several rounds of drafting, the final PPP policy statement is submitted to the highest decision-making body in Government. In some instances, the statement is debated in Parliament.

Process manuals and modes of implementation

PPP policies should be supplemented with a set of processes which set out how the relevant officials and decision-makers should tackle key tasks. Such processes may cover how to select a project for development as a PPP, how to select the private partner for the project and how to monitor the private partner's performance.

In the English speaking Caribbean, PPP policies can be implemented through a Cabinet decision, and processes can be created and enforced through the MoF or other agencies tasked with the responsibility of PPP implementation. This is the approach taken in Jamaica and Trinidad and Tobago, and it builds on practices developed in the United Kingdom, Australia and New Zealand. In civil law countries — including Haiti and Suriname — other methods for developing and

implementing policies and processes may be more appropriate. Laws that prescribe how PPPs will be done are common in Latin American countries (Colombia has good PPP legislation, for example). The establishment of enabling laws for PPPs is also the approach adopted by many US states. That said, the Dutch and French policies and rules for PPP development are largely based on policies and precedent, rather than specific statutes.

PPP policies and process manuals are likely to be similar for many countries in the Caribbean. Governments could therefore save time and money by developing a template (perhaps based on an existing example, like Jamaica) which could then be modified by each Government as it saw fit. This approach would have the added benefit of creating a degree of harmonisation which would make it easier for private partners to address the Region as a single market, and thereby increase private sector interest in the Region.

4.3 Ensure Enabling Legal Environments

In the English-speaking Caribbean, existing common law structures allow for PPP transactions, but governments must ensure that there are no legal barriers to PPP structures and commitments.

Under English Common Law, the Government has the legal right to enter into any kind of contractual arrangement in the same manner as individuals or businesses. All legal contracts are subject to the jurisdiction of the same court system, and the Government is accountable for its contractual obligations in the same way as any other private party. The Government can sue or be sued in the event of a breach in the contract, and the Government must hold to the ruling of the court.

Potential legal hurdles may exist if there are laws which specifically prohibit the Government from taking certain actions to pursue a PPP arrangement for a particular asset. Laws granting regulated monopoly rights to a publicly-owned water authority are one potential legal hurdle for implementing DBFO contracts or other PPPs where the private operator would also operate water supply and distribution assets.

4.4 Build Institutional Capacity — Public-Private Partnership Focal Point

Developing and implementing PPP programmes demands significant technical and financial resources from Governments. It requires: expertise in structuring PPP contracts; coordinated inputs, reviews, and approvals from many Government agencies and private entities; management of technical consultants and advisors; and achieving consensus across a wide range of stakeholders.

To help meet these demands, many Governments designate a specific Government team to support and coordinate the development of PPP projects; and to act as a repository of experience and knowledge on PPPs. Such ‘PPP focal points’ should have the institutional responsibility and authority for enforcing the PPP policy across Government ministries and departments. PPP focal points are often established within the ambit of MoF, in order to maintain control of the resulting fiscal impacts on Governments.

Wherever established, core responsibilities of the PPP focal point include:

- (a) Institutional responsibility — the PPP policy enforcer.
- (b) Communications center on PPPs — the first point-of-contact.
- (c) Working relationship with MoF for fiscal commitment management.

Common roles of such PPP Units, as well as the other entities involved in the PPP project lifecycle, are highlighted in Figure 4.1.^{31/}

Figure 4.1

Typical Public-Private Partnership Programme Functions and Responsibilities

PPP Program Functions	Typical responsibilities
Approving PPP projects	Cabinet or Parliament (parallels with public sector investment planning)
Coordinating PPP policy	PPP Unit
Managing fiscal implications	Ministry of Finance (MOF)
Identifying PPP projects	Ministries, Departments, and Agencies (MDAs)—with PPP Unit and/or MOF support & input (parallels with public sector investment planning)
Guiding PPP development	Project ‘steering committee’ under MDA
Undertaking due diligence (with advisors)	MDA-led project team with PPP Unit support
Implementing transactions (with advisors)	MDA-led project team with PPP Unit support
Managing PPP contracts	Varies: PPP Unit /MDAs

Three such PPP Units currently exist among the CDB’s BMCs. In Jamaica and Trinidad and Tobago, the roles and responsibilities of these units were established in their respective PPP Policies. In Jamaica, the main implementing team for the PPP programme is a PPP Unit in DBJ, which works in tandem with a PPP Node in the Ministry of Finance and Planning (see Box 4.3).

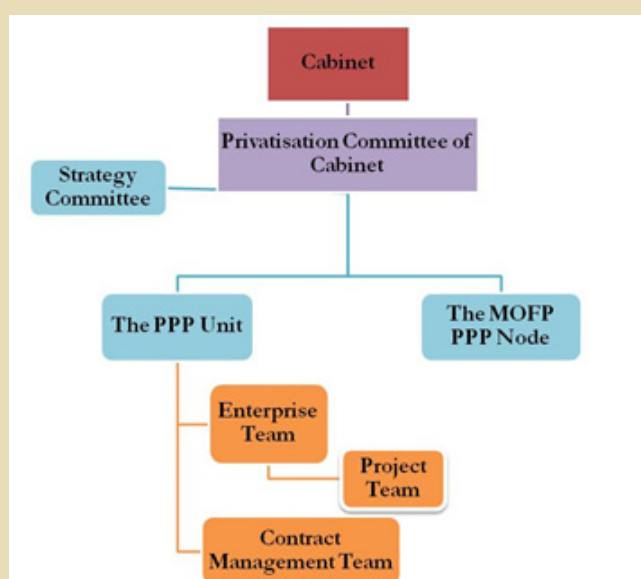
^{31/} “Caribbean Infrastructure PPP Roadmap, Draft Report,” WB, January 2014.

Box 4.3: Public-Private Partnerships in Jamaica — Role of the Development Bank of Jamaica

The main implementing team for the PPP programme is a PPP Unit in DBJ, which works in tandem with a PPP Node in the Ministry of Finance and Planning. This was done to build upon an existing team of PPP expertise within DBJ — which had successfully led the privatisation of the Sangster International Airport in 2003.

Jamaica has a strong track record in divestment and PPP in infrastructure. It has done more deals than other BMCs (six PPP projects are currently in progress).

Jamaica's Public-Private Partnership Institutional Framework:



With the hindsight of experience, some modifications are being considered:

- The VfM analysis includes a quantitative Public Sector Comparator analysis; however this is of limited usefulness, if there isn't a feasible public sector development option, due to the Government's fiscal constraints.
- DBJ is taking on a lot of the work that the implementing Ministries, Departments and Agencies (MDAs) should be doing - need to hand-hold MDAs because they only have rough ideas and are not able to effectively prepare projects at the feasibility stage. This could lead to conflict issues.

There are no clearly-defined policies in place for privatisations (sector priorities, etc.), as distinct from PPPs.

In Trinidad and Tobago, a PPP Unit was established in MoF. A PPP Unit was established in Haiti's Finance Ministry in 2012, although the split of responsibilities between the new PPP Unit and an existing Divestment Unit remains unclear.

Whilst countries like Jamaica and Trinidad and Tobago may have a sufficiently large pipeline to justify a dedicated PPP team, it may not be efficient to do so in the smaller BMC economies, with very slim project pipelines. Where pipelines comprise just a handful of PPP projects, it may be counter-productive for Governments to assign full-time dedicated teams with the full range of expertise — legal, economic, financial — typically found in fully-fledged PPP Units in the larger economies.

In these smaller BMCs, it would be more economically efficient to assign responsibility to an existing team or individual within the Government, to act as a PPP focal point and to use experienced PPP advisors for specific projects. This raises the question of whether building capacity at the Regional level could be an efficient approach for the Caribbean — discussed more fully in Section 5.

However, this can result in the PPP focal point person taking on extra duties in addition to his or her line functions — with the result that staff become overburdened and less efficient. In the smaller economies of the OECS, project developers frequently complain that they cannot get the sustained attention of the Government; once the investor team returns home, forward progress grinds to a halt. In an efficient programme, firm deadlines would be set for follow-up actions, with the PPP focal point person delegating responsibilities to specified staff.

4.5 Build Human Capacity — Public-Private Partnership Expertise

PPP-specific skills must be cultivated within the staff of the PPP focus group as well as within each implementing agency, which in most of the BMCs will include many of the line Ministries. Core skills include:

- (a) Project evaluation skills (VfM analysis, economic costs/benefits).
- (b) Project structuring skills (risk evaluation and financial analysis).
- (c) Budgeting and fiscal commitment management skills.

Officials assigned to work on the PPP programme will need to be trained. Those in the focal points, as well as in line ministries who will be involved in PPP projects, will need training tailored to their responsibilities. Officials who will be involved in the preparation and implementation of PPP projects will require training on technical matters such as financial analysis and modeling, risk allocation, contract drafting and so on.

Officials who will be making decisions on a PPP project could benefit from training on higher-level topics such as project selection, the benefits and pitfalls of PPPs, means for ensuring appropriate governance and stakeholder consultation.

Training needs will also be similar for many countries. This creates an opportunity for Governments in the Region to develop training options together. Courses could be offered at locations that are easy and quick for officials from the Region to access.

One such example of where human capacity is needed in the Government is geothermal development in Dominica, as described in Box 4.4.

Box 4.4: Geothermal Development in Dominica

Exploiting a valuable resource with private sector expertise and risk-sharing

Dominica has large reserves of geothermal energy, with up to 1,400 MW of untapped capacity, according to some studies. However, the cost of electricity in Dominica is one of the highest in the Region, averaging 42 US cents per KWh. High costs have led to constraints on economic growth.

A project of this magnitude has the potential to fundamentally alter the structure of the domestic economy, requiring investment amounts similar to Dominica's annual GDP. Over USD30 mn has been spent for the initial stages of Dominica's geothermal project. Such an ambitious project would not be possible without the support of the global donor community, including:

- 1.1 mn Euros (€) grant for feasibility and engineering studies.
- €6.5 mn loan funding from AfD, for the drilling of production and reinjection wells.
- €1.0 mn grant towards the creation of a Geothermal Project Development Unit.

Dominica's geothermal project has many features that could be replicated:

- Strong political leadership.
- Government investment in project preparation and test drilling.
- Funding and TA donor agencies and countries.
- Technical training in geothermal energy.
- New legal and regulatory regimes before commencing project.

However, there are major challenges:

- Capacity building for sustainability.
- Lack of PPP knowledge.
- Incorporation into the existing grid.
- TA.

4.6 Establish Fiscal Management and Accounting Frameworks

Fiscal support for PPPs can be helpful, allowing good projects to proceed. Such support can also be risky, if it leads to government taking on obligations it has not budgeted for, or risks it is not well placed to manage. What is needed is a framework that guides government decisions on providing fiscal support. This framework needs to include approaches to valuing, budgeting for, reporting on and monitoring the cost of fiscal commitments to PPPs.

Fiscal support for Public-Private Partnerships is often necessary and helpful

Fiscal support to PPPs is necessary for non-revenue generating projects, or for projects where revenues are not sufficient to cover costs — for example:

- A PPP for a hospital in which the contractor finances, builds and maintains the hospital will require fiscal support in the form of availability payments. The Ministry of Health (MoH) or other relevant authority will commit in the PPP contract to

periodically pay the contractor if service specifications are met. This availability payment creates a direct fiscal commitment. Without this fiscal commitment the project will not be implemented

- A PPP for a toll road in which the toll revenues are not sufficient to cover the project's capital and operating costs will require fiscal support. This support could be in the form of subsidies paid to cover part of the capital cost upfront. Alternatively, the Government could make availability payments over the life of the project.

Fiscal support can also be **helpful**. Fiscal support could reduce risks borne by the private contractor, and the ultimate cost of service delivery to the public. This type of fiscal support allows the Government to retain certain risks that it is better placed to manage. For example:

- A PPP for a power generation plant in which the offtaker is a state-owned electricity utility with a weak credit rating could benefit from a government payment guarantee. This guarantee will commit the Government to paying if the electricity utility does not. This guarantee will reduce the cost of risk bearing to the private contractor and the cost of electricity generated from this plant. This guarantee creates a contingent fiscal commitment — that is, the commitment is contingent on the state-owned enterprise off-taker not paying.
- A PPP for an airport in which adjustments to landing fees are calculated based on formulas set in the PPP contract, but approved by a government regulator, could benefit from a government regulatory guarantee. This guarantee will commit the Government to pay if the regulator refuses to approve fees that are in line with the contract. This guarantee will reduce the 'regulatory approval' risk perception of the contractor and so reduce its cost of capital. The guarantee creates a contingent fiscal commitment.

Fiscal support can be risky

Without effective management, fiscal support for PPPs can create fiscal risks. Problems to avoid include:

- **Using PPPs to hide the true cost of a project to government.** By reducing upfront capital expenditure, a PPP can make the cost of a project to government seem less than it really is. Consider a project for an expensive new hospital. If presented as a conventional project, MoF would scrutinise the capital costs to see if the project was fiscally responsible. The Ministry would look at the extra borrowing required, and its impact on debt levels and future debt service requirements. If the hospital was instead presented as a PPP supported by availability payments, it might look cheaper. No upfront capital costs would be paid by government. Moreover, depending on the accounting rules, the project might increase the Government's reported debt stock. However, the reality is that the availability payments would, over their life, be roughly equivalent to the debt service and maintenance costs to government under the traditional publicly financed option. This shows the importance of estimating the long run costs of fiscal support properly — to prevent PPPs from being used to understate the real cost to government of a project.
- Government bearing risks that are better managed by the private sector. If government provides guarantees that cover risks which are better managed by the private contractor, fiscal support could lead to undesired fiscal risks. For example, if

government guarantees returns on equity in a PPP, the project owner's incentives to control costs and increase revenue will be reduced.

- Distorted decision-making by understated cost of risks borne by government. In some cases, it could be appropriate for government to issue guarantees that cover risks that are better managed by government. However, if these costs are understated, this could distort the decision on whether or not to pursue a project. For example, it could be appropriate for government to bear traffic risk in a toll road PPP. If the expected cost of this risk is understated because traffic forecasts are over-optimistic, the Government might have to continually put money into a road which it had expected to be financially self-sufficient. GoJ has avoided taking on traffic risk on the second phase of its Highway 2000 project.^{32/}

A good system for managing fiscal commitments includes four elements

Because of the large and unexpected fiscal costs that can result from PPPs if they are not managed, governments need to develop a systematic approach to such commitments. There are four key elements of a good fiscal management, as shown in Figure 4.2.

Figure 4.2

Elements of a Sound Fiscal Commitment Plan



Identify and value

Fiscal commitments should be identified and valued during the PPP structuring stage. This is when decision-makers can make sure that the Government is making the right fiscal commitments.

Direct fiscal commitments, such as availability payments or capital subsidies, are relatively easy to value. For example, the value of the fiscal commitment from an availability payment can be calculated as the present value of the availability payments set in the contract. The annual availability payments can be estimated as the annuity of the capital costs, plus annual operating and maintenance costs.

Contingent fiscal commitments are more difficult to value, because they depend on future events. For example, the value of a minimum traffic guarantee for a toll road PPP depends on the probability of traffic falling below the guaranteed level. There are a range of methodologies that can be used to value contingent fiscal commitments. These methodologies can be broadly grouped into probabilistic or scenario-based approaches:

Probabilistic valuation: The range of possible cost outcomes from a contingent fiscal commitment can be expressed in terms of an expected value — that is, the probability-weighted sum of all possible outcomes — and measures of variability such as standard deviation or percentile values.

^{32/} Source: “PPPs for Sustainable Growth” National Road Operating and Constructing Company November 2013.

Scenario-based approach: Rather than attaching probability distributions to underlying risk variables, certain set scenarios — that is, specific combinations of risk variables — can be defined, and the resultant cost determined under each scenario. Scenarios could simply be the occurrence of a risk event such as a default, which could be considered the “worst case” scenario. Alternatively, scenarios could include “base case”, “upside”, and “downside” values for variables such as exchange rates. The values calculated using this approach do not take into account the likelihood of each scenario occurring.

Caribbean governments should consider which of these approaches would work best for which projects and risks, and on that basis decide which one to use.

Budget

Clearly defining how payments will be made to meet fiscal commitments to PPP projects is important to ensure those commitments are credible to potential private partners. It is also important so Governments know what payments to expect to make, and can appropriate them properly. Table 4.1 describes options for budgeting and paying for fiscal commitments to PPPs.

Table 4.1

Options for Budgeting for Fiscal Commitments to Public-Private Partnerships

Feature	Options
For direct fiscal commitments	
Who budgets?	<ul style="list-style-type: none"> ▪ Contracting authority — provides better incentives to choose and manage project risks well ▪ Government as a whole (through service-wide budget vote) — if contracting authorities are not well-equipped to estimate budget requirements
When to budget?	<ul style="list-style-type: none"> ▪ In advance — through transfers to an account designed to cover future payment needs over a defined timeframe — creates more certainty that funds are available ▪ In any year payment is needed — avoids opportunity cost of setting aside funds
For contingent fiscal commitments	
What to budget?	<ul style="list-style-type: none"> ▪ Nothing — may be appropriate for very low-probability risks (such as force majeure) ▪ Expected amount — probability-weighted estimate of cost (which is unlikely to equal actual outcome) ▪ A defined percentile value (which could include 100% provisioning) — a conservative approach, but one that risks overstating future expenditures, and hence crowding out other spending priorities
How to deal with remaining uncertainty?	<p>In terms of budget approval — could require a supplementary appropriation, or use general contingency line.</p> <p>In terms of managing cash — either set up a contingent credit line in advance, or finance from available cash or borrowing as needed</p>

The budgeting process is relatively simple for ongoing direct commitments such as availability payments: these can be budgeted for in the year they are needed through a service-wide budget vote. Budgeting for contingent liabilities is more complex, since at the start of the budget year the size of, or even need for, a payment may not be known. This uncertainty can be reduced by allocating an amount in the budget (provisioning) against possible payments: the greater the amount, the higher the opportunity cost, but the lower the remaining uncertainty.

Disclose

Fiscal commitments to PPPs should generally be disclosed through the Government's financial reporting. Disclosure and reporting of direct support, such as availability payments, is usually straightforward — the payments are disclosed as expenditure in the year in which they are made.

Less straightforward is whether to disclose in the balance sheet or debt stock reporting the value of future long-term future commitments. The best way to disclose contingent commitments is also controversial.

Disclosing the value of long-term commitments

When governments get facilities developed and financed through a PPP contract, a question arises as to whether or not the facility should be recorded as a government asset. Even more importantly, should obligations to pay for the costs of that asset in the future be recorded as a government liability?

One view is that the assets belong to the private partner, as does the obligation to repay debt, and all government has is an obligation to pay for services as they are rendered. On this view, there is no need for government to include in its financial reporting either assets or liabilities related to a privately-financed PPP. The other view is that the assets are still for a public service and controlled by government through the contract, so the assets should be accounted as Government's, and future obligations to cover the costs of those assets should be accounted as a government liability.

Many governments have followed the rule set out by Eurostat which resolves this question by providing that, so long as the private partner takes significant risk (either demand risk or availability risk) the assets and liabilities are private, and are not recorded in the Government's accounts.^{33/} For example, an airport concession would not result in assets or liabilities for government if the private partner takes risk on the number of planes and passengers using the airport. Similarly, a hospital facility for which government made availability payments would not create assets or liabilities for government, provided the private partner only got paid if the asset was available as planned. Under this approach, only if the Government paid for the asset over time, regardless of whether it was available or being used, would the asset be treated as a government asset, and the payment obligation treated as a government debt.

