

A WORLD BANK STUDY



Developing Public-Private Partnerships in Liberia



THE WORLD BANK

Zachary A. Kaplan, Peter Kyle,
Chris Shugart, and Alan Moody

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Zachary A. Kaplan

Peter Kyle

Chris Shugart

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Acronyms and Abbreviations

| | |
|-------|---|
| BOC | Bureau of Concessions |
| CLSG | the WAPP segment covering Cote d’Ivoire, Liberia, Sierra Leone, and Guinea |
| DFI | Development Finance Institution |
| EITAF | Extractive Industries Technical Advisory Facility |
| FIL | Financial Intermediary Loan |
| GIZ | Deutsche Gesellschaft für Internationale Zusammenarbeit (German International Development Agency) |
| GOL | Government of Liberia |
| HFO | Heavy Fuel Oil |
| IFC | International Finance Corporation |
| IMF | International Monetary Fund |
| IPP | Independent Power Producer |
| kW | Kilowatt |
| kWh | Kilowatt-hour |
| LEC | Liberia Electricity Corporation |
| LPRC | Liberia Petroleum Refinery Company |
| MHI | Manitoba Hydro International |
| MLME | Ministry of Lands, Mines and Energy |
| MOJ | Ministry of Justice |
| MPEA | Ministry of Planning and Economic Affairs |
| MPW | Ministry of Public Works |
| MW | Megawatt |
| MYS | Ministry of Youth and Sports |
| NBC | National Bureau of Concessions |
| NIC | National Investment Commission |
| NPA | National Ports Authority |
| O&M | Operations and Management |
| OBA | Output-based Aid |
| PDF | Project Development Facility |
| PFI | Privately Financed Initiatives |
| PPCA | Public Procurement and Concessions Act |
| PPCC | Public Procurement and Concessions Commission |
| PPIAF | Public-Private Infrastructure Advisory Facility |
| PPP | Public-Private Partnership |
| PRSP | Poverty Reduction Strategy Paper |
| RREA | Renewable Energy Agency of Liberia |
| TVET | Technical and Vocational Education and Training |
| USAID | United States Agency for International Development |
| VGf | Viability Gap Facility |
| WAPP | West African Power Pool |

Executive Summary

The Government of Liberia is in the process of developing a new Poverty Reduction Strategy (PRS) that is intended to determine its path toward middle-income status. One central aspect of the Strategy is likely to be a stronger focus on inclusive growth. This will mean that higher priority will be placed on growing the local private sector, and broadening the base of the economy. Public-private partnerships (PPPs) in infrastructure and services can be a key instrument for achieving these goals especially in an economy like Liberia. The analysis contained in this Study identifies the steps toward establishing PPPs as both a policy instrument and method for deepening private sector investment in Liberia.

Liberia's rich natural resource endowments have played a fundamental role in the way in which the economy has developed, and in the way in which Government manages private investment in extractive industries. The Government itself has a long history of entering into concession contracts with private investors and operators. Firestone rubber first signed a concession agreement in 1926, and re-signed their concession to last until 2041. More recently, the Government of Liberia has entered into several large natural resource and mining concession contracts that will see large sums of private sector capital invested onshore.

The private sector's interest can be expanded beyond natural resources to the provision of public infrastructure and services. Liberia's infrastructure deficit is estimated at between US\$350 and US\$600 million dollars annually. Taking into account Liberia's recent expenditures annually into core infrastructure, this leaves an estimated funding gap of between US\$250 and US\$500 million each year. In addition to the basic need to expand the stock of infrastructure to keep pace with economic growth and population increase, much of Liberia's existing infrastructure stock has still yet to be replaced or rehabilitated following the civil war. This additional deficit creates even greater fiscal stress and makes alternative means of financing and managing infrastructure all the more important.

Already, Liberia has some limited experience in implementing PPP transactions, establishing a strong foundation for the future. Specifically, Liberia's experience in the energy and transport sectors brings with it some important lessons, including the sequencing of actions, and unique characteristics that need to be addressed, from upstream project planning to downstream project-specific structuring. This review also helps identify certain themes useful in designing future PPP transactions and improving the Government's PPP capacity. These themes include: a preference for a phased risk-based approach from the private sector; a preference from the private sector for remuneration by user charges; the need to address the Government's low capacity to develop, monitor both concessions and PPPs; the need for sustained dialogue to avoid missing opportunities for joint-infrastructure development with natural resource concessionaires; and establishing a set of clear principles for selecting and prioritizing PPPs.