A new approach has now been developed under the International Public Sector Accounting Standards (IPAS). IPSAS 32 treats PPPs (which it refers to as concessions) as creating facilities that are essentially public. It therefore requires governments to recognise the PPP asset in its financial reporting (at fair market value). IPSAS 32 also requires the Government to recognise an

^{33/} European System of Accounts (ESA) 95, Chapters VI.4 ("Public infrastructure financed and exploited by corporations"), and VI.5 ("PPP").

offsetting liability. The value of the liability is generally assumed to be the same as the value of the asset, unless the asset is a revenue generating asset — in which case the value of the liability is set at the value of the revenue unearned by government. Appendix J presents two examples of how IPSAS 32 could be applied to two-types of PPP projects.

Caribbean countries will have to decide which approach to take in reporting on PPP-related assets and liabilities. IPSAS 32 applies only to governments “that prepare and present financial statements under the accrual accounting basis”.^{34/} Caribbean countries that use cash accounting will not be subject to this standard. However, in creating a fiscal management framework for Jamaica the IMF has asked that the Government use the IPSAS 32 rule to recognise liabilities related to PPPs. If this approach is adopted, the costs of PPPs will be added to the Jamaican government’s reported long-term liabilities. This is despite the fact that the PPP assets would not be reported as government assets.

Such a ‘mix-and-match’ approach to reporting standards is controversial. On the one hand, it reduces the risk that long-term government obligations to pay for capital assets will go unrecorded. It also reduces the temptation to use PPPs purely as a mechanism to move financing arrangements ‘off the books’. On the other hand, it overstates the fiscal impact of PPPs by recording liabilities but not assets. It also may bias infrastructure financing toward either government business enterprises, or outright privatisation, rather than PPPs. The reason is that only under a PPP would the liability associated with the asset be reported by government. The debts of government business enterprises are not reported as government debt (under IPSAS^{35/}), and nor are the debts of fully privatised firms.

Disclosing contingent commitments

The traditional approach to recognising and valuing contingent fiscal commitments to PPPs was initially set by Eurostat and is described in the European System of Accounts (ESA) 95. This approach only recognises contingent liabilities when the contingency activates. For example, if a government issues a minimum revenue guarantee for a PPP toll road, ESA 95 would only require recognising this fiscal commitment when the guarantee is called and the payment made. The IMF Government Finance Statistics Manual, issued in 2001, proposed a similar treatment of contingent fiscal commitments.

IPSAS 19 requires a more rigorous approach, in which all contingent liabilities need to be disclosed in notes to the accounts. In cash accounting, the liability is still only recognised when it is paid, but under accrual accounting the liability is recognised when there is a greater than 50% chance that payment will need to be made. Table 4.2 summarises these various standards.

^{34/} IPSAS-32, Scope, page 1459.

^{35/} IPSAS-32, Scope, page 1459

Table 4.2

Options for Recognising and Disclosing Fiscal Commitments to Public-Private Partnerships

Item	Recognition	Disclosure
For contingent fiscal commitments		
Eurostat Rulings – ESA-95	Only when contingency activates and a cash payment needs to be made (ESA 95 4 165f)	Disclose amount paid in financial statements and explain nature in the accounts (ESA 95 4 165f).
IMF's Government Finance Statistics Manual – GFSM, (IMF 2001)	Only when contingency materialises (GSFM 3.96, page 34)	Record as memorandum items in financial accounts, and include estimates of expected payments (GSFM 3.96, page 34).
IPSAS – Standard 19 (Contingent Liabilities)	For accrual accounting, only if the probability that the contingency will occur is more than 50%. For cash accounting, only when the contingency is called and cash payments need to be made. (IPSAS 19).	Disclose amount in balance sheet, and explain nature and drivers of uncertainty.

Monitor and manage during implementation

Once a project has been approved and the PPP contract executed, the project will be implemented. Throughout the lifetime of an executed PPP contract, the Government must monitor its exposure to fiscal commitments and take action on emerging problems.

Effective monitoring will require maintaining up-to-date information on the Government's contingent fiscal commitment under PPP contracts. This will reduce the unexpectedness of potential payments and inform actions the Government may take to control the payment size or likelihood of occurrence. It also allows the Government to disclose that exposure to the public, improving transparency of its commitments to these projects.

By monitoring its fiscal contingent commitments, the Government will be able to identify emerging problems — that is, situations where the need for a payment is increasingly likely. The Government can then consider how to intervene to manage the underlying risk factors and reduce the likelihood or cost of needing to make a payment.

Some governments have created specialised systems and teams to monitor and manage fiscal commitments. For example, Chile has a unit within MoF that is responsible for monitoring and managing contingent liabilities from PPP contracts. The creation of a Unit was justified in Chile because the Chilean Government has a large number of contracts. Caribbean governments will need to assess if the volume of PPP contracts in their country merits the creation of a specialised unit for managing fiscal commitments.

Chapter 5

Towards Sustained Capacity Building Elements of Caribbean Development Bank Support

As the only development agency focused entirely on the Caribbean Region, CDB is well-positioned to use its unique capabilities and assets in helping BMCs build the requisite capacity to implement successful PPPs. This can be achieved through the application of well targeted TA interventions that can emanate from strategic partnerships between the Bank and other development partners, as well as from regional synergies that can be forged amongst BMCs themselves.

This section first summarises the areas in which BMCs will most need help from development agencies and the potential for regional synergies in providing that help.

In order to succeed in taking the actions described in Chapter 4, governments of the BMCs will need help in identifying appropriate international best practices and adapting these practices to Caribbean realities. Four key areas are: developing policies and processes; PPP project identification and preparation; building institutional capacity; and access to finance.

Policy and Processes for Public-Private Partnerships

PPP policies guide government agencies and market participants on how PPPs will be done. Such policies are typically contained in an overarching document that sets out at a high level the key parameters of the PPP programme. These parameters would include the scope and priorities for PPP projects; the guiding principles, criteria and processes by which PPP projects will be developed and implemented and the institutional responsibilities for the various stages of PPP development and monitoring.

In addition to establishing overarching PPP policies, BMCs need to design PPP implementation processes. These processes guide officials and decision makers through all the steps in identifying and implementing high quality PPPs. They provide the operating instructions that allow a BMC's PPP programme to gain the value that PPPs have to offer, while avoiding unnecessary costs and risks.

PPP policies and processes are specialised areas of economic management, in which international experience is essential in order to develop sound approaches by governments. Many of CDB's BMCs have similar economic structures and policies, so there are advantages in adopting a coordinated regional approach to the development of PPP policies and processes.

Jamaica, Trinidad and Tobago and Haiti have established PPP Units within their government bureaucracies. All three countries are currently seeking to develop or refine PPP implementation manuals and templates to support their PPP policies. Other BMCs will want to learn from the experiences of these three countries and, like the three lead countries, will need help in learning, adapting, refining and developing appropriate PPP policies and processes.

Public-Private Partnership Project Identification and Preparation

Technical assistance is needed for identifying, prioritising, evaluating and structuring PPP projects to achieve VfM and manage risks.

One of the problems identified in developing PPPs within the BMCs is that a great deal of time and money is devoted to projects which should never have passed the initial screening stage. Equally, many projects that could be successfully implemented as PPPs remain undeveloped. BMCs need the mechanisms which identify high value PPP projects and develop them, while excluding those projects which should not be done as PPPs.

Caribbean governments need TA with project identification, screening and development. This TA should include:

- (a) Identifying projects with strong potential.
- (b) Screening these candidate projects for technical, environmental, economic, and financial feasibility.
- (c) Assessing VfM — in particular, showing that the value drivers from doing a project as a PPP outweigh the associated costs or risks.
- (d) Structuring projects properly, ensuring that risks are well allocated, accountabilities are defined and the opportunity is attractive to the market.
- (e) Bidding out the opportunities successfully, by attracting a strong field of investors, and running a transparent, competitive and efficient bid and evaluation process.

In seeking the best VfM, governments must be sure to avail themselves of high quality transaction, technical and legal advisors in order to match the global experience brought to the table by potential investors. At all stages of the process, various government entities must provide coordinated inputs, reviews and approvals to ensure the project aligns with priorities and fiscal constraints.

While recognising the necessity of these technical inputs, fiscal constraints often act as a binding constraint to bringing the appropriate expertise on board. The field of PPP project development is so new to many BMC governments that they are not yet well-placed even to prepare proper Terms of Reference, or to select the appropriate advisors and manage them well. BMC governments will benefit from help in these areas, which would ideally be provided from a single regional centre. Given the similarities in economic, legal and regulatory regimes in BMC economies, benefits could be gained by incorporating the lessons of regional experience in any TA offered.

The cost of structuring and implementing PPP transactions typically runs to several million dollars, or up to 5 or 10% of the final transaction value — depending on factors such as project size, level of initial preparation and complexity. A portion of this cost can be covered by success fees charged

to the winning bidder; however this may not be sufficient to meet the entire transaction costs. Governments may be hesitant to invest the funds needed to procure quality advisors. Typical barriers include:

- (a) A lack of existing budgets and budget allocation processes for PPP transactions.
- (b) ‘Sticker shock’ from the fees of international advisors (which are high by Caribbean standards).
- (c) Difficulties in justifying paying what appear to the public as large sums simply for advice and process management — especially when the benefits of PPP delivery have not yet been proven in a country.

Building Institutional Capacity

Governments need new institutional arrangements and capacities to identify and deliver quality PPP projects. Building this capacity takes time and money. Countries that do it well generally bring in experienced advisors to help them build capacity.

A typical institutional structure for PPPs would have a focal point in Government for coordinating all PPPs and inter-agency project teams for each project. The focal point is often in the form of a ‘PPP Unit’. This Unit acts as a repository of experience and knowledge on PPPs for the Government, as well as a regulator of good process.

As mentioned, only three BMCs currently have established PPP units. For those BMCs that do not have PPP units, the need for TA is greater and more immediate. This notwithstanding, there is scope for the sharing of experiences between PPP units in the Region and development of support and information sharing networks. Officials directly involved in preparing and implementing PPP projects, and line ministry staff, need training on technical matters such as financial analysis, risk allocation and contract drafting. High-level officials (both elected and non-elected) making decisions on PPP projects and policies could also benefit from higher-level training on topics such as project selection, the benefits and pitfalls of PPPs, appropriate governance and stakeholder consultation.

Capacity building is not needed only at the Governmental level; the Caribbean private sector is still largely new to the PPP concept. In most of the BMCs, the local private sectors are mercantile in nature and fairly averse to taking risks on new spheres of economic activity. However in the larger economies, this pattern is beginning to change, with the larger corporations branching out into untested waters. In Haiti for example, private sector entities include independent power producers, in partnership with international technology suppliers. Similarly in Jamaica, local companies have partnered with the Government in the electricity and water and sanitation sectors, among others. In the smaller BMC economies, however, the local private sector has not yet shown the inclination or capacity to enter the PPP arena.

Access to Finance

While PPPs bring private finance, it helps if development bank financing is also available. Combining development bank and private finance is well established internationally. International models will need to be adapted to Caribbean conditions — in particular the smaller projects sizes and thinner capital markets in many BMCs.

Development bank finance in PPPs has three key benefits:

Reducing risk. Both governments and private investors are often wary of PPPs, especially initially. Lack of trust of the other party, along with the sheer unfamiliarity of the model, creates perceptions of heightened risk. Development agencies can reduce risk perceptions by putting their own money into a project. Investors see this as a signal that the development agency understands the risks and finds them acceptable. Investors also believe that development agencies may influence governments to follow the agreed rules and processes, both during bidding and after the project becomes operational. This may reduce the investors' perception of political and regulatory risk.

Level the playing field with traditional public sector projects. Development agency finance has traditionally been made widely available to publicly financed projects. If such finance is not available to privately financed projects, BMC governments might pursue publicly finance options, even when PPP delivery would in fact offer greater total benefits. To avoid this bias it is helpful if development agency finance can also be available to PPP projects.

Lower the cost of infrastructure services. Development agency finance is often available at lower rates or for longer durations than commercial market finance. Where this is the case, providing development agency finance as a part of the capital structure of PPPs can lower the cost of capital and so ultimately lower the cost of infrastructure services to users.

The main ways in which development agency finance can be utilised in PPPs are:

- (a) Lending to private sector Special-Purpose Vehicles (SPVs) to implement the project;
- (b) Lending to governments for on-lending to SPVs; and
- (c) Lending to governments to make upfront contributions to PPP capital costs (viability gap funding) or to pay for services over time (availability payments).

5.1 A Potential Caribbean Development Bank Support Strategy

Capacity building across BMCs to support their growth and development efforts is a core mandate of the Bank. Consequently, the Bank will pursue efforts aimed at enhancing the enabling environment for PPP application in the Region and also seek to strengthen institutional capacity across the board. There is considerable scope to leverage support from other key development partners in the Region in this drive. A collaborative effort will therefore aim to support Caribbean countries in building the PPP architecture needed to select, plan design and oversee the implementation of successful PPPs. Creation of the enabling environment will be pursued at both the regional and national level. At the regional level, the initiative will access work already underway in those countries with PPP units and seek to develop harmonised best practice documents that can be adapted by governments to fit the local regulatory, legal and institutional environments.

Given training needs, the joint support will also increase capacity to implement PPPs throughout the Region, through training at the government and private sector levels and building PPP networks. This will include ongoing consultations with governments looking to increase their use of PPPs which include established practitioners promoting regional networking on PPPs and building a platform to facilitate ongoing awareness.

At the national level, more focused effort will seek to define the scope and priorities for PPP programmes; put in place the policy and institutional structures to manage PPPs; and build broad consensus and awareness of the national PPP programme. Training of government officials in appropriate risk assessment and oversight of the fiscal burden of PPPs; and development of a common accepted methodology for the accounting treatment of PPPs will also be fundamentally important.



Chapter 6

Conclusion

Caribbean governments are facing serious infrastructure challenges. The quality of and access to infrastructure services in the Region must be improved in order to facilitate economic growth and raise living standards. However, investments of as much as USD21.4 bn may be required over the next 10 years. Many governments lack the fiscal and technical capacity to deliver this level of investment. High public debt levels and lagging economies constrain governments' fiscal resources. Reduced government budgets, combined with a lack of incentives and expertise, often lead to low VfM in traditional public service delivery of infrastructure projects.

PPPs can help Caribbean governments succeed in overcoming this infrastructure challenge. PPPs allow governments to partner with private companies through long-term contracts to deliver infrastructure services more rapidly, at a higher quality, and at a lower cost than typically are achieved by the public sector alone.

Some countries in the Caribbean have already succeeded in implementing PPPs that have reduced service costs and improved infrastructure quality and access. The concession contract for Sangster International Airport in Jamaica reduced the Government's fiscal expenditures and improved the quality of the Airport for tourists and local passengers alike. In the Bahamas, the Water and Sewerage Corporation is expecting to save USD80 mn through its performance-based contract with a private company to reduce NRW.

These successes demonstrate the potential of PPPs to improve infrastructure services in the Caribbean, but there are also risks and barriers to be overcome. PPP contracts often carry fiscal commitments which must be carefully managed, and governments must ensure that bidding processes generate competitive offers from private partners. The small size of many PPP projects in the Region results in high transaction costs and difficulty in attracting qualified international investors. Inappropriate policies and a lack of formal PPP processes also hinder PPP development and deter potential private sector partners.

Caribbean governments will need to take concrete actions in order to realise the full benefits from PPPs, while also managing the risks. Caribbean governments therefore must:

- **Develop PPP policies and processes:** Set the rules, define the priorities and establish the processes for the development and implementation of PPPs.
- **Create legal environments:** Enabling environments that allow PPPs to be implemented.
- **Build institutional capacity:** Allocate responsibility for implementation of PPP policies.
- **Develop human capacity:** Ensure that government staff members have the skills needed to carry out institutional responsibilities.

Conclusion

- **Create fiscal management and accounting frameworks:** Create processes and define methods for defining and managing fiscal costs in PPPs, thereby helping governments achieve better VfM.

Creating the right legal, institutional, and procedural foundations for PPPs will prove difficult for many countries in the Region on their own. Governments may not have the necessary technical capacity at the institutional or staff level, and fiscal resources to hire expert advice are limited.

One strategy to surmount the challenge of limited technical capability at the individual country level and build on early lessons, evinced from PPP transactions in the Caribbean, is through the development of a regional hub charged primarily with advisory responsibilities and backed by the potential for financing participation. The Bank's long history of working with Caribbean governments to develop infrastructure projects, coupled with its ability to leverage support from important development partners give the Bank an edge in shaping the Region's response to PPP utilisation to spur growth. Building knowledge and crafting the appropriate regulatory and legal frameworks are key to avoiding the unfortunate missteps of the past.

Appendix A

Methodology for Estimating the Investment Needs in the Borrowing Member Countries

To assess total infrastructure investment needs, the investment needed in each sector in each BMC was estimated. The estimation methodology involved the following steps:

- (a) Defining a ‘target level’ of infrastructure service in each sector and for each country. As an example, the target level for water was 100% of households with access to improved water sources by 2025.
- (b) Quantifying the infrastructure service gap as the difference between current infrastructure services and the target level at the end of the period. For example, in the water sector the key service gap is the difference between the number of households with improved water service now and the number who would have services if the target service level for 2025 were reached.
- (c) Calculating the dollar value of investment needed to close the infrastructure services gap over the forecast period. Again, in the water sector, the unit cost to bring a household to the improved service level is multiplied by the number of households that need to receive improved service.
- (d) Classifying the spend as being either public or private, depending on whether the particular sector in each country is public or private. For example, in all BMCs the water sector is predominantly public, so water sector investment needs are assumed to fall to the public sector (absent any policy to introduce PPPs). On the other hand, in many BMCs the electricity sector is private, so in these BMCs the electricity sector investment needs are classified as private.

The following sections discuss how these steps were applied sector by sector.

Investment Need in Electricity

Electricity investment needs were estimated based on targets for access, consumption per capita, and investment in lower cost generation.

Access — For all the BMCs except Haiti the access target was assumed to be 100%. This builds on already strong performance, with 14 of 19 BMCs currently having access rates of 95% or above. The exception is Haiti, where the current access rate is just 20%. For Haiti the target was assumed to be 60% access — a tripling of current levels.

Consumption per capita — On average, BMCs consume only around 50% as much electricity per capita as other countries with similar income levels. We assumed this gap should close over time, so we assumed that per capita consumption would grow by 20% over the 10 year period (unless a particular country had consumption that was already higher than other countries with similar incomes, in which case we assumed no change).

Lower cost generation — There is an important opportunity for BMCs to reduce the cost of power generation by replacing diesel and heavy fuel oil-fired plants with lower cost renewable and gas-fired generation. We estimated that the BMCs will need 1.4 gigawatts (GW) of new capacity from gas or oil-fired generation and 1.5 GW from renewable sources.

Unit costs for closing each of these gaps were estimated as follows:

- (a) New household connections were assumed to cost USD500 for network investments.
- (b) Generation costs to meet increased demand were assumed to be USD1.7 mn per MW. This capital cost is based on a combined cycle gas turbine using LNG, or a similar new turbine which would use petroleum fuel where LNG is not economically feasible.
- (c) Lower cost renewable generation was assumed to cost USD2.855 mn per MW. This is a simple average between solar PV at USD3.5 mn per MW and wind at USD2.21 mn per MW.

Across all BMCs, the electricity sector needs USD11.9 bn in investment through 2025. USD8.9 bn is needed for new generating capacity to meet higher future demand, while USD1.7 bn is needed to replace old and inefficient capacity with lower cost energy generation. To reach the electricity access targets, USD1.3 bn must be invested in household connections to the transmission and distribution (T&D) network, of which USD1 bn is needed in Haiti alone. The private sector is responsible for USD1.9 bn of new investment, while the public sector is responsible for investing USD10 bn.

Investment Need in Transport

We assessed the investment need in the transport sector of each of the BMCs by examining the current state of transportation assets and additional demands for use of these assets. Our estimate is divided among four subsections: airports, cruise terminals, ports and roads.

Airports

The service gap was assumed to be the difference between current passenger throughput and the total passengers forecast for 2025. Using data on air arrivals from the Caribbean Tourism Organisation and an estimated 2% annual growth rate, we estimated 2025 air traffic at 8.5 million passengers for all BMCs.

The capital investment per additional passenger was estimated at USD185.59. This was derived from a review of airport expansions in Guyana, Antigua, Barbados, Dominica, Jamaica, and St. Kitts.

For airport investments in Antigua and Barbuda, Jamaica, and St. Vincent and the Grenadines, we revised our initial estimates downward because airports in these countries have been newly renovated. We assumed that only 25, 20, and 10%, respectively, of the initial investment estimate would be needed for these countries.

We estimate that USD1.1 bn is needed for airport investments through 2025 in all BMCs, for which the public sector is assumed to be 100% responsible.

Cruise terminals

From CTO estimates, we estimated that cruise ship passengers would increase at 4% per year to reach 17 mn in 2025 — an increase of 5.2 mn.

We calculated an average capital improvement cost per passenger of USD76.27. This was derived from a review of average per passenger project cost for cruise ship terminals in Belize, Jamaica, and St. Kitts.

We estimate that USD0.9 bn in new investment for cruise ship terminals is needed, with the private sector being responsible for 80% of this investment and the public sector responsible for the remainder.

Ports

We looked at the volume of cargo as the primary indicator of port activity and usage, and we estimated total investment costs based upon an estimate of the capital improvement costs per 20-foot equivalent unit of cargo (TEU).

We assumed an annual growth rate of 2% in cargo volume, leading to a forecast future cargo volume of four million TEUs for five major ports: the Bahamas, Barbados, Jamaica, Trinidad and Tobago, and St. Vincent and the Grenadines. This forecast represents an increase of 730,000 TEUs of cargo for these ports.

A capital cost of USD87.21 per additional TEU was estimated, based on data from the Port of Kingston in Jamaica.

We expect USD352 mn in new investment to be required in these five BMCs, with more investment likely to be needed in other smaller BMCs.

Roads

We estimated the required investments only for new road construction and not for road refurbishment so as to provide a conservative lower-bound estimate of the total investment need. All of the BMCs will need to invest substantially in improving the quality of their roads, but only a few BMCs have clear new road investments.

We identified major new road projects in the planning stages in Jamaica, St. Lucia, Trinidad and Tobago, and the Turks and Caicos Islands. For each of these projects, we used existing estimates of the capital investment costs for these projects, except in Trinidad and Tobago where current estimates were not available for the seven highway projects we identified.

In Trinidad and Tobago, we assumed 150 km of new road would cost USD428 mn based on cost estimates per km for projects in the other three BMCs.

We estimate that these four countries need to invest USD1.5 bn in new roads through 2025. For the entire transport sector, the BMCs need to invest USD3.8 bn through 2025.

Investment Need in Water and Sanitation

We assessed water and sanitation as two separate subsectors.

Water

Access to improved water sources as defined by the Joint Monitoring Programme for Water Supply and Sanitation is above 90% in all BMCs except for Haiti. The access target was set at 100% for all BMCs except Haiti. In Haiti, access to improved water services now stands at 64%. The access target was assumed to be 85% by 2025.

We divided this access target into urban and rural populations. From the World Health Organisation (WHO) estimates for the Caribbean, ^{36/} we estimated that in rural areas 61.6% of households with access have household connections and 38.4% have access to other forms of improved water service. In urban areas, 93.9% of urban households with access have household connections and 6.1% have other access.

Using data on typical investment costs in the Latin America and Caribbean region from the WHO, ^{37/} we estimated the costs of two types of access to improved water sources: a household water connection and other form of access. A household connection costs USD911 and other access costs USD283. The other form of access is an average of four types of access: standpost, borehole, protected dug well and rainwater collection.

We forecast that 2.3 mn household connections and 660,000 other access points are needed in the Caribbean to meet the access targets, for a total of USD2.7 bn in investment for improved access.

In addition to improved access, we estimated the costs of capital improvements for NRW reduction and network improvement. We estimated the portion of NRW and the total volume of NRW for each BMC.

Each BMC was given a target NRW level equal to a maximum of 20% (a reasonable percentage for a well-functioning water utility) or a 50% reduction from current levels. We estimated a cost of USD278 per cubic meter for the capital investment required for NRW reduction based on Castalia's experience with benchmarking NRW reduction projects. From these figures we estimated a total NRW investment cost of USD186 mn for all BMCs.

We estimate that USD2.9 bn need to be invested in the water sector in all BMCs.

Sanitation

Access to improved sanitation sources as defined by the Joint Monitoring Programme for Water Supply and Sanitation is above 90% in only six of the BMCs. The access target was set at 100% for all BMCs except Haiti. In Haiti, access to improved sanitation services now stands at 26%. The access target was assumed to be 50% by 2025.

^{36/} Guy Hutton and Jamie Bartram, Regional and Global Costs of Attaining the Water Supply and Sanitation Target (Target 10) of the MDGs (Geneva: WHO, 2008), 4.

^{37/} Hutton, Regional and Global Costs, 6.

We divided this access target into urban and rural populations. From WHO estimates for the Caribbean,^{38/} we estimated that in rural areas 23.4% of households with access have household connections and 76.6% have access to other forms of improved sanitation. In urban areas, 73.9% of urban households with access have household connections and 26.1% have other access.

Using data on typical investment costs in the Latin America and Caribbean region from the WHO,^{39/} we estimated the costs of two types of access to improved sanitation: a household sanitation connection and other form of access. A household connection costs USD1,013 and other access costs USD526. The other form of access is an average of four types of access: septic tank, pour-flush system, ventilated improved pit latrine, and a simple pit latrine.

We forecast that 831,000 household connections and 922,000 other access points are needed in the Caribbean to meet the access targets, for a total of USD2.5 bn in investment for improved sanitation access. This is likely an underestimate of the total investment needs in the sanitation sector, as many BMCs will need to invest additional capital to refurbish old and over-taxed urban sewerage treatment systems.

In total we estimate that the BMCs need to invest a total of USD5.4 bn in the water and sanitation sector through 2025.

^{38/} Hutton, Regional and Global Costs, 4.

^{39/} Hutton, Regional and Global Costs, 6.

Appendix B

Case Study — Sangster International Airport in Jamaica



Introduction

The Value Proposition of Private Sector Participation in Jamaica's Airports

On 12 April, 2003, the GoJ handed over control of the Sangster International Airport (SIA), Jamaica's largest airport and gateway to its vital tourist industry, to the Vancouver Airport Services Consortium, under a 30-year concession agreement. In its first decade of existence, this PPP has been an unqualified success and has led to major expansions and improvements in quality of service at SIA. Consequently, this project has important lessons in the structuring and implementation of PPPs in the Caribbean Region.

In the early 1990s, GoJ recognised the need to privatise the Sangster International Airport, which served as the gateway for all of Jamaica's tourists in the North coast resorts. Under public ownership, the airport was becoming more crowded and its assets were ageing — new investments were needed to renovate and expand the airport to meet the passenger load. Furthermore, the airport's operations were becoming a significant drain on the Government's fiscal resources while Jamaica's national debt levels was high and rising, leaving the Government with little ability to pay for the required capital investment.

Privatisation was deemed the best option for the Government to meet the Airport's needs and thus avoid endangering its critical tourism industry. In a comprehensive transport sector study, the

Government set out the following key policy objectives for the development of the aviation sub-sector:

- Reducing public sector involvement in the operations of airports and airlines;
- Developing aviation infrastructure through the use of private debt and equity capital;
- Strengthening the role of the public sector in regulation and policy planning in airport related activities so as to create an adequate economic environment to encourage private sector investments in the sector; and,
- Providing quality services with an appropriate standard of safety and security.

In pursuit of the above objectives, the Government, through a special Airport Task Force and a Project Unit at AAJ, developed a proposed structure for the privatisation and expansion of SIA. Through privatisation, the Government hoped to reduce or eliminate its fiscal obligations regarding the airport's operations while the private partner brought new investment capital for renovations, expansions and improved airport services.

The Privatisation Process

The First, Non-Competitive Approach Fails

Under the direction of the AAJ, the Airport Task Force sought to pursue the selection of a strategic partner on a negotiated basis, rather than through a competitive process. In the mid-1990s, initial discussions were held with American Airlines about the possibility of establishing a hub at SIA. The Airport Task Force proposed a privatisation structure that would ensure that the Government continued to exercise a significant degree of control over the operation of the Airport and proposed arrangements that would:

- Privatised only the landside terminal operations and not the airside operations;
- Ensure that no single entity could have more than a 25% holding in the airport terminal operating company; and
- Ensure that Government would have a Golden Share in the terminal operating company.

AAJ engaged Citibank as a Financial Advisor and hired Birk Hillman Zipperly as airport design consultants, spending considerable sums on the production of a feasibility study and airport expansion proposals (including architectural plans). After several approaches to financial institutions and the market, however, the privatisation of SIA was still stalled.

In 1996, an exclusive Memorandum of Understanding with United Infrastructure Company/Airport Group International (UCI/AGI) was signed, to evaluate the feasibility of the Project. After undertaking an initial investigation, UIC/AGI issued a preliminary report in January of 1997, and at the same time, requested an extension of their period of exclusivity in order to carry out further due diligence and submit what the Government believed would be a more thorough proposal.^{40/} However, the UIC/AGI proposal which resulted from this arrangement was eventually rejected by

^{40/} At the time, UCI/AGI reportedly had a large number of projects under consideration and were reportedly bidding on concessions for the privatisation of 35 state-owned airports in Argentina, 4 airports in Columbia, and were also involved in the New Berlin International Airport and a new terminal for the Beijing International Airport in China (Report in the Miami Herald International Edition Pg. 3B 2 July, 1997). It appeared, to the Government, that owing to the relatively small size of Jamaica's requirements, UIC/AGI saw its own interest being better served in pursuing larger opportunities.

the Government as unacceptable. After the UIC/AGI failure, it became clear that the Government needed to take a new approach to the airport privatisation.

Success from the National Investment Bank of Jamaica Bidding Process

Following the aborted efforts described above, Cabinet in May 1998 approved the establishment of an Enterprise Team under the direction of NIBJ. The Enterprise Team included representatives of all the agencies that had an interest in the efficient operations of the airport, namely, the Office of the Prime Minister, the Ministry of Finance and Planning, the Civil Aviation Authority, the AAJ/SIA, the Attorney General's Office and the Ministry of Transport & Works. With NIBJ at the helm, the Government was now able to follow a more orderly, transparent and competitive process.

The revised objectives of privatising the SIA were limited to:

- Relieving GOJ of the financial burden of finding the necessary capital for the development and expansion of the airport.
- Facilitating the exploitation of the full commercial potential of the airport, thereby broadening its revenue base and reducing its dependence on passenger charges and landing fees.

NIBJ became the *de facto* day-to-day coordinator of the SIA privatisation process, and it proceeded to prepare an Information Memorandum (IM) in respect of the privatisation. At the time, SIA which had been designed for a peak passenger throughput of 1,000 per hour, was experiencing peak traffic of up to 1,800 passengers per hour. The airport was rated by the International Air Transport Association (IATA) at a level of service D (A being the highest), and was in danger of falling below minimum acceptable standards, with serious negative implications for Jamaica's tourism industry. The privatisation effort was perceived as an urgent necessity to avoid further erosion of the Airport's rating.

The NIBJ Enterprise Team made two strategic changes in the approach to the privatisation transaction:

- reversing the AAJ approach and including the entire airport operations and its revenues, both airside and landside, in the concession arrangements;
- elimination of the Government's Golden Share; and
- allowing the Concessionaire to establish an airport operating company wholly under its control with no limitations on its shares, other than restrictions prohibiting control by an airline shareholder, and a requirement that an established airport operator control no less than 10% of the shares.

The above changes made the privatisation offer much more attractive to commercial airport operators. In addition to transferring management and control of the airport to private shareholders, the Concession also called for about USD180 mn in project financing to finance new capital investments at the Airport.

The Bidding Process

The SIA privatisation involved a three-stage bidding process which incorporated pre-qualification, submission of a first round of proposals and the submission of a final round of proposals. The key milestones in this process were:

- In July 1998, GOJ's announced its intention to divest SIA in the local and international press, and interested parties were invited to submit applications for pre-qualification. The pre-qualification was carried prior to the hiring of any professional advisors but subsequent to this, financial advisors were engaged to assist with the preparation of the RFP and IM.^{41/}
- The final round of bidding was launched in November 2000 with the issuance of a Supplementary Information Memorandum. The SIM provided information on the new regulatory arrangements and principles and outlined proposals for removing the obstacles to the privatisation presented by Air Jamaica's continuing debt to the AAJ. These problems are discussed below in greater detail.
- In April 2001, four prequalified companies submitted proposals. A preferred bidder, Vancouver Airport Services Consortium, was selected and announced in August 2001, with approval from the National Contracts Commission and Cabinet. It then took 18 months to finalise negotiations and achieve financial close with the Vancouver Airport Services Consortium.
- Handover of the airport took place on 12 April 2003.

Major Roles in the Bidding Process

Role of the National Investment Bank of Jamaica

NIBJ was the Secretariat to the Enterprise Team. In practice, this meant that NIBJ handled all administrative and logistical activities related to the divestment process, including:

- contracting supervision, and paying the advisors and consultants;
- actively participating in all negotiations;
- arranging and hosting all meetings;
- documenting the project activities and preparing minutes, reports and Cabinet Submissions;
- supervising and assisting with operational matters such as preparation of the data room; and
- serving as the focal point of all communication in respect of the project.

^{41/} Approximately 35 companies requested the pre-qualification document and 12 of these actually submitted applications for pre-qualification. Although the original intent was to pre-qualify only 4 - 6 companies, a decision was taken by the Enterprise Team to consider all 12 companies as pre-qualified and no company was eliminated at this stage. The general criteria used for evaluating applications for pre-qualification included: (i) experience in the development, management and operation of airports; (ii) the ability to raise financing for the development of the airport; (iii) technical capability and qualifications of key personnel; and (iv) experience in operating in an efficiency driven regulatory environment

Role of the Airports Authority of Jamaica

AAJ was in effect the Technical Advisor to the Enterprise Team. The AAJ Management Team gave full support to the privatisation activities and alerted NIBJ and the Enterprise Team of potential problems that could arise during the privatisation. This included explaining to staff that AAJ would henceforth oversee the concession contract and the operations and management of the airport company, rather than serve as operator of the airport facilities. As a result, NIBJ decided not to engage external technical consultants and relied on AAJ's inputs where technical matters were concerned.

Role of Financial Advisors

The Enterprise Team engaged international investment bankers with a strong record in airport privatisation to advise on the privatisation process. UBS Investment Bank (UBS), formerly Warburg Dillon Read Infrastructure Management Group, was engaged by NIBJ in April 1999 to advise on the privatisation. It was assisted by a Caribbean-based affiliate CFAS Limited, which did much of the local leg-work in the initial stages of the divestment process.

UBS provided financial advice in relation to the privatisation, including the preparation of a Sale Memorandum and its circulation to a restricted list of potential purchasers approved by NIBJ. UBS also provided assistance in the co-ordination of due diligence, and assistance in negotiating the terms and structuring of the transaction.

Role of Other Consultants

The London-based law firm of Clifford Chance was selected as legal advisors to the privatisation, but its involvement was later transferred to another firm, DLA Piper. Aviation marketing consultants, regulatory consultants and land surveyors were also contracted at various points in the privatisation process for specific short term assignments.

In addition to the above international financial and legal advisors, NIBJ also engaged a local coordinating consultant, Stephen Wedderburn, who had considerable experience in assisting NIBJ with other privatisation matters. Mr. Wedderburn was engaged by NIBJ in May 1999 and his scope of work included accounting support such as financial analysis, providing assistance with expediting the finalisation of AAJ's financial statements, assisting with the preparation of the IM and negotiation support to the Negotiating Team.

In the view of NIBJ, all the major advisors performed well and contributed to the success of the privatisation.

Role of Donors

In the implementation of the SIA privatisation transaction, donors and Multilateral Development Banks (MDBs) did not play a significant direct role. In this case, the absence of direct involvement from MDBs was not a critical omission because the Government, through NIBJ, decided early on to invest the significant amount of funds required to avail themselves of first rate technical and financial advice.

Performance in the First Decade

Improved Services and Lower Costs to the Government

The consortium that formed MJB Airports Limited at the time of privatisation included: Vancouver Airport Services (Canada), Agunsa (Chile), Ashtrom (Israel) and Dragados (Spain). Shares in MJB Airports Limited were subsequently transferred to two key principals:

Abertis Infraestructuras SA (formerly, Dragados) — Abertis, a 74.5% shareholder, is an international group that manages infrastructure assets in five areas: airports, telecommunications, toll roads, car parks and logistic parks. The company is a European leader in infrastructure management and one of the world's major benchmark companies in the field.

Vantage Airport Group (formerly, Vancouver Airport Services) — Vantage, a 25.5% shareholder, manages and develops a global network of airports. Vantage Airport Group is ranked among the world's premier airport operators and provides a full range of management and investment services to their clients.

Immediately after privatisation, the Consortium set about expanding and upgrading SIA, with financing from a consortium of international lenders led by the IFC. To date, IFC has made four investments in the Airport since 2003 for a total of USD105 mn, including USD53.5 mn mobilised from other investors. SIA's construction phases were as follows:

Phase 1A (completed March 2004):

- Installation of six Boarding Bridges.
- Expansion of Ground Transportation Hall.
- Expansion of Customs Hall and Baggage Claim Area.
- Installation of closed-circuit television, controlled security access.
- Installation of intercom system.
- Installation of internal elevator within existing building.

Phase 1B (completed December 2005):

- Construction of hold room concourse to east of Terminal.
- Construction of new aircraft parking position and supporting taxiway.
- Extension of fuel hydrant.
- Extension of public address system and computer security system.

Phase 2 (completed February 2009):

- Construction of the Arrivals Hall extension to the South Concourse.
- Renovation of the existing Customs Hall into a new Immigration Hall.
- Construction of the Landside Pavilion structure.
- Renovation of the West Concourse in the existing terminal.
- Renovation and expansion of the check-in hall.

Overall results of construction upgrades:

- Terminal building more than doubled in size to over 47,000 square feet.

- 12 additional loading bridges and gates — bringing the total to 18.
- A 46% increase in apron area.

Customer Service improvements:

- Expanded Arrival and Customs Halls.
- Larger Baggage Claim area.
- Over 750 parking spaces.
- New ground transportation facilities.
- More retail space and a greater selection of shops (14 Food and Beverage, 9 Duty Free and 24 Specialty retail outlets).
- More check-in counters (100).