Liberia already has a framework to manage concessions for extractive industries and natural resources. While this framework is strong in some regards; in other places there are significant gaps that limit its effectiveness. Equally, the existing framework

does not do justice to the opportunity to build upon this foundation to include PPPs and PFIs that can be linked to the concessions themselves. These linkages can have significant consequences for the economy and job generation in Liberia.

Liberia's existing legal framework for PPPs could also be improved substantially. The existing legal framework is currently derived from its concessions framework. This includes the Public Procurement and Concessions Act (PPCA) and the proposed National Bureau of Concessions Act (NBC). Both require either amendments or additional complimenting legislation. There are two main options for doing so. One introduces a parallel legislation focused on PPPs only while the second seeks to achieve an integrated PPP and concessions legal and institutional framework. The most thorough approach to remedy this would be for Liberia to introduce a new PPP-focused legislation that complements existing legislation, including the traditional public procurement practices, and replaces the specific parts of the existing laws dealing with PPPs and concessions.

Additional work relating to the legal and policy framework includes the preparation of a PPP Policy Paper that outlines institutional roles, PPP principles, and objectives. Equally important is the need to conduct sector-specific reviews to identify weaknesses limiting private sector investment in key areas like power and transport. Related to this is the necessity to examine the establishment and role of regulatory authorities in key sectors. Finally, deep legal capacity building and technical advisory work would assist the Government of Liberia (GOL) to structure optimal PPP deals.

Running parallel to activities for strengthening capacity and the enabling environment is the importance of structuring new PPP transactions that address a critical need. In this context, this study identifies two categories of potential new PPP transactions. The "short – list" consists of projects in port facilities, IPPs, HFO facilities, min-grid power projects and power and road "spin-off" from existing or planned concessionaire infrastructure investments. The "long-list" looks to projects that could be developed over the long-run after further technical and sector-specific work is carried out. This includes projects in the social sectors such as health and possible technical and vocational training centers as well as airports and bulk water supply.

In support of moving these PPP transactions forward, the Government would benefit from technical assistance to help plan, screen and select PPP transactions; undertake and oversee appropriate due diligence to determine the commercial viability of a proposed project and the economic rationale for developing it as a PPP; strengthen sector plans and strategies to guide infrastructure investment in a coordinated and coherent fashion; and encourage greater dialogue with the private sector on PPP development and natural resource concession coordination.

This study is one element of a multi-faceted effort to support local private sector and financial sector development in Liberia. It takes into close account the Government's focus on job-creation, the post-conflict dynamics in the country, and Liberia's reliance on extractive industries as a primary source of revenue. The analysis also builds on previous economic sector work that has looked closely at how to stimulate private sector growth and investment, how to support small and medium-size enterprise (SME), and how to leverage existing private sector investment to generate deeper local markets and create new jobs. The study is structured as follows:

- Chapter 1 explains the background and context for the report, as well as the objectives and methodology employed;
- Chapter 2 reviews Liberia’s experience to-date with PPP transactions and natural resource concessions;
- Chapter 3 builds off these experiences and lessons-learned to define themes useful for structuring future PPP transactions in Liberia;
- Chapter 4 looks into greater depth at the weaknesses with the institutional and legal enabling environment, outlines possible options, and puts forth recommendations for correcting many of the problems;
- Chapter 5 builds on the lessons learned and experience to suggest a “short-list” of possible PPP transactions that could be supported and could have positive effects on infrastructure and service delivery; and
- Chapter 6 provides conclusions and next steps.

To advance the PPP agenda further in Liberia, the next steps include:

- Strengthening government capacity and awareness – including the development of a PPP Policy;
- Building capacity to conduct project selection and screening and confirm a short-list of transactions to be developed as PPPs;
- Conducting proper upstream pre-feasibility analyses on these transactions;
- Implementing key steps to reinforce the legal and institutional enabling environment.