To date, MBJ Airports Limited has invested nearly USD200 mn into the expansion of the facility and improvements, including a recent USD20 mn runway rehabilitation and overlay. These projects were financed through shareholder debt and IFC loan agreements, repaid from the Airport Improvement Fee of USD5 per outbound passenger.

According to the Airports Council International (ACI), Sangster Airport has improved its ranking to #3 in Latin America and the Caribbean. The Airport has won the Caribbean Leading Airport by the World Travel Awards five years running.^{42/}

Financially Sustainable Airport Operations

Information on the financial performance of MBJ Airports Limited is not publicly available. However, the Company reports that “MBJ meets all concession agreement requirements with the Government including a significant annual concession fee payable to Jamaica annually”. Having IFC as a strategic investor demonstrates the continued bankability of SIA, and indicates continued confidence in the provision of private infrastructure services in Jamaica.

Passenger numbers at MBJ have continue to grow, even throughout the economic adversity of the last five years, with 2013 showing a 3.15% growth over 2012, with a total of 3.49 mn passengers. The commercial programme has grown in gross revenues by 199% to almost USD32 mn/year.^{43/}

Key Issues in the Privatisation of the Sangster International Airport

The lack of success of the early efforts to privatise SIA appeared to have been due to several factors, the chief of which were:

- The lack of a marketable business plan and transaction structure that would attract significant investor interest.
- The absence of a structured competitive bidding process to select the project sponsors.
- Lack of a coherent institutional coordinating mechanism defining the roles of the Government agencies involved in the privatization; and lack of clarity as to the terms of reference of each agency in achieving the privatisation goals.

^{42/} Information provided by MBJ Airports Limited.

^{43/} Information provided by MBJ Airports Limited.

- Imprecision on critical revenue issues such as revenues from airside and landside operations; and Government's retained rights under its insistence on a Golden Share.

However, even under the new approach adopted by Government and NIBJ, the SIA privatisation, which was originally scheduled for completion within one year, took five years to complete — from May 1998 to April 2003. The main causes for these delays were:

- **Inadequate Regulatory Framework.** Although it was possible to regulate the Concession by contract, there was no pre-existing regulatory framework for privatised airports in Jamaica. ^{44/} The Government decided, following the advice of its advisors, to develop such a framework during the transaction, to give lenders and developers greater certainty. However, enacting the new law took approximately three years. Also contributing to this delay was uncertainty about whether to privatise together in one package SIA and Norman Manley Airport in Kingston. It was ultimately decided to carry out separate privatisations because of difference in the markets served by both airports
- **Problems with Payments from Air Jamaica.** SIA's largest customer, Air Jamaica, had a poor record of meeting its obligations in respect of aeronautical charges for use of the airports in Jamaica. This was a major cause for concern by the investors who confronted both the issue of accumulated arrears and the prospect that future payments would also be delayed. After several aborted attempts by the Government to allay these fears, the matter was ultimately resolved through an IATA payment scheme and a hypothecation arrangement with American Express receipts from Air Jamaica.

Lessons Learned

The SIA privatisation ultimately achieved its objectives. The transaction reduced the Government's financial commitments to the Airport, increased the flow of traffic, reduced delays, expanded facilities and commercial revenues, and significantly improved customer satisfaction.

To the extent that we can discern lessons from the SIA privatisation process, the following appear the most important:

- Transactions should be handled by specialised institutions such as NIBJ, which are staffed and organised with the assistance of outside advisors to handle complex competitive bidding processes and subsequent negotiations with sophisticated investors.
- Transaction processes should be standardised as much as possible, to avoid improvised solutions which may reduce the confidence of investors and lenders.
- Critical to the success of the privatisation is a solid business plan, based on market realities. This requires reliance on expert outside consultants and advisors who fully understand market perceptions.

^{44/} The Airports (Economic Regulation) Act (2002) was passed in 2002. The draft Economic Regulation of Jamaica's Privatised Airports which would cover areas such as airport charges had earlier been approved by the SIA Enterprise Team because the establishment of the regulations was critical to the successful SIA privatisation.

- The structure of the transaction should be matched to the business realities and allow the private operators freedom to make commercial decisions.
- The privatisation can be greatly aided through a tightly controlled coordination of all interested agencies. The Enterprise Team used here was particularly effective.
- An appropriate regulatory environment will greatly facilitate the privatisation and should be put in place prior to the transaction. Delays in this case caused by the need to create the legal framework for a private airport operator could have been avoided with more forward planning.
- Inclusion of an experienced and competent airport operator as a requirement for the bid was appropriate to ensure technical performance of the Concessionaire.
- Experienced outside advisors were needed to complete the transaction; such advisors are expensive. Governments will need to cover these costs and should include them in its financing plan for the transaction. International sources of funding and technical support should always be sought.
- The provision of appropriate post-privatisation financing for expansion is a key requisite for sustained success.

Good Practices and Lessons for the Future

Strengths — What to Repeat

- Competitive bids are better than one-on-one negotiations. The first transaction foundered when negotiations with the sole bidder broke down and the GoJ had no other bidders to turn to. Experience suggests that governments obtain better VfM through competitive tenders, rather than sole-source negotiations.
- Specialised PPP staff members are critical to a successful transaction process. The staff at DBJ had previous experience in divestment transactions, which greatly assisted the PPP process.
- Tight agency coordination, driven by strong political will, is critical. With strong political leadership, DBJ played the role of a conductor of the orchestra, eliciting timely responses where needed and keeping all the agencies informed.
- Hiring qualified experts helps to ensure a strong business plan and a well-structured RFP and bidding process. DBJ hired experienced international legal and technical consultants, with local partners to ensure retention of knowledge.
- Inclusion of an airport operator in bid requirements and pre-qualification process is necessary for the long-term success of the project.

Lessons Learned — What to Change

- Regulatory framework needs to be established prior to the transaction. The transaction was delayed for two years while The Airport (Economic Regulation) Act, 2002 was passed; this should have been completed prior to the transaction.

- Roles and responsibilities of government agencies must be clear and reliable. In the second transaction, AAJ was in effect the technical advisor to DBJ.
- Be proactive in seeking solutions to obvious problems before they become deal-breakers. The Air Jamaica payment problem was not resolved until late in the transaction.

The Last Word:

The beauty of the privatisation of Sangster International Airport is that the airport operator can be proactive rather than reactive in terms of decision making, service levels and the management of partnerships that make up the entire team at Sangster International Airport. Operating as an entrepreneur, focused on business decisions allows for the flow of new ideas and quick implementation. MBJ Airports Limited is invested and committed to a 30-year concession, with 20 years remaining. This long term commitment allows for proper planning and development of Sangster International Airport over a long period for the benefit of Jamaica and MBJ.

*Elizabeth Brown Scotton
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Appendix C

Case Study — Queen Mamohato Hospital in Lesotho



Introduction

The Case for a Public-Private Partnership

Prior to the Lesotho Hospital PPP, the country's main public hospital was Queen Elizabeth II (QEII). Located in Lesotho's capital Maseru, QEII served as the country's referral hospital. QEII provided publicly-funded health care services for the district, along with a network of public filter clinics.

QEII was in desperate need of repair and a service delivery overhaul. The 100-year-old hospital was plagued with equipment and maintenance issues and suffered from a shortage of qualified health care staff. Many patients lacked confidence in the services the hospital did provide, and chose not to use the facilities; leaving the hospital's 409 inpatient and 8 clinic beds ^{45/} underutilised. QEII lacked several basic facilities such as an intensive care unit (ICU), and neonatal intensive care unit (NICU). The Government ended up referring most of the complicated cases to neighboring South Africa, because QEII facilities could not accommodate them.

^{45/} "Endline Study for Queen 'Mamohato Hospital PPP". Final Report. September 20, 2013. Boston University and Lesotho Boston Health Alliance, Maseru

Lesotho was clearly in need of a new hospital and upgraded services, but the solution also had to be affordable to the Government. The Government decided to involve private sector participation to take advantage of private finance, risk transfers, international expertise and private sector innovation.

The Government engaged the IFC as transaction advisor for the project. The IFC performed feasibility studies, provided support during the tender, and contributed its financial and commercial expertise to help structure the transaction. IFC engaged technical advisor Lesotho Boston Health Alliance (LeBoHA) to collect baseline data from the current hospital facilities and use this baseline to measure facility performance after the PPP.

The Bid Process

The Government held a competitive tender for the hospital and clinics. Bids were evaluated by MoH, clinicians, private practitioners, and IFC technical experts. Evaluators first reviewed technical proposals, and then financial proposals. Technical proposals were evaluated based on: the services the private party could provide, how many different services, how many inpatients and outpatients, and its approach to providing quality and efficient health services, all within the constraint of a defined service payment.

The transaction was a consultative process, involving several rounds of discussion, between the Government and bidders. This was important for defining exactly what each proposed service entailed. These discussions also helped build consensus for the transaction among key government stakeholders, such as the Departments of Health and Finance.

The tender was able to attract initial interest from the private sector, but not many followed through. Fourteen companies participated in the investor conference, but only two submitted bids. The tender was, however, able to attract interest from high-quality bidders. In October 2008, the Government selected Tsepong — a consortium led by Netcare (40%), the largest health care provider in South Africa and the United Kingdom. Other companies in the consortium included Excel Health (20%), Afri'nai (20%), and D10 Investments (10%).^{46/}

The Transaction

The 18-year design, build, operate, and transfer contract included a greenfield 390-bed public hospital, the renovation of three public filter clinics (24 beds), and a greenfield 35-bed “top-end” private hospital facility. The contract was signed in October 2008 and reached financial close in March 2009. Construction began in March 2009.^{47/} The renovated filter clinics opened in May 2010, and the new hospital — Queen Mamohato Memorial Hospital (QMMH) — opened in October 2011.^{48/} As of 2013, the private facility was not yet operational.

The successful contract award was particularly impressive because it was the first health PPP of this

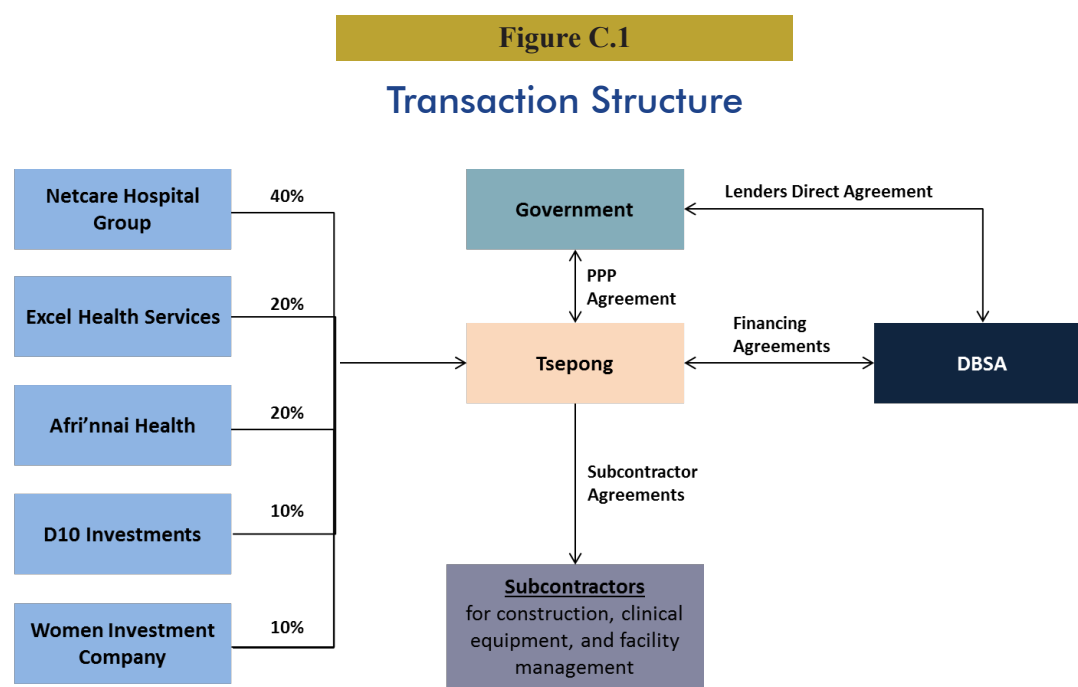
^{46/} Infrastructure Concession Regulatory Commission of Nigeria, PPP Project Case Studies. <http://ppptoolkit.icrc.gov.ng/ppp-project-case-studies/>. Accessed on January 31, 2014.

^{47/} “Breaking New Ground: Lesotho Hospital Public-Private Partnership—A Model for Integrated Health Services Delivery”. IFC Smart Lessons. July 2009.

^{48/} “Endline Study for Queen ‘Mamohato Hostpital PPP”. Final Report. September 20, 2013. Boston University and Lesotho Boston Health Alliance, Maseru.

kind in Africa, and, at the time, one of only a few similar projects in the world. The structure was unique because the private contractor was responsible not only for building the facility, but also for delivering the health care services. This involved recruiting all health care staff and providing medical equipment for QMMH and the filter clinics. The health care operator, Tsepong, became responsible for managing a small health care network.

The transaction's capital value was approximately USD100 mn. Capital expenditure was both publicly and privately financed (38 and 62%, respectively). Some of the private finance came directly from Tsepong, but most of the money was provided through a loan from the Development Bank of South Africa. Figure C.1 illustrates the PPP structure.



Source: Schneidman M, Jeffers J, O'Farrell C. "The Lesotho National Referral Hospital PPP Partnership". WB. n.d.

Tsepong is paid a fixed "unitary payment" (escalated with inflation) by the Government. This payment is meant to cover a combination of capital repayments, operating costs and profit for the private contractor.^{49/} As agreed in the contract, the annual USD32.6 mn unitary payment covers a maximum of 20,000 inpatients and 310,000 outpatients per year.^{50/} Above this patient volume, Tsepong can collect incremental payments per patient based on negotiated rates. Once the private hospital facility is operational, Tsepong will also receive all profits from this facility.

The World Bank's GPOBA provided a USD6.25 mn grant towards the transaction. Tsepong used this grant for operational costs during the 17 months from 2010 to 2011 when the filter clinics were open but the hospital was still under construction.

^{49/} "Case Study 3: Financing a New Referral Hospital Lesotho" from "CABRI Dialogue Ensuring Value for Money in Infrastructure Projects", December 2009. CABRI.

^{50/} "Lesotho hospital public-private partnership: new model or false start?". Global Health Check. December 16, 2011. <http://www.globalhealthcheck.org/?p=481>. Accessed on January 31, 2014

To ensure Tsepong delivers high-quality health care, the Government uses output-based aid (OBA) mechanisms. The contract provides for an independent monitoring entity that will assess Tsepong's performance against pre-defined performance indicators. The monitoring agency enforces performance through payment penalty mechanisms. The contract also calls for a Joint Services Committee that reviews Tsepong's performance and suggests mechanisms to improve services. The Committee provides a means for altering the hospital's services or the contract if needed.

Performance to Date

In fiscal year 2007, ^{51/} LeBoHA collected baseline data on the performance of the QEII and the old filter clinics. In calendar year 2012, LeBoHA collected endline data on QMMH and the renovated clinics to evaluate changes in performance. Data includes the following indicators: access to services; affordability for Government; utilisation; clinical quality of care; patient satisfaction; and health outcomes.

Findings from the evaluation of performance at QMMH demonstrate a strong improvement in performance, over that of QEII that preceded it. Data showed strong improvements in utilisation, clinical quality, patient satisfaction, and health outcomes:

Utilisation: More people are using the new hospital — admissions increased by 51%, and outpatient visits more than doubled.

Clinical quality: Interviews with hospital staff, clinic staff, and the Government point to several improvements in cleanliness, maintenance, equipment, management systems, staff training for clinical care and data-based decision-making.

Patient satisfaction: To increase patient satisfaction, QMMH put in place patient-friendly signage, and outfitted the hospital for handicap access. Patient satisfaction measures have increased by 22%.

Health outcomes: Improvements in health outcomes include lower mortality rates (down 41%), lower pediatric pneumonia death rate (down 65%), lower maternity mortality rate (down 10%), and a lower still birth rate (down 22%).

QMMH includes many new facilities and services that QEII did not offer. These include the following:

- On-call rooms.
- Handicap access.
- State-of-the-art training facilities.
- ICU.
- NICU.
- Additional labor rooms.
- Additional operating theater capacity.

^{51/} April 2006 to March 2007, "Endline Study for Queen 'Mamohato Hospital PPP". Final Report. September 20, 2013. Boston University and Lesotho Boston Health Alliance, Maseru

- Improved facilities at bed-side like oxygen hook up, automatic suction, emergency alarm.
- 24x7 access to pharmacy and laboratory services.
- Additional and improved diagnostic equipment, including magnetic resonance imaging and computerised tomography.
- Emergency power available 24/7.

In terms of affordability, the new hospital and facilities have cost the Government more than what it used to pay for QEII. The Government had planned to pay approximately the same annual fee for QMMH as it had for QEII, but in 2012, the estimated cost ^{52/} to the Government for QMMH was USD56.75 mn (427.6 mn Maloti). In comparison, the cost for QEII was USD25.4 mn (211.9 mn Maloti). ^{53/}

However this cost comparison is distorted for two reasons. First, given the PPP, taxes will apply thus some payment will eventually revert back to the Government. Also these taxes did not apply for QEII. Second, the 2012 unitary payment includes capital costs, but QEII had hardly any capital investment, and building and equipment depreciation was not included in the operating budget.

The new hospital and clinics have brought many improvements, but there are also some areas for improvement. These areas include triage admission procedures, quality of triage treatment during staff shift changes, consistent lab turnaround times, wait time at filter clinics, and wait time for surgery. These areas for improvement have been identified in the monitoring study for Tsepong to address.

Overall the hospital and clinics have been a success and have delivered a higher quality of health care. In 2008, the QMMH project won “Social Infrastructure Deal of the Year” from “Africa-investor” — an international investment and communications group. Although the cost to the Government is higher for QMMH than it was for QEII, in return it has received not only improved services and health outcomes, but also additional services offered, such as the ICU and NICU.

Good Practices and Lessons for the Future

The following two sections explain the main strengths and challenges for this PPP.

Strengths — What to Repeat

- **Bundling multiple stages of a project into one contract:** The transaction bundled design, construction, operation and service delivery under one contract. This allowed gains in efficiency because the private contractor’s incentives are aligned to produce high-quality health care at the best cost. In addition, bundling operation of the hospital and filter clinics allowed gains in efficiency from coordination.

^{52/} The cost is an estimate because at the time of the endline data collection, the total cost for patient over-runs had not yet been calculated

^{53/} Endline Study takes the cost in 2007 and inflates to 2012 Maloti. This is the QEII “best estimate” using historical budget growth. The conservative estimate is even lower, approximately USD17.39 mn (145 mn Maloti). Currency is converted here to 2012 US dollars.

- **Align incentives for high-quality performance:** Although the private contractor receives a fixed annual fee from the Government, the payment was designed as OBA to ensure high-quality performance. The contract provided for an independent monitoring entity that used penalty mechanisms to enforce performance against contractual indicators in facility management, equipment, and non-clinical services. In addition, if total patients exceed the maximum capacity defined in the contract, the private contractor receives additional payment, thus incentivising the private contractor not to turn patients away.
- **Involve entities with the relevant technical capacity:** Both the monitoring entity and bid evaluators consisted of experts in relevant fields. This provided a comprehensive understanding of the various issues that could arise. The bid evaluators consisted of the MOH, clinicians, private practitioners, and IFC technical experts. The monitoring entity consists of a consortium of companies each with different specialties, such as PPPs, clinical services, hospital operation and management.
- **Monitoring entities have the neutrality to assess performance:** The monitoring entity for this contract is independent, thus avoiding bias to either contract party
- **Monitoring and evaluation:** The transaction included a baseline study that measured statistics on performance at the original hospital and clinics. This baseline data is important for two main reasons. First, the baseline data highlighted key areas for improvement, thus providing inputs for setting performance targets in the contract. Second, it provided a baseline to demonstrate what areas improvements have been made with the new hospital and clinics. According to a 2013 study by the Boston University's Center for Global Health and Development (CGHD) and LeBoHA ^{54/}, QMMH and the new filter clinics have improved performance in several key areas, including: cleanliness; better maintenance; more equipment; efficient management systems; the growth of a data-based decision-making culture; staff training; and patient satisfaction
- **Consultative process to refine contract terms:** To avoid disputes and contract renegotiation, it is important to clearly define performance expectations in the PPP contract. This contract used a consultative process between the private bidder, and the MOH, clinicians from QEII, private practitioners in Lesotho, and the IFC. The consultation was used for the entities to agree on a list of required services while also balancing affordability. This consultative process allows for gains in efficiency from the private contractor's innovation to offer as many services as possible within the unitary fee
- **Government support of the project:** There was strong political leadership, coupled with widespread public support for the transaction. Also, there were no elections scheduled for at least two years at the time of the transaction, ^{55/} thus avoiding the

^{54/} "Endline Study for Queen 'Mamohato Hostpial PPP". Final Report. September 20, 2013. Boston University and Lesotho Boston Health Alliance, Maseru.

^{55/} IFC PDS Approval Form.

possibility of the project becoming a political football. The consultative bidding process also helped solidify support for the transaction from key stakeholders, such as the Department of Health and MoF. This support was crucial to help the transaction progress smoothly. According to IFC, “wide support would not have been there without the consultative process”^{56/}

- **Select PPPs that offer value for money:** Before entering into a PPP, a government should make sure that the PPP offers VFM. In this transaction, the Government ended up paying more than before, but in return the country received much higher quality health care services — the new hospital provides training with state-of-the-art equipment and has the flexibility to offer higher salaries to retain high-quality staff. The PPP includes a transfer of risks from the public to the private sector, such as operational risks. The private contractor agrees to treat all patients up to the maximum of 20,000 inpatients and 310,000 outpatients per year for the agreed unitary fee.
- **Demonstration effects:** Because this transaction was unique to the Region, there were no “proven” models for success in Africa. In addition, stakeholders in Lesotho did not have a strong understanding of PPPs for any sector. By successfully completing this transaction, the Government demonstrated to other private investors and governments that it is possible to have a successful hospital PPP in the Region that will attract high-quality private investors and deliver high-quality services. This PPP sets the stage for future demonstration effects, that is, replication of the PPP model. Having more health sector PPPs in the Region will allow others to extract lessons learned and improve on previous projects.

Lessons Learned — What to Change

- **Inform the public:** Although the Government made information available to the public, opinion appears to be mixed. Some people have negative views of the PPP and believe the hospital is entirely private, or that the quality of care has not improved from that of the old hospital. However, the CGHD study shows that substantial improvements have been made over the baseline in clinical quality, usage and patient satisfaction.
- **PPP framework and policies:** The Government of Lesotho began drafting its national PPP policy in 2010, two years after the Lesotho Hospital PPP was signed. As the first major PPP in the country^{57/}, transaction pioneered parameters that later became part of PPP policy. Having a PPP policy and processes in place is helpful for guiding government agencies and private participants on how PPPs will be carried out. Without these policies in place, projects often develop through ad-hoc approaches and fail to take off or fail to achieve sustained success.

^{56/} “Breaking New Ground: Lesotho Hospital PPP — A Model for Integrated Health Services Delivery”. IFC Smart Lessons. July 2009

^{57/} “PPP – Lesotho New Referral Hospital”. The Trade Beat. <http://www.thetradebeat.com/sadc-business-case-studies/lesotho-new-referral-hospital>. Accessed on 31 January 2014

Appendix D

Case Study — **the Attempted Privatisation of** **WASCO in St. Lucia**



Introduction

In 2008, the Government of St. Lucia (GoSL) announced a transaction sell a majority of shares in WASCO to a strategic investor. A previous attempt at privatising the Corporation in 2005 had stalled, and by 2008 GoSL had successfully established a framework within which a PPP would function effectively in the water sector.

However, the transaction process suffered from some irregularities at the end, and GoSL feared litigation from one of the losing bidders. In addition, the privatisation of WASCO had become a controversial political issue; with a general election due within 12 months. In March 2009, the WASCO privatisation was aborted, for reasons that have never been fully disclosed. This case study will look at process issues and seek lessons in what can go wrong during the implementation phase of the PPP.

The Water and Sanitation Sector in St. Lucia

Sector Structure

The Water and Sewerage Authority (WASA) was established in 1984 as a statutory body reporting to the Ministry of Communications, Transport and Public Utilities (MCTPU). Water and sanitation tariffs are set by a Government-established National Water and Sewerage Commission (NWSC).

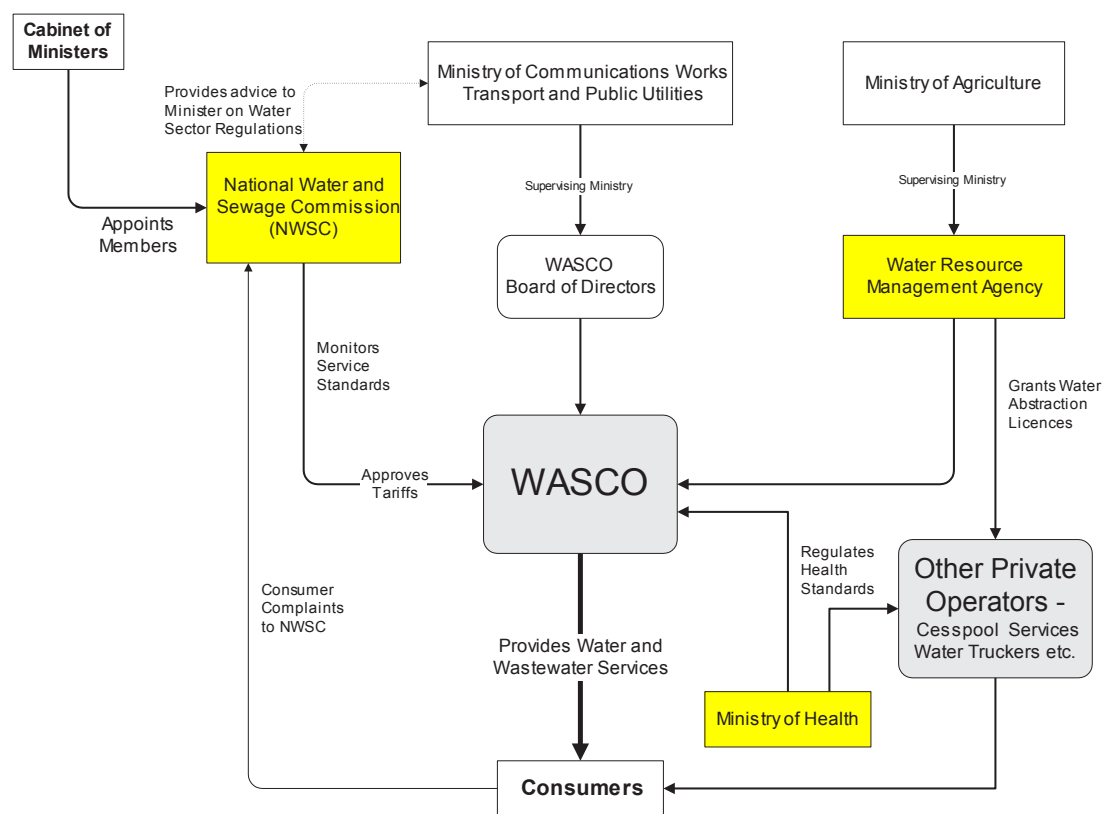
In October 1999, GOSL restructured the sector by establishing a new entity, WASCO, and passing a new sector law. Since its establishment, the performance of WASCO had been unsatisfactory, and although GoSL made several changes to the institutional structure and senior management personnel over time, no significant improvements resulted. Several institutional strengthening loans were advanced by CDB/WB/CIDA, yet notwithstanding these interventions over the years, WASA was unable to sustain improvements to its technical, financial and administrative performance.

WASCO is regulated in accordance with the provisions of the Water and Sewerage Act of 2005. It is estimated that 80% of the population of St. Lucia have piped water service connections from WASCO, with the balance depending mainly on public standpipes. The service coverage for sewerage is only about 15% in the North and negligible in the South.

The structure of the water and sanitation sector in St. Lucia is illustrated in Figure D.1:

Figure D.1

Structure of the St. Lucia Water and Sanitation Sector



The Roseau Dam, the primary water supply for the northern half of the island, has an estimated capacity of 10 mn gallons per day (MGD). Current demand in the north, where 80% of the population lives and most of the country's resorts are located, is estimated at about 7.5 MGD. However, due to inadequacies in WASCO's infrastructure (transmission, treatment, pumping) supporting the Roseau Dam, it is only able to reliably supply between five and six MGD, resulting in periodic shortages and water rationing. This has been exacerbated by high levels of NRW, estimated at 55% of the bulk water produced. This results in high operating costs for the island's hotels, which have to resort to expensive trucked water.

In addition to WASCO, there are also a number of private operators of trucked water to clients, mainly hotels and private homes in the north of the island, during the dry seasons. There are also a number of private operators offering sewage disposal services by cesspool emptying trucks.

Regulations Governing the Water and Sanitation Sector

The Water and Sewerage Act established two new regulatory bodies: the Water Resource Management Agency and NWSC. The former is under the Minister for Agriculture, and the latter falls under the Ministry of Public Utilities.

Generally, NWSC has an advisory role to the Minister. NWSC has the power to set tariffs, resolve customer complaints and to enforce its decisions through the Courts if necessary. The Minister, acting on the advice of the NWSC, has the power to issue and revoke licences and to issue Regulations setting operating and service standards. In addition, the MoH has responsibility for ensuring that the health aspects of water supply and wastewater disposal are complied with.

Challenges for the Water and Sanitation Sector

The water and sanitation sector in St. Lucia is characterised by many technical, financial and managerial problems, although there have been noticeable improvements in the water supply in the north of the island. Key challenges facing the sector are:

- The dilapidated state of the existing water and sewerage infrastructure systems;
- The inability of WASCO to generate the revenue required to undertake urgently needed capital investment programmes and service outstanding debt;
- Unacceptably high levels of NRW, 55% of the treated water put into supply is either lost because of leaks, or else is not billed for; and
- The lack of adequate managerial, commercial, and operational resources and expertise within WASCO.

The First Public-Private Partnership Attempt

GoSL's first attempt to implement a PPP in the water and wastewater sector took place in 2005. Local, regional and international investors would be invited to form consortia and bid to purchase a controlling block of shares in the new WASCO. WB assisted the Government to prepare for the transaction. The Water and Sanitation Services Act was passed in 2005, the Government hired a transaction advisor, Santander Investment S.A, with WB funds from a Water Sector Reform TA

Loan. Extensive discussions with potential bidders (locally, regionally and internationally) took place.

The transaction for the PPP was to be as follows:

- The ownership structure would be such that private investors would exercise board and managerial control of the utility, although the Government would be expected to maintain a position on the Board with 20% of the shares. In addition to the Government's share, the National Insurance Corporation (NIC) was interested in a 15 to 20% share in the utility.
- Local businesses expressed interest in participating as consortium members, while other private sector representatives expressed a general level of support for the proposed approach. In addition, regional developers from neighboring islands, as well as international water utilities contacted the Bank to discuss the details of the proposed initiative and to express their interest in participating in an auction. It was expected that private participants would be invited to compete for 60% of the shares of the company providing management and board control.
- Recognising that investors could not be asked to finance existing debt, the Government would continue to service WASCO's existing debt, and write off such debts from the utility's books. However, the Government would retain ownership and control of the Roseau Dam (WASCO's primary asset) and reservoir in its own accounts. It would then include in the operating license for the new utility full rights and responsibilities related to use of the dam, as well as operations and maintenance of the facility.

A market survey^{58/} conducted in 2004 revealed that 85% of St. Lucians preferred local private sector involvement over foreign private sector involvement. Civil society groups claimed that the process leading up to the proposed private sector participation (PSP) was not sufficiently transparent, and information had not been as forthcoming as they had originally expected. It was therefore apparent that the communication that did take place was ineffective, as misconceptions appeared to be held by these groups. As a result of these negative public perceptions, the PPP transaction was postponed in 2005.

The Re-Started Transaction

The Water and Sewerage Corporation's Continued Deterioration

WASCO's operational and financial performance continued to deteriorate. In 2007, Auditors noted that *"The ability of the company to continue to operate as a viable entity is dependent on improvement of the collection of water and sewage charges, the successful implementation of mechanisms designed to restructure its operations, and the continued support of the Government of St. Lucia and other financial institutions"*.

GoSL indicated to the World Bank Group (WBG) its continued desire to bring about private sector participation in the water sector. The WBG provided a TA Loan to hire the consultants needed to structure and implement the PPP transaction and provide training and support to the new sector regulator. In addition, WBG loans were provided for urgently needed improvements in the water infrastructure, improving sales and revenue collection in the more populous northern half of the country.

^{58/} Source: Project Completion Report on the Technical Assistance Water Sector Reform Project – St. Lucia and the Fifth Water Sector Reform Project – St. Lucia.

By issuing a public notice on 25 April 2008, Government invited the private sector to participate in the provision of water and sanitation services in St. Lucia. The IFC was appointed as the lead advisor on the transaction; and the regulatory framework was designed by Castalia, under a sector reform project funded by WB.

The PSP arrangements anticipated that a new water and sanitation company (“NewCo”) would be incorporated and would be given a license for the provision of water and wastewater services throughout the island, under the Water Services Act of 2005. The winning bidder, as well as financial investors would contribute cash and assets into the NewCo, in proportion to their respective shareholding levels. GoSL would contribute the existing fixed assets of WASCO to NewCo under an evergreen lease. The past debt and liabilities of WASCO would continue to be serviced by GoSL.

Transaction Structure

Government proposed that NewCo would be a mixed capital company with institutional investors and that the combined private sector shareholders would have a majority ownership. It was also envisaged that the private sector would have management control over NewCo. The main features of the proposed transaction structure were as follows:

Clean Balance Sheet: Recognising that the private investor could not be held liable for WASCO’s past debts, these loans and liabilities would not be transferred into NewCo, and would remain with GoSL.

Commercial Receivables: By the same argument, NewCo would not be entitled to collect WASCO’s outstanding Commercial Receivables as at the date of the takeover. These Receivables would be collected by NewCo, and paid over to WASCO. In consideration of NewCo’s cost and efforts in collection of the existing Commercial Receivables, NewCo would receive 25% of all sums so collected.

Capitalisation of NewCo: GoSL would acquire a 20% voting stake in NewCo, via the contribution of selected assets in kind (cars, computers, inventories, etc.), and the lease of WASCO’s operating assets (pipeline network, water works, pumping stations, etc.). In order to place NewCo on a secure financial footing, initial contributions in cash would be made by:

- The National Insurance Corporation of St. Lucia (NIC): 20%
- St. Lucian Investor: 20%
- International Water Operator: 40%

Roseau Dam and Other Infrastructure: WASCO would sign a 99-year lease agreement with NewCo for the exclusive use of its fixed assets. NewCo would be responsible for the operation and maintenance of these assets, and for all future investments.

Transfer of Staff: Always a sensitive issue, in this case WASCO would terminate all its staff members prior to the handover. NewCo would hire all the Staff of WASCO with a six month probation period, during which NewCo would assess individual staff members and its staffing needs. At the end of the six month probation period, NewCo would have

the right to terminate employment of those staff not required for an efficient running of operations.

IFC Financing: Within weeks of the scheduled Bid Date, it became apparent that the local investors, who were set to jointly take up 20% of NewCo's shares, had neither the appetite nor the capacity to effectively do so. In order to save the Transaction, IFC agreed, at very short notice, to take up the missing 20%.

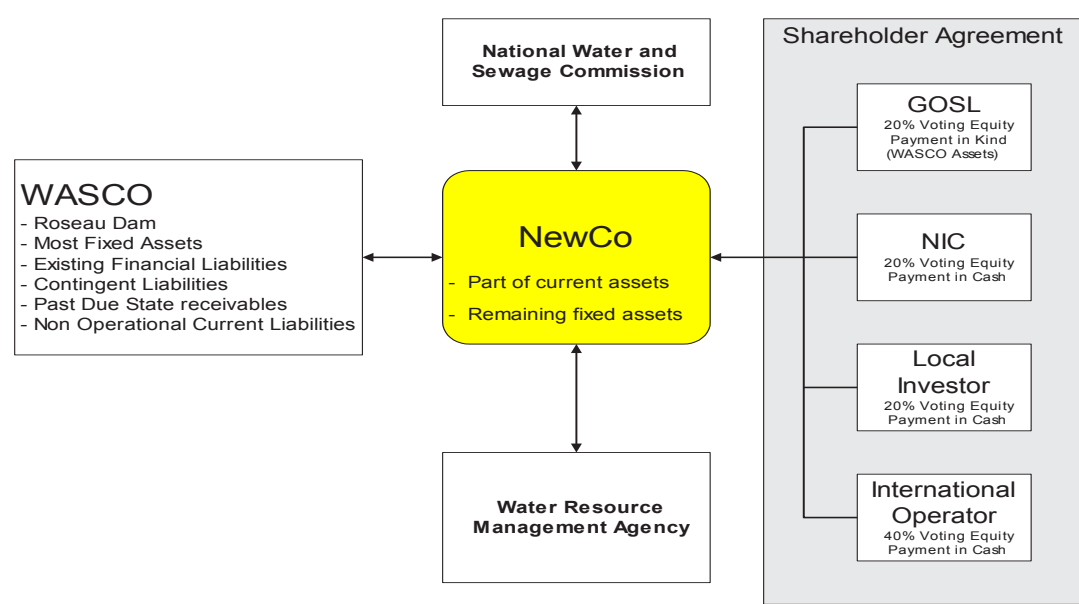
Partial Risk Guarantee: WBG let it be known to investors that there was the possibility of Guarantee products to mitigate regulatory risk inherent in a new and untested regulatory regime, and to increase the attractiveness of the investment.

The incorporation of NewCo would be effected by way of a Share Subscription Agreement between the Private Investors, NIC and the Government.

A diagram illustrating the PPP transaction is shown at Figure D.2.^{59/}

Figure D.2

The Water and Sewerage Company Public-Private Partnership Transaction Structure



^{59/} Source: WASCO Presentation to Cabinet, August 7, 2008.

The Output-Based Aid Scheme

Output-based Aid is a strategy for using explicit performance-based subsidies to support the delivery of basic services to poor sectors of the population. The core of the OBA approach is the contracting out of service delivery to a private firm, where payment of public funds is tied to the actual delivery of these services. GPOBA is a partnership of donors and international organisations working together to support OBA approaches.