Finally, Liberia offers important lessons for other countries in the region based its long-standing engagement with the private sector through its extractive industries and the experiences resulting from these relationships. Many sub-Saharan countries have economies largely based on mining or other extractive industries and continue to seek creative methods to leverage the investments based on these resources for other infrastructure development projects. Likewise, other post-conflict countries in the region are endeavoring to identify ways to engage the private sector in various places of the local market including in infrastructure provision. Liberia is doing both, and its new interest in using PPPs as a development tool may assist in bridging these two distinct endeavors.

Introduction

The Government of Liberia is in the process of developing a new Poverty Reduction Strategy (PRS) that is intended to determine its path toward middle-income status. One central aspect of the Strategy is likely to be a stronger focus on inclusive growth. This will mean that higher priority will be placed on growing the local private sector, and broadening the base of the economy. Public-private partnerships (PPPs) in infrastructure and services can be a key instrument for achieving these goals especially in an economy like Liberia. The analysis contained in this Study identifies the steps toward establishing PPPs as both a policy instrument and method for deepening private sector investment in Liberia.

An Economic History Reliant on Natural Resource

While the Republic of Liberia confronts challenges to development and economic growth that are common amongst low-income countries within the region of West Africa, Liberia, by little measure, has a typical history of development. Liberia's natural resources have held a fundamental role in the way in which the economy has developed and the Government has grown to manage private investment, both domestic and foreign, into these extractive industries. Liberia has a rich stock of rubber, iron ore, and timber, all of which enjoy a strong demand on the international market.

The Government itself has a long history of entering into concession contracts with private investors and operators. Firestone rubber first signed a concession agreement in 1926, and re-signed their concession to last until 2041. More recently, the Government of Liberia has entered into several large natural resource and mining concession contracts that will see large sums of private sector capital invested onshore.

Emerging from Conflict

Liberia has also recently emerged from a 14-year civil war, the results of which were both socially and economically catastrophic. The country lost its presence in the international commodity markets for resources such as rubber, timber and iron ore, and between 1987 and 1995 GDP dropped by around 90 percent. By 2005, the average income for a typical Liberian was one-sixth of the 1979 level.¹ Financial services and the financial system collapsed as foreign direct investment halted, private sector investment not only stalled but withdrew entirely, and all Liberia resource exports were sanctioned.

Similarly for infrastructure, power, water, roads and ports were either completely destroyed or had deteriorated to the point where a very substantial reconstruction/rehabilitation effort was required: the Freeport of Monrovia was all but ruined and blocked with sunken vessels; the national electrical grid was completely destroyed; no water or sanitation services were provided; and the transportation network was in a dire state.

Socially, Liberia also suffered a deep loss of human capital. Many skilled Liberians left the country while those who remained were denied basic social services such as health and education, resulting in the significant human capital constraints seen today.

Notwithstanding the many challenges it faces, demand for Liberian resources has driven significant levels of investment into the economy. A total of 30 concession contracts are currently in operation. Of these, seven are in the agriculture sector including rubber, seven in mining, and 16 in forestry (see Appendix 1). Another eight mining concessions and approximately 48 forestry concessions are anticipated in the near future (Appendix 2).²

While concessions are by no means the only drivers to private sector development in the Liberian economy, they do serve as an accessible entry point to leverage further investment in infrastructure and services associated with the extractive industries in specific growth corridors and in select industrial value chains.³ Additionally, these investments create opportunities to deepen the development of core infrastructure and related services through private finance initiatives (PFIs) and public-private partnerships (PPPs). For Liberia, PPPs and PFIs can help address the infrastructure deficit by providing public services where they don't currently exist, increasing efficiency where management is poor, and improving the overall investment climate by releasing infrastructure related constraints.

PPPs in Liberia, besides their more common uses, can be potentially extended to assuage the human capital deficiency through social services (such as health and TVET); PPPs can provide basic services where they simply don't exist; and PPPs can be leveraged off infrastructure investments associated with the natural resource concessions. Additionally, deeper private sector investment contributes to the Government's job-generation agenda. Better infrastructure, effective service delivery and an improved investment climate will stimulate small and medium size enterprise development and help form new sources of employment and jobs.

Greater Private Sector Investment and Improved Infrastructure Help Generate Jobs

Liberia already has a framework to manage concessions for extractive industries and natural resources. While this framework is strong in some regards, in other places there are significant gaps that limit its effectiveness. Equally, the existing framework does not do justice to the opportunity to build upon this foundation to include PPPs and PFIs that can be linked to the concessions themselves. These linkages can have significant consequences for job growth in Liberia.