GPOBA agreed to fund a grant of USD 1.6 mn to finance increased access to piped water services to low income households in St. Lucia.^{60/} GPOBA agreed to pay NewCo a capital subsidy for each newly connected household in selected low income areas, assuming that the service has been functional for six months after installation of the connection in line with service standards.

Transaction Process

The WASCO transaction followed a transparent and competitive process, in line with best international practice. With IFC as the Transaction Advisor, an IM was issued on May 15, 2008.

The tender procedure did not have a pre-qualification phase — the bid invitation was open to all Bidders who met the minimum criteria of financial and operational experience set by GoSL. In particular, the bid was open to Bidders who were established water sector operators (Water Sector Bidders), as well as management companies in the water sector (Non-Water Sector Bidders).^{61/}

This was done in an attempt to broaden the list of potential Bidders, while at the same time preserving the technical competence of Bidders. The minimum operational requirements for each group of Bidders are shown in Table D.1:

Table D.1
Qualification Requirements for Bidders

Water Sector Bidders	The Bidder or, if the Bidder is a Consortium at least the Technical Member, shall have experience in the provision of water and sanitation services for at least five years, providing potable water services to at least 500,000 people.
Non Water Sector Bidders	The Bidder shall produce a management team composed of a minimum of three members. Each of the members must have experience in the provision of water and sanitation services for at least 15 years, providing potable water services to at least 500,000 people.
All Bidders	Annual Turnover of at least USD60 mn or equivalent during each of the past three most recent financial years. Net Worth of at least USD50 mn or equivalent at the end of the three most recent financial years.

^{60/} Source: WBG Smart Lessons: WBG Collaboration on St. Lucia Water PPP, Dec 2008.

^{61/} Source: St. Lucia Water Services PPP Information Memorandum, May 15, 2008.

Nine international water companies participated in a Bid Conference in May 2008:

- Veolia (FRA – United States of America)
- Suez (France)
- Biwater (United Kingdom)
- Severn Trent (United Kingdom)
- Aguas de Barcelona (Spain)
- Saur (France)
- Proactiva (Spain)
- Ashtrom (Israel)
- Empresas Publicas de Medellin (Colombia)

In addition, three local investors also expressed interest:

- NIC.
- LUCELEC.
- CMMB.

Bidders conducted supervised due diligence on WASCO, and pre-negotiated with the GoSL the key contractual documentation underpinning the Transaction:

- Subscription Agreement.
- Company By-laws.
- Shareholder Agreement.
- Interface Agreement (Parties: WASCO, NewCo).
- Technical Services Agreement (Parties: NewCo, International Water Company).
- Lease Agreement (Parties: WASCO, NewCo).

Bidding System

Each Bidder's Technical and Financial submissions would be marked first on pass/fail basis. Bidders that comply with the minimum technical requirements would be ranked on the basis of their offered Transaction Fee (the Bid Price). This was the one-off fee to be paid by the Preferred Bidder to the Government for the right to participate in the capitalisation of NewCo. The Bidder with the highest Financial Offer would be declared the winner.

In this way, all Bidders that are deemed to have passed the minimum technical requirements are placed on an equal footing – there would be no scores for the Technical Submissions, apart from a pass. Therefore the Bid would depend entirely on the Bid Price.

There are advantages to this form of bid evaluation, not least being its transparency: the Winning Bidder would be determined solely by the Bid Price. Beyond pass or fail, there would be no scoring of the Bidders' Technical Submissions, which invariably involved a degree of subjectivity from members of the evaluating panel.

However, this also means that the bid could be won over very small variations in the Bid Price, which would then take no account of differences in either the financial and technical capabilities of the Bidders, or the strength of their Business Plans. Governments frequently wish that the Bidder's technical submissions receive a score that enters the overall bid evaluation process, so as to ensure a more rounded evaluation process.

Bid Results^{62/}

Bids were received. On Bid Day, in December 2008, two bids were received by GoSL. However, on Bid Day there were reportedly minor procedural irregularities and, subsequently, one of the bidders threatened to take legal action.

Transaction Canceled

In November 2009, GoSL announced that the WASCO divestment process was suspended by Cabinet, in order to review the entire process and determine the best way forward for St. Lucia's water and sanitation sector.^{63/} A committee was established to examine options and provide recommendations to Cabinet.

Good Practices and Lessons for the Future

Strengths — What to Repeat

Despite the ultimate failure of the WASCO PPP to achieve financial closing, the transaction had many advantageous features:

- **Coordinated support from WBG:** The transaction, and the water sector, received the benefits of WB funding, to pay for the transaction costs and make urgently needed network improvements, prior to the transaction. WBG guarantee instruments were available to Bidders and the WBG assisted in securing OBA funding from GPOBA.
- **IFC as Transaction Advisor:** IFC was acceptable to GoSL; secured grant funding for consultants; was close to WBG teams and other donors; and gave high quality advice.
- **Regulatory changes made before transaction:** The Water Services Act of 2005 created the structure of the water and sewerage sector in St. Lucia; regulatory institutions had benefited from World Bank training and capacity building loans.
- **Output-Based Aid:** The provision of USD1.6 mn in OBA from GPOBA greatly increased the attractiveness of the transaction to Bidders, by paying for the enlargement of connections in low-income areas of St. Lucia.
- **NewCo created with clean Balance Sheet:** The GoSL recognised that new investors could not be expected to pay for WASCO's past debts, which were assumed by the Government. In addition, all WASCO staff would be fully paid out upon transfer to the NewCo.

^{62/} The sources for this section are conversations with Government officials, advisors and other stakeholders.

^{63/} http://www.thevoiceslu.com/let_and_op/2009/november/12_11_09/The_WASCO_Reversal.htm

- **Well balanced ownership structure:** NewCo would be formed with a broad-based ownership structure: 60% private shareholders (international water operator and financial investors) and the Government (GoSL and NIC).

Weaknesses — What to Change

Despite its many strong points, the WASCO PPP transaction ultimately suffered from challenges:

- **Failure to respond adequately to civil society:** Towards the end of the transaction, when it had become a political football, the Government did not adequately respond to the concerns raised by non-governmental organisations and other citizens' groups.
- **Unclear transaction process:** Regulations for the late acceptance of Bids could have been more skewed towards giving Government greater freedom in making minor variations to the Bid rules.

Appendix E

Case Study — The Evolution of Renewable Energy Procurement in Jamaica



Introduction

In October 2013, in the second of its RE Auctions, the Jamaican Office of Utilities Regulation (OUR) selected three preferred bidders for the supply of up to 78 MW. These comprise two projects offering energy from wind amounting to 58 MW and one offering solar amounting to 20 MW. The proposed delivery price to the grid for these projects ranged from USD0.1290 to USD0.1880 per kilowatt/hour (kWh). This is considerably lower than Jamaica's current average variable cost of petroleum-fired generation of USD0.224/kWh.^{64/} Jamaica will now have a total RE capacity of 122.7 MW, putting the country on track to meet the target of 12.5% of the country's generating capacity from RE resources by 2015.

The case covers the evolution of private participation in RE, starting with Jamaica's first operating RE resource, the Wigton Wind Farm, and ending with the first and second RE auctions in 2008 and 2012. The case examines the successes and failures of each of these procurement rounds and it presents the lessons learned in the form of what should be repeated in the future and what should be avoided.

^{64/} Calculation from JPS Annual 2012 Report and data from JPS.

The Value of Renewable Energy in Jamaica

Jamaica has long relied upon imported petroleum fuels for electricity generation. Throughout the 1990's, imported petroleum fuels produced over 90% of the country's electricity.^{65/} Between 2000 and 2004, Jamaica's oil imports grew by 6.5% in volume and 37% in cost, reaching over USD940 mn — 66% of Jamaica's export revenues were required to pay for the country's oil bill.^{66/} The Government of Jamaica was interested in exploiting RE resources to meet future demand and reduce the environmental and economic costs of its oil imports. RE resources had the potential to:

- Provide lower cost electricity than petroleum-fired power plants.
- Improve Jamaica's trade balance and increase the country's energy security.
- Displace petroleum-fired generation, resulting in lower levels of air pollution and greenhouse-gas emissions.

The evolution of the Government's RE procurement process was influenced by the international trend towards private sector participation in power generation. From the 1980s, economists and industry leaders internationally agreed the competition in power generation would bring lower electricity costs, demand-driven capacity additions, and private sector investment in new power plants. By 2000, private sector participation and competition in power generation had been successfully introduced in Australia, Chile, Norway, Sweden, the United Kingdom and many U.S. states.^{67/}

In 1994, Jamaica began to follow these international examples with its first competitive electricity tender which awarded the Jamaica Private Power Company the rights to build and operate the diesel-powered 60 MW Rockfort power plant as an independent power producer (IPP) to the Jamaican grid. Together with the growing international trend towards competitive power generation, Jamaica's successful precedent of the Rockfort thermal IPP set the stage for the evolution of a competitive tender process to develop RE resources.

The Evolution of Jamaica's Renewable Energy Procurement Process

Wigton I and II—Public-sector Development of Renewable Energy Generation

In the late 1990's, the Government led preliminary efforts to undertake a competitive procurement process for new RE capacity from the private sector. However, these early efforts failed to make much progress and the state-owned Petroleum Corporation of Jamaica (PCJ) decided to move ahead on its own to construct a wind farm on one of the most promising wind sites identified in the Government's RE resource study.

PCJ approached the newly privatised national electric utility, the Jamaica Public Service Company (JPS), with an unsolicited offer to construct a wind farm near Wigton, in St. Elizabeth. This unsolicited offer began a negotiation process between PCJ and JPS over the contract terms

^{65/} "World DataBank—World Development Indicators," WBG, 2013, <http://databank.worldbank.org>.

^{66/} Green Paper—the Jamaica Energy Policy: 2006-2020. Jamaica Ministry of Science, Technology, Energy, and Mining. Kingston: February 20, 2006.

^{67/} Al-Sunaidy, A. and R. Green, "Electricity Deregulation in OECD Countries," University of Hull Business School, January 11, 2013, <https://spiral.imperial.ac.uk/handle/10044/1/643/simple-search?query=Deregulation+OECD>.

for this new wind capacity. Ultimately, this process led to the commissioning of 20.7 MW of wind capacity in 2004 (Wigton I); plus another 18 MW of wind capacity in 2010 (Wigton II). Table E.1 highlights the key steps involved in the process:

Table E.1

Key Events in the Evolution of Jamaica's Renewable Energy Programme

1983 - 1998	Numerous wind resource studies conducted in Jamaica, with involvement from Dr. A. Anthony Chen at the University of the West Indies in Kingston and Raymond M. Wright of PCJ.
2000	Wigton Windfarm Limited is incorporated as a wholly-owned subsidiary of PCJ with a mission to build, own, and operate new wind capacity in the Wigton area. Work begins to design the new wind farm and commence talks with JPS for a power purchase agreement (PPA).
2004	After accepting the JPS tariff offer of US¢ 5.6/kWh under a PPA, WWF commissions Wigton I and operations commence ^{68/} .
2005	WWF begins trading Clean Development Mechanism credits from Wigton I with the Dutch government.
2006	PCJ was secretly given an exclusive license to be Jamaica's sole RE Developer.
2008	PCJ borrows USD47.5 mn from the PetroCaribe Development Fund to construct Wigton II.
2009	JPS files a license infringement suit, arguing that PCJ's exclusive license violated JPS' monopoly rights acquired in the privatisation deal. As a result, PCJ's exclusive RE license was rescinded.
2010	Wigton II is commissioned, but due to financial distress, PCJ successfully lobbies JPS for a tariff increase, from US¢ 5.6/kWh to US¢ 10.21/kWh. ^{69/} This is approved by OUR.

The real success of Wigton I and II was PCJ's demonstration of the operational viability of wind power in Jamaica: PCJ operated the Wigton wind sites at world-class standards with 97% availability and a capacity factor above 30%. Wigton's operational success set the stage for a new attempt at RE procurement that would seek sustainable private sector participation — and competition.

^{68/} Anderson, Mario, Interview with Castalia, PCJ Headquarters, Kingston, December 10, 2013.

^{69/} Anderson, Mario, Interview with Castalia, PCJ Headquarters, Kingston, December 10, 2013.

The First Renewable Energy Auction — Lessons from a Positive Beginning

In March of 2008, OUR issued a RFP from interested private sector parties to bid for the right to build, own, and operate greenfield RE projects, in Jamaica's first competitive RE tender. The RFP did not require any pre-qualifications for interested bidders, but each bidder had to submit a bidding fee of USD500 and a Proposal Security equal to 1% of the capital cost of the proposed project.^{70/} OUR specified the following three stages of evaluation, each with different criteria:

- **Stage 1 — Applicant's ability to implement project:** Key criteria at this stage included the applicants' track record, ability to raise financing and the qualifications of senior staff
- **Stage 2 — Technical evaluation:** The technical aspects of each bid were evaluated, including the proposed technology, RE resource assessment, plant design, construction and operations plan, and environmental compliance
- **Stage 3 — Economic evaluation:** The final evaluation stage assessed the proposed tariffs and plant availability for each bid, placing a tariff cap at 15% above the avoided cost of power generation and scoring bids according to least-cost ordering priority

OUR received five bids in response to the RFP, and three of these were submitted by JPS, leaving only two bids from private operators. Castalia was selected by OUR to evaluate the bids according to the criteria set in the RFP. No upper limit was set for how much capacity could be awarded to winning bidders, meaning that all bidders who cleared each evaluation stage could be selected to develop their projects. Castalia rejected one of the five bids and recommended that the remaining four bids proceed for negotiation.

Eventually, JPS was awarded the right to develop all three of its proposals. The fourth winner was a bid for a landfill gas project that was conditionally accepted because its proposed tariff was too high; but it was expected to generate additional environmental benefits.

Of the bids that were accepted as worth further development, only one project was successfully developed. JPS proceeded with the development of a 6 MW small hydro plant at Maggoty. However, JPS decided not to undertake the other two of its winning projects. The fourth winner, the landfill gas project, was stalled and ultimately abandoned.

OUR's first RE auction could be considered successful, because it was a competitive bidding process with an objective criteria-based evaluation of bids by a third-party. It resulted in 6 MW of firm renewable generating capacity being delivered. However, the first auction failed to deliver substantial RE capacity, due to a lack of bidders and the decision of JPS to abandon pursuit of two of its bids. Jamaica's first RE auction proved that such a process could be done for RE in Jamaica, but it also left significant room for improvement in the future.

^{70/} Jamaica Office of Utilities Regulation. Request for Proposals for Supply of Electricity from RE-Based Power Generation Facilities on a Build, Own and Operate (BOO) Basis. Kingston: March 25, 2008. 3, 22.

The Second Renewable Auction—Improved Process and Better Results

Building upon its experience in the 2008 auction, OUR decided to undertake a second, more ambitious RE auction in 2012. OUR's timing was fortunate: the global financial crisis had contributed to a downturn in the large United States and European RE markets, and many project developers were hungry for opportunities.

In early 2012, OUR announced that it would hold a pre-bid meeting in Kingston to gauge interest in the market. Despite minimal advertising, the meeting was well attended by interested parties. When OUR issued the RFP for the new RE auction, in November 2012, the change in market conditions was apparent: a total of 17 bids were submitted, from reputable domestic and international project developers.

The second RFP was more detailed than in the first OUR auction: it described the qualification criteria that were readily understood by bidders. For the evaluation of bids, OUR hired two consultants who worked with four other members of OUR staff over the course of eight weeks, in order to evaluate the 17 bids received. From the bidder's perspective, this evaluation consisted of an "objective assessment of subjective criteria"—bidders remained somewhat uncertain as to exactly how winning bids would be scored and chosen.^{71/}

The unease of bidders was most evident in the reluctance of many bidders to submit the required Proposal Security (which was increased to 5% of the capital costs of the proposed bids), prior to the submission of Bids. OUR responded to these concerns by waiving the Proposal Security for bidders, until they were selected as preferred bidders.

The OUR opened the bidding to JPS, as it did in the first RE auction. However, JPS was not consulted for key elements of the bid process — there was no pre-negotiation of the PPA or the interconnection agreement and there was no coordination of the RE site locations in the bids with the planned T&D investments of JPS. Despite these uncertainties, the 17 bids received were generally detailed and competitive. On 1 October, 2013, OUR announced that three preferred bidders had been selected:

- (a) Blue Mountain Renewables LLC, to supply 34 MW of capacity from wind power at Munro, St. Elizabeth;
- (b) Wigton Windfarm Limited, to supply 24 MW of capacity from wind power at Rose Hill, Manchester; and
- (c) WRB Enterprises Inc., to supply 20 MW of capacity from Solar PV from facilities in Content Village, Clarendon.

Currently, all three preferred bidders are moving forward with their projects. There have been no complaints lodged from the 14 losing bidders, indicating a general acceptance of the auction and evaluation process.

^{71/} Confidential discussions with Preferred Bidders in the RE auction.

Benefits of the Renewable Energy Programme

Jamaica's RE procurement has evolved to overcome numerous challenges, and it has ultimately succeeded in delivering economically beneficial RE capacity. With the most recent RE auction, Jamaica will now have a total RE capacity of 122.7 MW, putting the country on track to meet the Government's targets of 12.5% of the country's generating capacity from RE resources by 2015, and 15% by 2020. Of this 122.7 MW, 38.7 MW are already operational at the Wigton wind farm, which is achieving a world-class operating standard with 97% availability and a 30% capacity factor.^{72/} An additional 6 MW is operational from the small hydro plant developed by JPS through the first RE auction, and the remaining 78 MW is under development through the second RE auction.

This new RE capacity has brought economic value to Jamaica by generating electricity at lower costs than the average thermal generation in Jamaica's electricity grid. In addition to lowering Jamaica's average cost of electricity, Jamaica's RE capacity can save the country USD85 mn per year in imported petroleum fuel, helping to reduce the country's current account debit.^{73/} New RE capacity will also reduce Jamaica's annual carbon dioxide emissions by approximately 62 mn metric tons of CO_{2e}.^{74/}

Lessons for the Future

Jamaica has a long record of implementing RE projects — some of which have been successful, while others have been challenged. As Jamaica has refined its RE Auction process, improvements have been seen, although there is still room for improvement in the auction process.

Strengths — What to Repeat

In achieving these successful results, Jamaica's RE auctions illustrated key success factors that should be replicated by other countries wishing to conduct similar procurement processes for RE. These success factors are as follows:

- **Government leadership:** GoJ's study of the country's RE resources and the successful technical operation of the publicly-backed Wigton I wind farm demonstrated the Government's commitment to RE, as well as its technical viability. While the publicly procured model of Wigton's development is not best international practice in developing RE projects, the Government's proactive leadership in demonstrating political will, and conducting preparatory research such as resource mapping, should be replicated.
- **Competition in procurement:** The improvement between the first and second RE auctions in terms of the number of bidders and the strength of the competition led to a much better outcome from the second RE auction. The higher number of qualified international bidders and the transparently competitive structure of the second RE

^{72/} Anderson, Mario, Interview with Castalia, PCJ Headquarters, Kingston, December 10, 2013.

^{73/} Calculation based on 436,353 MWh of RE generation each year and fuel expenses from JPS Annual Report 2012.

^{74/} Calculation based on 436,353 MWh of RE generation each year and an estimated carbon content of 0.73 MT CO_{2e} per MWh from Jamaica's diesel and HFO-fired electricity generation.

auction ensured that the bids would be cost-competitive. Furthermore, numerous bidders in a competitive environment gave OUR an enhanced ability to choose winners with sufficient financial and technical capacity to succeed in executing the winning projects.

- **Multiple procurement rounds:** Holding multiple procurement rounds allows the Government to learn from experience, and therefore to enact incremental improvements in later rounds. Furthermore, a government can attract larger players and better bids by announcing plans for multiple procurement rounds at the beginning of the auction process. The expectation of later rounds presents a larger potential market, thus encouraging potential bidders to invest time and resources to submit quality bids.
- **Adequate scale:** Due to transaction costs and project economics, qualified international bidders will not likely to be interested in RE projects of very small scale; generally felt to be less than about 5 MW.^{75/} Countries wishing to develop RE resources for smaller electricity markets may benefit from combining their auctions with neighboring markets to offer potential bidders a larger and more attractive project scale — if technically feasible.
- **Qualified bidders:** The Government authority in charge of the auction process must ensure that bidders possess the required financial and technical resources to execute their bids, if awarded a contract. If a prequalification process proves too costly for the Government authority, bid submission fees can help to defray the transaction costs. Bid bonds can be used as a means of testing the commitment of bidders. During the second RE auction, many bidders were reluctant to submit the required bid bonds due to trust issues, but a solution was found when OUR offered bidders an option to delay their bid bond submission until they were chosen as preferred bidders.
- **Utility participation in bidding:** Allowing the utility to submit bids for new generation improves the competitive environment by providing a benchmark for other bidders. The involvement of JPS as a bidder led to the only successfully developed capacity in the first RE auction. On the other hand, care is needed to address the concern of other bidders that the utility will use its knowledge and position as offtaker to favor its own bid.

Weaknesses — What to Change

Lessons can also be drawn from some of the problems the process in Jamaica encountered along the way. These include the following.

- **Be aware of market conditions and investor appetite:** One important reason behind the success of the second RE auction was the downturn in the major international RE markets of the United States and the European Union (EU), which increased the attractiveness of Jamaica's smaller RE offerings. Only three bidders were drawn to Jamaica's first RE auction, when RE activity was strong in these large markets; compared to 17 bidders in the second auction, when the large markets in the United States of America and EU were less attractive.

^{75/} Confidential discussions with Preferred Bidders in the RE auction.

- **Have an integrated grid planning process:** RE resources must be developed according to geospatial mapping of land with viable RE resources, as well as the current and planned T&D networks. Neither of the two RE auctions incorporated RE resource mapping or investment plans for JPS's T&D infrastructure, resulting in bidders having difficulty in selecting sites and putting together ready-to-implement bids.
- **The utility must be part of the procurement process:** There is substantial value in the utility's involvement in the procurement of new RE generation, yet JPS only played a limited role in the procurement process in both RE auctions. JPS was not consulted on T&D planning or resource mapping, nor was JPS engaged to set up a standard interconnection agreement for the RFP, leading to significant uncertainty for bidders.
- **Pre-negotiated PPA should be included in RFP:** The Government should provide a PPA and interconnection agreement that are pre-negotiated with the utility as part of the RFP, and should include details on voltage, frequency, and reactive power. Both RE auctions included draft PPAs, but these were not vetted by JPS and key details were either omitted or left unclear.
- **Evaluation criteria for winning bids must be clear and transparent in the RFP:** Unclear evaluation criteria deters potential bidders, reduces bidder confidence in the process, and can make it difficult for the public sector to be sure that it has got best value confidence, and increases the chances for costly legal challenges from losing bidders. During the second RE auction, bidders expressed uncertainties as to exactly how their proposals would be scored.

Appendix F

Case Study — Geothermal Development in Dominica



Introduction

The Case for Geothermal Development

Dominica is a small island country with a population of 71,684 (2012 estimate),^{76/} and a peak energy demand of 17.3 MW.^{77/} Most of the country's energy supply comes from imported fossil fuels, with a maximum capacity of 26.7 MW from a diesel plant (20.1 MW), and a hydro plant (6.6 MW).^{78/}

Dominica's Independent Regulatory Commission estimates that by 2015, the country will need additional electricity generation capacity. In addition, the cost of electricity in Dominica is one of the highest in the Region, averaging USD0.42 per kilowatt hour (kWh).^{79/} High costs paired

^{76/} "World DataBank — World Development Indicators," WBG, 2013, <http://databank.worldbank.org>.

^{77/} DOMLEC Annual Report 2012.

^{78/} DOMLEC Annual Report 2012.

^{79/} "Geothermal Power Development in Dominica," Draft Report, WB and ESMAP.

with availability and reliability issues have led to constraints on economic growth. In an effort to increase capacity, lower prices, reduce dependence on imports, and increase reliability of electricity, the Government plans to increase domestic production.

Dominica has large reserves of geothermal energy, with 65 MW of proven capacity in one field alone: the Wotten Waven-Trafalgar-Laudat geothermal field in the Roseau Valley. The Government of Dominica (GoD) has elected to scale up generation with geothermal power. Given that Dominica has never had a geothermal plant, this undertaking requires extensive upfront investments in test drilling, feasibility studies and other preparatory work. A project of this magnitude has the potential to fundamentally alter the structure of the domestic economy, requiring investment amounts similar to Dominica's annual GDP.

However, using geothermal power offers multiple benefits:

- First, geothermal can be cheaper than other presently available alternatives.^{80/}
- Second, geothermal offers a clean energy option while still providing reliable and non-intermittent energy, unlike solar or wind technologies.
- Third, Dominica has a large geothermal potential, and the possibility exists for Dominica satisfy all domestic consumption and become a net exporter of energy.
- Fourth, while some people have advocated for the expansion of hydropower instead of geothermal, the potential geothermal capacity is much larger than that of hydropower.

Case for a Public-Private Partnership

The Project

The Government is interested in developing geothermal power plants. Preliminary estimates indicate that the country could have up to 1,400 MW^{81/} of geothermal potential. Since this capacity is far too large for Dominica's domestic market, the Government is interested in becoming an energy exporter to neighboring Martinique and Guadeloupe. These island countries also struggle with high electricity costs, and consume far greater amounts of electricity than Dominica. GoD is interested in developing two geothermal plants: one 5 M-15 MW plant to satisfy all of Dominica's baseload domestic demand, followed by a larger plant (preferably 100 MW to 120 MW) to export energy.

The Government has already taken significant steps to develop these geothermal projects. From 2011 to 2012, the Government used public funds to drill three test wells in Wotten Waven-Trafalgar-Laudat geothermal field in the Roseau Valley. Together with IFC, the EU, and Agence Francaise de Developpement (AFD), the Government has procured pre-feasibility work, an initial environmental impact assessment, and other studies for the site. In an added effort to attract investors, the Government is also finalising a Geothermal Bill that will define regulations for geothermal energy.

^{80/} "Geothermal Power Development in Dominica."

^{81/} G. Hutter, "Geothermal small power generation opportunities in the Leeward Islands of the Caribbean Sea," Proceedings of the Geothermal Resources Council's Geothermal Off-Grid Power Workshop, Reno: Nevada, 1998.

Findings from the exploration wells and pre-feasibility study confirm that the site's geothermal resources are sufficient to build the 5 MW to 15 MW plant. However, drillings also confirmed at a 90% probability of confidence that only 65 MW is available for the larger power plant.^{82/} The project initially envisaged a second phase of 100-120 MW capacity. Additional studies are needed to determine if this smaller sized plant is bankable, given the lower-than-expected resource capacity.

Alternatively, Government may decide to undertake the necessary additional work required to prove greater reserves. Further scientific investigations are needed before undertaking more drilling, which may increase the proven reserve levels.

To date, over USD30 mn has been spent for the initial stages of Dominica's geothermal undertaking.^{83/} Even with the setback of the lower than expected proven capacity, the Prime Minister of Dominica is committed to move forward with both geothermal plants. Several high cost items of work still remain to be done, including additional scientific work, feasibility studies, policy institutional development, and environmental assessments to confirm project viability and design — such that the projects can attract a developer.^{84/}

The estimated cost of the small domestic plant is around USD40-60 mn, design on design and interconnection considerations. The larger export plant may cost as much as USD400-500 mn.^{85/}

Benefits of a Public-Private Partnership

Government wishes to involve the private sector for developing the geothermal plants (in its established Energy Policy, GoD wants to procure all additional capacity through private participation).

Opportunities exist for gains from private participation — if GoD can attract qualified private developers:

- Private investment.
- Experience in geothermal development.
- Equipment (drilling).
- Knowledge and understanding of geothermal technology.

The Clinton Climate Initiative (CCI) is advising the Government on selecting a private developer and concluding a transaction to design, construct and operate the domestic phase of the geothermal generation project.

^{82/} "Geothermal Power Development in Dominica."

^{83/} "Dominica plans donor conference for September," Caribbean Journal, July, 2013, accessed on February 5, 2014, <http://www.caribjournal.com/2013/07/02/dominica-to-host-donor-conference-to-attract-geothermal-investment/>

^{84/} "Geothermal Power Development in Dominica," Draft Report, WB and ESMAP.

^{85/} The cost for the larger plant was estimated for the larger capacity of 100-120MW.

"Dominica plans donor conference for September," Caribbean Journal, July, 2013, accessed on February 5, 2014, <http://www.caribjournal.com/2013/07/02/dominica-to-host-donor-conference-to-attract-geothermal-investment/>

Implementation Issues

- The bid process:
 - In 2010, the GoD issued a RFP for the construction and operation of a 10-15MW geothermal plant for domestic baseload consumption. There were six responses, two of which were shortlisted: a consortium led by Electricite de France (EDF), and the Emera Energy-Reykjavik Geothermal consortium.
 - GoD negotiated with both parties, and in December 2012 selected the EDF consortium as the preferred developer.
 - In January of 2013, GoD and the EDF consortium entered into a Memorandum of Understanding (MOU) to jointly pursue the best options for the construction of a plant for domestic supply and for export to Guadeloupe and Martinique via undersea cable. Partners included: EDF, the Guadeloupe and Martinique regions, L'ADEME, BRGM, AfD and several private French enterprises.
 - In addition to the 10-15MW plant for domestic baseload consumption, the project had anticipated a 50MW geothermal plant for exports to Martinique, and an additional 50MW plant for exports to Guadeloupe. These electricity exports would reduce Martinique and Guadeloupe's dependence on fossil fuel imports, while at the same time saving CSPE (a French taxing mechanism to subsidise electricity rates where necessary) of close to 100 mn Euros per year.
- However, EDF signaled its intent to withdraw from the geothermal production components of the project (that is, construction and operation of the geothermal power plant and associated transmission infrastructure).
 - EDF still wishes to be considered as an offtaker for the third phase of the project, to supply electricity to Guadeloupe and Martinique *via* undersea cables.

Moving Forward

- It is unclear what will be the exact PPP structure, but GoD has stated its clear intention that it wants a private operator to build, finance and operate the plant.^{86/}
- The overall project concept has not altered: commencing with a 10-15MW plant for baseload domestic consumption; followed by a larger plant for exports of electricity to Martinique and Guadeloupe.
- With the lower than anticipated 65MW of proven capacity in the Wotten Waven-Trafalgar-Laudat field, the Government can either:
 - Reduce the size of the export plant(s); or

^{86/} Permanent Secretary, Ministry of Public Works, from Castalia's Caribbean Infrastructure PPP Roadmap.

- Invest in additional technical work and test drilling to prove a larger capacity of geothermal energy.
- Government is receiving funding from AfD and the EU:
 - The European Investment Bank pledged €1.1 mn for feasibility and engineering studies of a submarine electrical interconnection from Dominica to Martinique and Guadeloupe.
 - GoD received €6.5 mn loan funding from AfD, for the drilling of production and reinjection wells for the 10-15MW domestic baseload plant.^{87/}
- Strategic issue concerns diversification of production wells away from the Roseau Valley — to alleviate sustainability concerns. This requires additional funds for mapping and test drilling.
- Significant additional preparatory work still needs to be done, for which additional donor funds and TA must be secured.
- Although the Government is committed to implementing the remainder of the project as a PPP, no agreement has yet been reached regarding the detailed PPP structure, sharing of risks and rewards, etc. These critical issues are still to be negotiated.
- Although the Clinton Climate Initiative is providing some TA, GoD will need to avail itself of the highest quality economic, legal and technical advice, to match the resources that the investing consortium will bring to the table.

Good Practices and Lessons for the Future

The following two sections explain the main strengths and challenges for this PPP—and what is applicable to PPPs in other BMCs.

Strengths — What to Repeat

- **Strong political leadership:** Is responsible for a large part of mobilisation of donor contributions.
- **Government investment:** Government has invested heavily in upstream project preparation work and test drilling. In order to attract private investors and mobilise financing, confidence in resource availability is required.
- **Mobilised funding and assistance:** Dominica has successfully mobilised funding and TA from a wide range of donor agencies and countries.

^{87/} Discussion with Geothermal Project Development Unit, February 2014.

- **Technical training:** Dominican nationals are currently undergoing technical training in geothermal energy at institutions abroad, ultimately to return and work with the geothermal plant.
- Implement new legal and regulatory regimes before commencing the project: GoD is currently revising Draft Geothermal Bill; additional work will be undertaken to draft the accompanying Regulations.

Lessons Learned — What to Change

- **Lack of PPP knowledge can slow down a transaction:** GoD has no experience with structuring and implementing PPP transactions. Although there are four private telecom companies and the electricity utility, Dominica Electricity Services (DOMLEC), is majority privately owned; none of these are true PPPs. As a result, there is a limited understanding of PPPs, and no specific PPP policy or institutional framework in Dominica. These factors may be hindering progress on the geothermal PPP project underway.
- **Capacity building for sustainability:** GoD is implementing a highly complex PPP transaction in geothermal energy, and is receiving substantial TA from donor organisations. However, one area of need that is yet to be addressed is in training Government officials on PPP processes. Discussions with GoD officials suggest that there is very little understanding of the challenges involved in structuring, building and operating a geothermal plant.^{88/}
- **Magnitude and complexity:** An investment of this magnitude could require financing that is comparable to the size of the annual GDP of Dominica. Many decision makers and stakeholders do not fully appreciate the transformative nature of this project.
- **Incorporation into the existing:** Critical issues such as interconnection to the national grid from the Roseau Valley need to be discussed and agreed upon, and cost arrangements for grid modifications agreed upon.
- **Interconnection agreement:** At this stage in the project, consideration should be given to preparing draft Interconnection Agreements, both for electricity sales to DOMLEC, and for exports to Guadeloupe and Martinique.
- **TA:** The Government is conducting negotiations with private developers on a highly complex geothermal project, where specialised knowledge and experience is essential, in order to ensure that the Government secures the best VfM. However, the Government is still to undertake vital preparatory steps, and is operating without the benefit of high quality TA that is constantly on call.

^{88/} Discussion with Geothermal Project Management Unit Ministry of Public Works, Energy & Ports. Taken from Castalia's Caribbean Infrastructure PPP Roadmap.

Appendix G

Country Findings Jamaica

Main Points:

- Jamaica has a strong track record in divestment and PPP in infrastructure. It has done more deals than other BMCs in the Region.
- Six PPP projects are currently in progress:
 - Norman Manley International Airport
 - Kingston Container Terminal
 - Port Community System
 - North South Highway
 - OUR Baseload Auction
 - OUR RE Auction
- Eight projects are being screened and evaluated:
 - Jamaica Railway Corporation
 - Schools
 - Soapberry Wastewater
 - Prison
 - Water supply
 - Waste-Water
 - Solar Energy for schools and public parking
- An additional seven projects at concept stage for PPP development.
- One potentially very large project, Goat Island, is an unsolicited proposal from a Chinese construction company that is being actively pursued by the Government.
- Successive administrations have pursued reform policies that seek to create an enabling environment for private investment.
- A total of 13 private investment transactions were identified in infrastructure, with a total investment of USD2.19 bn.^{89/}

^{89/} Castalia: Diagnostic Report Assessment and Implementation of Business Climate Reforms in Jamaica; 2011

- While the results of individual transactions have been mixed, Jamaica has learned from the mistakes of the past, as evidenced by the later transactions having stronger processes and more sustainable outcomes than earlier projects.
- High-level political support for PPPs in Jamaica has historically been strong - on both sides of the House.
- All key decisions are taken by the Privatisation Sub-Committee of the Cabinet; chaired by the Prime Minister.
- Although it has entered into many PPP arrangements in a variety of sectors, Jamaica does not have an overarching PPP or concession law. However, Jamaica's common law system is well suited to PSP, and governments have introduced new laws to accommodate PPP modalities in strategic economic sectors where regulations were either lacking or incomplete.
- There is an established PPP policy and procedures manual ("Policy Framework and Procedures Manual for the Privatisation of Government Assets"), that has been widely accepted and used in a number of PPP and divestment transactions.
- There is also an established institutional framework for the implementation of PPP transactions, spearheaded by the PPP Unit at DBJ.
- DBJ's staff members are experienced, energetic, motivated – and paid properly.
- However, capacity within Government is still a problem; an IDB funded in-house consultant is due to join DBJ for an 18-month assignment.
- There is strong multilateral support, principally from WB, IFC, IDB, Public-Private Infrastructure Advisory Facility, and CIDA.
- Jamaica's PPP policy is generally seen as successful, in light of experience some modifications are being considered:
 - The VfM analysis includes a quantitative Public Sector Comparator analysis; however this is of limited usefulness, if there isn't a feasible public sector development option, due to the Government's fiscal constraints.
 - DBJ is taking on a lot of the work that the implementing MDAs should be doing - need to hand-hold MDAs because they only have rough ideas and are not able to effectively prepare projects at the feasibility stage. This could lead to conflict issues.
 - There is no clearly-defined policy for privatisations (sector priorities, etc.), as distinct from PPPs.

Electricity Sector:

- PSP is an accepted and integral component of Jamaica's energy policy. Commencing in 1994 with the 60 MW Jamaica Private Power Corporation plant at Rockfort,

Jamaica has seen successive private projects in electricity, culminating in 2001 with the partial privatisation of Jamaica Public Service Company Limited.

- Currently Jamaica's OUR is implementing two tenders for increased electrical generation capacity:
 - The Procurement of 360 MW Base Load Capacity
 - The auction for 115 MW of Electricity from RE Sources
- Jamaica's targets for the generation of RE are:
 - 12.5% by 2015
 - 15% by 2020
 - 20% by 2030
- Evolution of Jamaica's RE programme:
 - The first project was Wigton Wind Farm, in 2001. Due to lack of private sector interest, state-owned PCJ proposed a 20.7 MW wind farm.
 - The first OUR auction for RE generation capacity, in 2008, was won by JPS. They are currently undergoing dry testing of a 6 MW hydro plant at Maggoty.
 - In 2010, JPS commissioned a 3 MW wind farm at Munroe:
 - The current OUR auction resulted in 17 bids from credible international and local energy operators. Three preferred bidders, with a total RE capacity of 68MW, were selected:
 - (a) WRB Enterprises, for 20 MW of solar PV;
 - (b) Blue Mountain Wind for 34MW of wind capacity; and
 - (c) Wigton Windfarm Ltd. for another 24MW of wind capacity.
 - All three preferred bidders are moving forward with arrangements for financial closing of their respective projects.
 - There have been no complaints from the 14 losing bidders, indicating a general level of satisfaction with the auction and evaluation process.