Central to the framework and the Government of Liberia's policy focus is leveraging natural resource concessions and PPPs to expand job growth. Many of the existing natural resource concessions have specific clauses relating to local employment for skilled and unskilled labor:

- Of the 7 concession agreements in agriculture, all but one have local content provisions, a preference for local procurement of goods and services, and inclusion of out-grower schemes. All contracts require Liberian only staff for unskilled labor and all but one call for 50% of management to be Liberian within 5 years;
- Of the 7 mining contracts, all include local content provisions, all have employment clauses requiring all unskilled labor to be Liberian, and all require 70% of management to be Liberian within 10 years;
- The 16 timber contracts are largely silent on labor-related and local private sector related considerations.

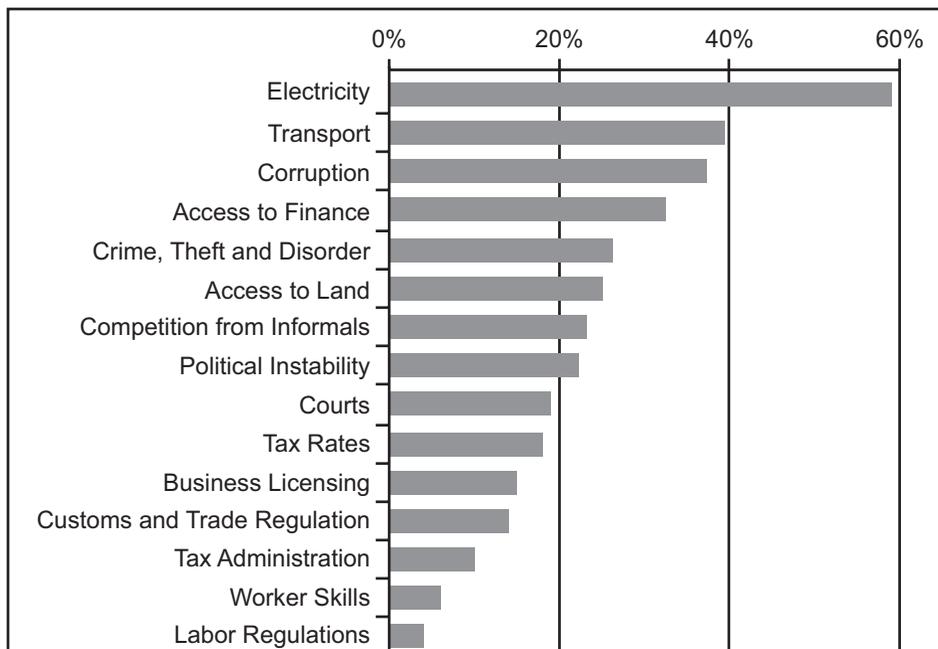
The jobs created from the natural resource concession industry are both direct and indirect. The recently concluded negotiation of the China Union Bong iron ore mine concession is expected to create 3-4,000 jobs directly and around 15,000 jobs indirectly.⁴ The same potential effects for generating new sources of employment in Liberia can result from PPP development. PPPs in core infrastructure see sizeable indirect job creation in the construction industry for projects requiring significant levels of capital investment. Private operators will usually sub-contract to local firms various construction components of a PPP project. Examples of these are roads, power projects, and to some extent ports and airports.

Constraints to Infrastructure Limit Competitiveness and Job Growth

Similarly, the anticipated indirect creation of employment as a result of increased competitiveness due to improved infrastructure services supports the job creation policy angle of PPP development. It is expected that PPPs bring greater efficiency and service quality to businesses and thereby enhance the environment for private sector activity.

Infrastructure constraints were highlighted in the 2009 Liberia Investment Climate Policy Note. This Note surveyed 1,844 firms throughout Liberia, the majority in Montserrat County including Monrovia, to gauge local private sector’s perception of the largest constraints to private sector development and economic growth. As figure 1.1 illustrates, the highest two ranked constraints are infrastructure related – electricity and transport. Given that both electricity and transport are umbrella-like categories that encompass many infrastructure sub-sectors – for power: generation, transmission, distribution for electricity and for transport: all sectors of transport including ports, roads, and airports – it becomes even more evident the need to address key infrastructure services as a means to support private sector growth.⁵

Figure 1.1: Top Constraints to Private Sector Development in Liberia’s Economy



Source: Liberia Investment Climate Policy Note 2009.

The constraints to accessing reliable power have a deleterious effect on firm creation and firm productivity. As of 2009, about 60 percent of firms relied on generators for power at an average cost of US\$0.46 kWwH. Investment in cheaper power would have strong yields by producing economic returns estimated between 15-30 percent. Around US\$547 million in power sector investments are required to fulfill this estimation.

Investment in transport would also help relieve the competitiveness constraints. Currently, poor urban and rural road networks cause high freight costs, sometimes on the order of 50 percent, and also inhibit the movement of cash crops from source to point of export. In an optimistic modeling scenario, investments into rural roads could correlate to the creation of around 1.8 million direct full time equivalent jobs in agriculture of which 200,000 would be directly for major natural resource concessions.⁶ While PPPs are not traditionally used to develop rural road networks, there are some alternatives linking PPPs with existing concessionaires to facilitate the necessary investment and achieve the associated economic benefits.

Objective

This Study is one element of multi-faceted effort to support local private sector and financial sector development in Liberia. It takes into close account the Government's focus on job-creation, the post-conflict dynamics in the country, and Liberia's reliance on extractive industries as a primary source of revenue.⁷ The analysis also builds on previous economic sector work that has looked closely on how to stimulate private sector growth and investment, how to support small and medium-size enterprise (SME), and how to leverage existing private sector investment to generate deeper local markets and create jobs.⁸

Liberia's First Poverty Reduction Strategy paved the way for infrastructure rehabilitation, strengthened governance, and an improved environment for private sector activity. The Strategy was founded on four pillars, each of which was broken down into sub-components and actions. Two pillars – (ii) *Revitalizing the Economy* and (iv) *Rehabilitating Infrastructure and Providing Basic Services* – link directly with PPP investment and expansion in the country. PRSP I provided greater detail by making specific mention of attracting PPP investments in the transport and power sectors by both providing new Greenfield services that are needed and rehabilitating Brownfield assets that are not functioning properly.⁹

This Study is a first-step toward identifying the best ways to deepen private sector investment through PPPs. The approach taken is one driven by experience and lessons learned in Liberia. The analysis uses Liberia's experience to date with PPPs and natural resource concessions to inform the recommendations for strengthening the overall enabling environment for PPPs and natural resource concessions and identifying new potential PPP transactions. Recommendations are structured around legal and institutional aspects of the enabling environment as well as future PPP project structuring.

This work is intended to initiate a process of policy strengthening for PPPs and serve as the foundation for systematic support to the GOL for PPPs at the transactional level. Further sector analysis for key transactions must be carried out as well as proper upstream project pre-feasibility and technical review for all pipeline PPP transactions. Finally, a deeper look into the drivers of the financial sector and the constraints to long-

term financing for infrastructure must accompany this work to ensure a robust approach to supporting PPPs in Liberia.

Methodology

Targeted work on the PPP enabling environment and PPP transactions began with initial consultations with GOL. This work mapped out the key institutions and stakeholders involved to-date in PPP-related activities and also initiated the process of discerning the Government's approach to differentiating between natural resource concessions and PPPs.

Input also came from key stakeholders from line Ministries, Departments and Agencies in the Government of Liberia, active private sector operators and investors in Liberia, and development partners. Technical data on natural resource concessions has been extracted from the database of Liberia's natural resource concession contracts.

An initial draft of this Study was shared at the September 2011 Donor Conference. Feedback from various government stakeholders was thereafter incorporated into the final version.

Structure of This Report

The report is structured as follows:

- Chapter 1 explains the background and context for this Study, as well as the objectives and methodology employed.
- Chapter 2 reviews at Liberia's experience to-date with PPP transactions and natural resource concessions.
- Chapter 3 builds off these experiences and lessons-learned to define themes useful for structuring future PPP transactions in Liberia.
- Chapter 4 looks into greater depth at the weaknesses with the institutional and legal enabling environment, and outlines possible options and puts forth recommendations for correcting many of the problems.
- Chapter 5 builds on the lessons learned and experience to suggest a "short-list" of possible PPP transactions that could be supported.
- Chapter 6 provides conclusions and next steps.
- Appendixes provide information that supports the main text.