Ports Sector:

- In December 2013, the Jamaican Government approved the structuring of the PPP model for the operation of the Kingston Container Terminal (KCT), the island's main port facility and a major trans-shipment terminal.^{90/}

^{90/} "Cabinet Approves PPP Model for KCT," KCT Services Ltd., accessed February 28, 2014, http://www.kctjm.com.jm/index.php?option=com_content&view=article&id=96:cabinet-approves-public-private-partnership-model-for-kct&catid=82:news-and-articles&Itemid=470

- The Government will enter into a long-term concession with a global terminal operator with the necessary experience, market linkages, and capital to operate and expand the KCT through a PPP. Bidders will be invited to submit proposals to double the Port's current container capacity of 2.5 mn TEUs.
- Based on the evaluation of the requests for qualification, three firms have qualified to participate in the request for proposal: the Port of Singapore; the Terminal Ling Consortium; and Dubai Ports.
- Government has also approved the PPP transaction structure for the Port Community System (PCS) and the issuing of request for proposal to pre-qualified parties.
- The PCS is an electronic platform connecting multiple systems operated by the various private and public organisations within the port community, as a single, shared and organised system.
- An investment proposal has been submitted to the Government by a Chinese investor, China Harbour Engineering Company, to establish a transshipment port and an industrial and commercial economic zone near Old Harbour (commonly known as the Goat Islands project).

Aviation Sector:

- In 1994, GOJ sold a 78% stake in Air Jamaica to AJAG group, a consortium owned in part by Sandals Resorts owner Gordon "Butch" Stewart. The airline continued to operate at a loss, and after restructuring debt to cover operating loans, the Government eventually found itself with a controlling share, and again took complete control of the airline in 2005.
- In 2010, the Government then privatised Air Jamaica for a second time, selling it to Caribbean Airways.
- In April 2003 the Government handed over control of Sangster International Airport in Montego Bay under a 30-year concession to the Vancouver Airport Services Consortium.
- The Montego Bay concession has been a successful PPP in its 10 years of existence so far. With financing from a consortium led by IFC; the Concessionaire implemented a USD200 mn expansion and upgrading project, significantly improving the quality of Jamaica's tourism product.
- Based on the success of the Montego Bay Concession, the Government is currently implementing a transaction for a long-term Concession for the Norman Manley International Airport (NMIA) in Kingston. The IFC is acting as Transaction Advisor to the Government.
- With NMIA, the Government financed a major upgrading programme at the Airport ahead of its privatisation. This was done in order for the Airport to be ready in time for the 2007 Cricket World Cup.

Roads Sector:

- Highway 2000 Project: The entire project is designed to be carried out in several phases for the completion of a 230 km tolled highway from Kingston to Montego Bay and from Ferry to Ocho Rios.

Phase 1A:

This consisted of a 35-year DBFOM for a 50 km multi-lane toll road from Kingston to May Pen, the first private toll road in CDB's BMCs. Total capital expenditure: USD324 mn.

Phase 2A:

The second phase, currently under construction and scheduled to be completed in 2016, is for an additional 67 km of toll road, between Ferry and Ocho Rios, at a capital expenditure of USD600 mn.

This road is estimated to cut the travel time between Kingston and Ocho Rios by one half, and significantly decrease road accidents.

Risk allocation is designed to minimise fiscal risk to the Government: traffic, revenue, design and construction risks are all borne by the private developer.

- In the second phase, the developer will receive approximately 1,200 acres of empty lands adjacent to the highway, to be developed for housing, commercial and hotels. The Concession period is for 50 years.

Telecoms Sector:

- The Jamaican telecoms sector has been liberalised for several decades, commencing with the divestiture of the Jamaica Telephone Company to Cable and Wireless, in 1989.
- The first telecommunication subsector to be liberalised was Internet service, followed by liberalisation of mobile telecommunications.

Things to Replicate:

- **PPPs need to be designed to minimise fiscal risks to the Government.** Government commitments need to be clearly scoped and agreed with MoF before a project is approved to proceed as a PPP. After the project is in place, the contract needs to be carefully monitored. The first privatisation of Air Jamaica resulted in unanticipated costs to the Government; the Highway 2000 project is designed to minimise such fiscal risks.
- **Use disciplined PPP processes to ensure coordination within government.** The use of Enterprise Teams and the DBJ's PPP Unit as a central coordinator has been a strength in the past, for instance, in the privatisation of the SIA. However, this

approach needs to be further strengthened; in the recent OUR RE auction process, the electric utility JPS was not significantly involved.

- **Create a central unit to build capacity and ensure good practice in all government PPPs.** The first, aborted privatisation of the Sangster International Airport was led by AAJ, the operator of the Airport. The transaction only became successful when NIBJ took over responsibility for implementation.
- **Establish and follow transparent competitive procurement processes.** The first attempted privatisation of JPS suffered from delays, unequal treatment of bidders, and unclear evaluation criteria. However, the recent OUR RE auction attracted 17 credible bidders and resulted in three strong preferred bidders.
- **Well-structured contracts, harmonised sector laws and regulations.** Jamaica has developed high quality contractual documents and has enacted enabling legislation as needed to implement strategic transactions. However there needs to be careful forward planning: the privatisation of SIA was delayed for three years while enabling legislative and regulatory amendments were enacted.
- **Donors play a key role in PPPs.** MDBs, such as IDB and IFC, can play useful roles both as sources of funding and, in the case of the IFC, as transaction advisors on PPP projects. They also can provide access to grant funds to pay for consultants.
- **Use experienced professional advisors.** Privatisations and PPPs require specialised TA in project structuring, economic analysis, planning and negotiating of complex transaction documents. In order to ensure best VfM, Governments need to invest in upfront expenditures on advisors and consultants.

Things to Change:

- **Technical capacity is still a major challenge:** Although DBJ possesses experienced PPP professionals, the MDAs are all lacking in such skills.
- **Government Liabilities:** Although the Government is seeking to implement PPPs off the Government balance sheet; the IMF takes the view that the Jamaican Government bears the risk of most PPP failures, therefore contingent liabilities fall onto Government (IPSAS 19).
- **Globally recommended implementation procedures need to be adapted to Jamaican context; and be transaction specific:** Experience points to modifications needed in the Government's established PPP procedures.

Appendix H

Example of Application of IPSAS 32 and 19

Example of how IPSAS 32 and 19 are applied to an airport concession

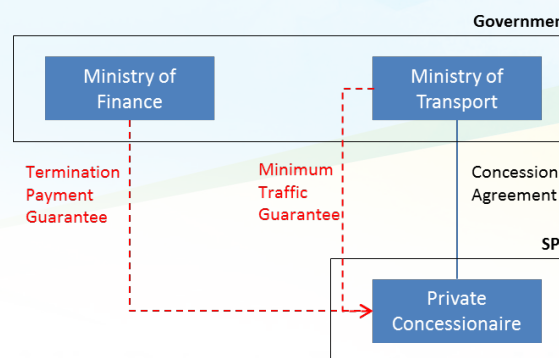
The diagram below shows the contractual structure of a hypothetical PPP contract for an airport terminal. The private concessionaire is granted a 25-year concession contract to expand, operate and maintain an airport terminal. The concessionaire is expected to invest USD120 mn to expand the terminal.

The new terminal is expected to attract more traffic, but there is a high level of uncertainty that this will happen. To make the project bankable, the concession contract includes a minimum traffic guarantee that will be called if traffic is below a set level, and will trigger a payment equal to the difference between actual and guaranteed traffic, multiplied by a price set in the contract.

The concession contract is signed by the Ministry of Transport (MoT) and a privately-owned SPV. The ownership of the assets built by the private concessionaire will revert back to the Ministry at the end of the concession. The Ministry regulates, through the concession contract, the services offered by the airport.

MoF issued a separate letter (which is attached to the contract), in which it commits to pay the termination payment if MoT fails to pay within a reasonable time. The Government of this country uses accruals accounting, as seen below in Figure J.1.

Figure H1:
Example of Concession Contract



Application of IPSAS 32

This type of concession contract falls within the scope of IPSAS 32 because the MoT regulates the services that the concessionaire will provide and will receive the ownership of the terminal at the end of the concession; and because the contract is signed by a Ministry (as opposed to a state-owned enterprise), and the Government uses accruals accounting. Table J.1 illustrates how, according to IPSAS 32, this concession contract will be accounted for in the Government's balance sheet. It compares these statements with the statements that will result from financing this asset with public debt.

Table H.1
Government Financial Statements

Government's Accounts Under Concession Model											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Government P&L											
Revenue (reduction in liability)	-	12	12	12	12	12	12	12	12	12	12
Depreciation Expense	-	6	6	6	6	6	6	6	6	6	6
Annual Surplus/(deficit)	-	6	6	6	6	6	6	6	6	6	6
Government Balance Sheet											
Service Concession Asset	120	114	108	102	96	90	84	78	72	66	60
Service Concession Liability	120	108	96	84	72	60	48	36	24	12	-
Net Asset/(Liability)	-	6	12	18	24	30	36	42	48	54	60
Cumulative Surplus/(Deficit)	-	6	12	18	24	30	36	42	48	54	60
Government Cashflow											
No transactions as no cash impact											
Government's Accounts Under Public Finance and Procurement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Government P&L											
Revenue (landing fees)	-	15	15	15	15	15	15	15	15	15	15
Depreciation Expense)	-	6	6	6	6	6	6	6	6	6	6
Annual Surplus/(deficit)	-	9	9	9	9	9	9	9	9	9	9
Government Balance Sheet											
Asset (airport expansion)	120	114	108	102	96	90	84	78	72	66	60
Asset (cash)	-	3	6	9	12	15	18	21	24	27	30
Liability (external debt)	120	108	96	84	72	60	48	36	24	12	-
Net Asset/(Liability)	-	9	18	27	36	45	54	63	72	81	90
Cumulative Surplus/(Deficit)	-	9	18	27	36	45	54	63	72	81	90
Government Cashflow											
Cash in - Loan	120	-									
Cash in - Revenue	-	15	15	15	15	15	15	15	15	15	15
Cash out - Capital Expenditure	120										
Cash out - Loan Repayment	-	12	12	12	12	12	12	12	12	12	12
Cash Surplus/(deficit)	-	3	3	3	3	3	3	3	3	3	3

The top part of the table shows the Government's financial statements if the airport is developed with a concession. The Government's balance sheet shows in year 0 an asset with a fair value of USD120 mn, and a liability for the same amount. Once the airport is built (year 1), the Government's Profit and Loss shows a revenue equal to a tenth of the liability — because the service concession asset is expected to be provided evenly over the term of the concession contract. The balance sheet also shows how the asset is depreciated over its 10-year useful life.

The second table shows the Government's financial statements if the airport is financed with public debt and operated by the Government. In year zero the Government raises USD120 mn in debt and uses those funds to build the airport. The airport starts generating revenue in year one. The asset is also depreciated over its 10-year useful life.

In both cases the liabilities, assets, and net assets are very similar — this suggests that applying IPSAS 32 to account for a concession contract would have a similar accounting impact to developing the airport with a conventional public procurement approach.

Application of IPSAS 19

The minimum traffic and termination payment guarantees create contingent fiscal commitments, or contingent liabilities. IPSAS 19 sets standards for accounting for these liabilities. According to IPSAS 19 these liabilities should be recognised if the contingency “is more likely than not to occur” ^{91/} (that is, if it has a more than 50% probability of occurrence), and a “reliable estimate can be made of the amount of the obligation”. ^{92/} To apply these standards to the minimum traffic guarantee, the probability that the actual traffic is below the minimum guaranteed traffic will need to be calculated. This could be done with a traffic model. If the probability is more than 50%, this contingent fiscal commitment should be recognised and disclosed in the Government's balance sheet. The amount to recognise should be the present value of the expected guarantee payments. However, this amount needs to be reconciled with the amounts recognised under IPSAS 32 to avoid double counting. IPSAS 19 and 32 are not clear on how to do this reconciliation. In addition to disclosing the amount, the notes to the accounts should describe the nature of the commitment, and the uncertainties about the amount and timing.

A similar process would be followed for the termination payment guarantee. However, calculating a reliable estimate of this commitment is a lot more difficult. There are many events that could lead to contract termination, and the probability of these events could be very difficult to determine. For example, an earthquake could lead to contract termination. Developing a reliable estimate of the probability of an earthquake could be very difficult. If is this the case, this contingent fiscal commitment, according to IPSAS 19, would not need to be disclosed in the Government's accounts

^{91/} IPSAS 19 — Provisions, Contingent Liabilities and Contingent Assets, paragraph 31, page 560.

^{92/} IPSAS 19 — Provisions, Contingent Liabilities and Contingent Assets, paragraph 22c, page 558

. Example of how IPSAS 32 and 19 are applied to a hospital PPP

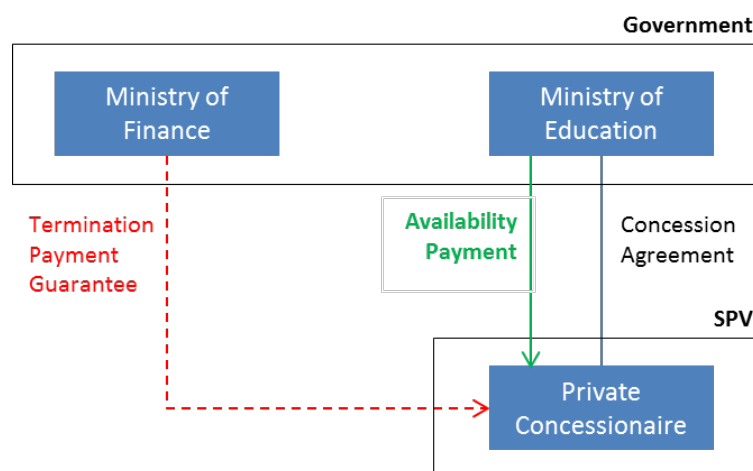
Figure J.2 shows the contractual structure of a hypothetical PPP contract for a hospital. The MoE granted a 25-year concession contract to build and maintain a hospital. The concessionaire is expected to invest USD50 mn to build the hospital.

The ownership of the assets built by the private concessionaire will revert back to the Ministry at the end of the concession. The Ministry regulates, through the concession contract, the maintenance standards that the concessionaire should achieve.

MoF issued a separate letter (which is attached to the contract), in which it commits to pay the termination payment if the MoE fails to pay within a reasonable time. The Government of this country uses accruals accounting.

Figure H.2

Example of Hospital Public-Private Partnership



Application of IPSAS 32

This type of concession contract falls within the scope of IPSAS 32 because MoT regulates the services that the concessionaire will provide, and will receive the ownership of the terminal at the end of the concession; and because the contract is signed by a Ministry (as opposed to a state-owned enterprise), and the Government uses accruals accounting. Table J.2 illustrates how, according to IPSAS 32, this concession contract will be accounted for in the Government's financial statements. It compares these statements with the statements that will result from financing this asset with public debt.

Table H.2
Government Financial Statements

Government's Accounts Under Concession Model											
		4.3%									
<u>Grantor P&L</u>	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue - Hospital Fees	-	-	-	-	-	-	-	-	-	-	-
Implied Finance Charge		2.14	1.96	1.78	1.59	1.39	1.18	0.96	0.74	0.50	0.26
Depreciation	-	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Annual Surplus/(deficit)	-	(4.64)	(4.46)	(4.28)	(4.09)	(3.89)	(3.68)	(3.46)	(3.24)	(3.00)	(2.76)
<u>Grantor Balance Sheet</u>											
Service Concession Asset	50.00	47.50	45.00	42.50	40.00	37.50	35.00	32.50	30.00	27.50	25.00
Cash	-	(6.25)	(12.50)	(18.75)	(25.00)	(31.25)	(37.50)	(43.75)	(50.00)	(56.25)	(62.50)
Service Concession Liability	50.00	45.89	41.60	37.13	32.47	27.61	22.54	17.25	11.74	5.99	(0.00)
Net Asset/(Liability)	-	(4.64)	(9.10)	(13.38)	(17.47)	(21.36)	(25.04)	(28.50)	(31.74)	(34.74)	(37.50)
Cumulative Surplus/(Deficit)	-	(4.64)	(9.10)	(13.38)	(17.47)	(21.36)	(25.04)	(28.50)	(31.74)	(34.74)	(37.50)
<u>Grantor Cashflow</u>											
Cash in - Hospital Fees	-	-	-	-	-	-	-	-	-	-	-
Cash out - Operator Payments	-	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25
Net Cash in/out	-	(6.25)	(6.25)	(6.25)	(6.25)	(6.25)	(6.25)	(6.25)	(6.25)	(6.25)	(6.25)
Government's Accounts Under Public Finance and Procurement Model											
<u>Grantor P&L</u>	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue - Hospital Fees	-	-	-	-	-	-	-	-	-	-	-
Finance Charge		1.00	0.90	0.80	0.70	0.60	0.50	0.40	0.30	0.20	0.10
Depreciation	-	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Annual Surplus/(deficit)	-	(3.50)	(3.40)	(3.30)	(3.20)	(3.10)	(3.00)	(2.90)	(2.80)	(2.70)	(2.60)
<u>Grantor Balance Sheet</u>											
Service Concession Asset	50.00	47.50	45.00	42.50	40.00	37.50	35.00	32.50	30.00	27.50	25.00
Cash	-	(6.00)	(11.90)	(17.70)	(23.40)	(29.00)	(34.50)	(39.90)	(45.20)	(50.40)	(55.40)
Liability - Debt	50.00	45.00	40.00	35.00	30.00	25.00	20.00	15.00	10.00	5.00	-
Net Asset/(Liability)	-	(3.50)	(6.90)	(10.20)	(13.40)	(16.50)	(19.50)	(22.40)	(25.20)	(27.90)	(30.40)
Cumulative Surplus/(Deficit)	-	(3.50)	(6.90)	(10.20)	(13.40)	(16.50)	(19.50)	(22.40)	(25.20)	(27.90)	(30.50)
<u>Grantor Cashflow</u>											
Cash in	50.00	-	-	-	-	-	-	-	-	-	-
Cash out	50.00	6.00	5.90	5.80	5.70	5.60	5.50	5.40	5.30	5.20	5.00
Net Cash in/out	-	(6.00)	(5.90)	(5.80)	(5.70)	(5.60)	(5.50)	(5.40)	(5.30)	(5.20)	(5.00)

The top part of the table shows the Government's financial statements if the hospital is developed with a concession. The Government's balance sheet shows in year 0 an asset with a fair value of USD50 mn, and a liability for the same amount. Once the hospital is built (year one), the Government's Profit and Loss shows the asset's depreciation and an implied finance charge. This implied finance charge is calculated as the service concession liability in the balance sheet, times the cost of capital of the concessionaire — which in this example it was assumed to be 4.18%. The Government's cash flows will only include the availability payments to the concessionaire — which in this case are assumed to be USD6.25m/year.

The second table shows the Government's financial statements if the hospital is financed with public debt and operated by the Government. In year zero the Government raises

USD50 mn in debt and uses those funds to build the hospital. The hospital starts operating in year one. The Government's P&L shows the finance charge on the debt raised by the Government (we assumed 2% on outstanding debt balance), and the depreciation of the asset. The cash flow statement shows the debt service (\$5m for principal, plus the finance charge).

In both cases the liabilities, assets, and net assets are very similar — this suggests that applying IPSAS 32 to account for a concession contract would have a similar accounting impact to developing the airport with a conventional public procurement approach

Application of IPSAS 19

Similar to the airport, calculating a reliable estimate of this commitment is very difficult. There are many events that could lead to contract termination and the probability of these events could be very difficult to determine. Given this, according to IPSAS 19, this commitment would not be disclosed in the Government's accounts.

Appendix I

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