Notes

1. Liberia PRSP I. P. 16.
2. Liberia Natural Resource Concession Database. 2011. World Bank.
3. See Leveraging Concessions for Private Sector Development. World Bank. 2011. Also see USAID Growth Corridors Desk Study. 2011.
4. Gary McMahon, *The World Bank's Evolutionary Approach to Mining Sector Reform*. October 2010.
5. *Liberia Investment Climate Policy Note*. 2009.
6. See Vivien Foster, *Prioritizing Investments for Economic Diversification*. Infrastructure Policy Notes. June 2011. This estimation assumes a 70/30 split of cash crops to food production for all cultivated land and 4.1 million tones annually produced for agriculture freight.
7. An Economic Summit in mid-September 2011 brought together much of this work to outline the key areas of focus for PRSP II.

8. Support to public-private partnerships, as a method for improving core infrastructure and social service delivery and increasing competitiveness, is also in-line with the World Bank Africa's Strategy. The Strategy distinguishes the need to address the negative impact poor infrastructure has on the investment climate and competitiveness and specifically notes that a substantial share of this investment is needed in fragile states (such as post-conflict Liberia). Similar work has been completed within the Region in Ghana and Nigeria and is underway in other fragile/post-conflict states such as Somaliland and Guinea.

9. PRSP 2008.

Experience in PPP Transactions and Natural Resource Concessions in Liberia Since 2003

Charting the optimal course for the development of Liberia's PPP can benefit from examining lessons learned both with PPPs and natural resource concessions since the cessation of conflict in 2003. This chapter begins by briefly examining some regional trends of PPP development in post-conflict environments to establish a contextual backdrop for looking at Liberia's PPP experience. It then moves on to describe Liberia's PPP experience through four case studies. Finally, the chapter covers Liberia's experience with natural resource concessions with the objective of extracting the key lessons learned on how these natural resource concessions can be linked with future PPP infrastructure investments.

Some Trends in PPP Experience in Post-Conflict Countries

Reducing Liberia's infrastructure deficit is estimated to cost between US\$350 and US\$600 million dollars annually. Taking into account Liberia's recent expenditures annually into core infrastructure, this leaves an estimated funding gap of between US\$250 and US\$500 million each year.¹ In addition to the basic need to expand the stock of infrastructure to keep pace with economic growth and population increase, much of Liberia's existing infrastructure stock has still yet to be replaced or rehabilitated following the civil war. This additional deficit underlines the importance for Liberia of finding alternative means to finance and manage infrastructure.

The deficiency of core infrastructure services, the need to reconstruct and rehabilitate much of what was destroyed during the war, and the pressing need to provide basic services presents both opportunities and challenges for PPP development. Constructing PPP transactions in a post-conflict environment present additional challenges: there are higher political and economic risks, low capacity of counter-part agents, and lower payment abilities on the part of the consumers.² Many of the existing assets that would otherwise hold some level of value in other comparable economies are in particularly poor condition.

A look at privately financed infrastructure projects in a selection of post-conflict nations in sub-Saharan Africa (Guinea, Somalia, Liberia and Sierra Leone), reveals that of the 11 PPPs since 2000, 5 have been in telecoms, 3 in energy and 3 in transport. Of those 3 in transport, all are ports facilities and operations. Table 2.1 sets out a summary of these transactions.

Table 2.1: Recent PPP Transactions in Select sub-Saharan Post-Conflict Countries*

| Country | Primary Sector | PPI Type | Payment Commitments to the Government | Investment Commitments in Physical Assets | Total Investment Commitments |
|--------------|----------------|-------------------------------|---------------------------------------|---|------------------------------|
| Guinea | Telecom | Divestiture | 45 | 85.3 | 130.3 |
| Guinea | Telecom | Greenfield | 58.6 | 295.2 | 353.8 |
| Guinea | Transport | Concession | 21 | 138 | 159 |
| Liberia | Energy | Greenfield | 0 | 170 | 170 |
| Liberia | Energy | Management and lease contract | 0 | 0 | 0 |
| Liberia | Telecom | Greenfield | 0 | 159.13 | 159.13 |
| Liberia | Transport | Concession | 0 | 120 | 120 |
| Sierra Leone | Energy | Greenfield | 0 | 1.18 | 1.18 |
| Sierra Leone | Telecom | Greenfield | 0.25 | 204.7 | 204.95 |
| Sierra Leone | Transport | Concession | 0 | 130 | 130 |
| Somalia | Telecom | Greenfield | 0 | 13.4 | 13.4 |

*in current US\$ mn.

Source: World Bank and PPIAF, PPI Project Database.

Of particular interest here is that all of the PPP transactions completed in the transport sector are port projects. Guinea, Sierra Leone and Liberia all entered into concession arrangements with major port operators to rehabilitate and manage the container port operations. Another similarity is the attraction of telecom PPPs in these post-conflict environments. This is largely due to the high demand for mobile telecom services and the revenue structure that is less risky given the mobile operators ability to collect from user charges. A final shared characteristic of PPP transactions in post-conflict environments relates to the energy sector. All the power PPP investments have been in power generation except for the management contract signed in Liberia for the Liberia Electricity Corporation.

Liberia's PPP Experience

Although Liberia's experience with PPP transactions (as shown in the above table) is limited, it has covered three key sectors and established a strong foundation for further transactions. Specifically, Liberia's experience in the energy and transport sectors brings some important lessons learned that can be used to inform future PPP transactions.

Freeport of Monrovia Experience

In 2007, GOL decided to transform the governance of Liberia's ports in line with the landlord port model. Under this model the National Port Authority (NPA) would be the "landlord" and the private sector would provide and operate the infrastructure on a PPP basis. The new approach began with the Freeport of Monrovia, the main port in Liberia. The port consists of three finger piers and one main wharf (Marginal Wharf), 610 meters long, with four berths. It has a maximum draft of 10 meters, to be dredged to 12 meters in three years. 438 vessels were received at the port in 2010, and total throughput was 1.7m metric tons.³

The process began with an assessment of the legal and regulatory framework and of the various PPP options worth considering. A market consultation exercise was then carried out by a team of international consultants and Government officials. This took the form of a road show that visited a number of global terminal operators that would be likely bidders for a PPP involving the port. The PPP concept was narrowed down, and a request for expressions of interest was issued in December 2008. A request for proposals went out to pre-qualified bidders in July 2009. Proposals were received in December 2009, and APM Terminals, was selected as preferred bidder. Negotiations then took place, and the final concession (PPP) agreement was signed in September 2010. APM Terminals took over operations in February 2011.

The PPP is for a duration of 25 years. The operator will invest US\$120 million over the course of the PPP. The operator has the following main responsibilities:

- reconstruction of the Marginal Wharf;
- development of the container and general cargo terminal;
- provision of container and general cargo operations;
- provision of marine services (pilotage, towage, mooring, and unmooring).

There are expected to be 159 employees, of which no more than eight will be foreigners. The port operator has the exclusive right to handle container and general cargo within a 30 mile radius. The payment mechanism is of a common type for many port concessions: the PPP operator charges service rates (most of which are fixed by NPA) on throughput. The operator pays NPA a fixed annual lease fee and a percentage of the service-rate revenue – and keeps the remaining cash flow.

In the first few months of operation, improvements have begun to be made to physical facilities and procedures, and hiring and training of personnel has been a focus. Good progress has already been made toward restoring full operations. Wrecks have been cleared, old warehouses torn down and a new container yard constructed. For the GOL, this experience with Freeport of Monrovia set a very positive signal to the private sector for Liberia's ports sector. The process was transparent and engaged the private sector upstream to internalize the key areas of feedback provided to the Government. Additionally, the concession process benefitted from strong political leadership. This provided comfort to the private sector and also moved the process forward without long delays. This experience established a good track record for the Government and sends a strong signal to the private sector that will bolster Liberia's market position should it choose to pursue further PPP investments in the sector.

Box 2.1: Key Lessons Learned from the Freeport Experience

- Conduct Pre-Feasibility and Feasibility Analysis to inform the structuring of the transactions;
- Successful result of formal and informal market soundings to incorporate private sector feedback on project structuring and bidding documents;
- Provision of associated stevedoring services into concession model.

LEC-MHI Management Contract

To improve electricity service in Monrovia and lay a sound foundation for development of the system, the Government decided in 2007 to introduce private sector participation and engaged the IFC as their principal advisor in this matter. At first the preferred option was considered to be a concession, with a duration of 10–20 years. Under this arrangement, the PPP company would have been responsible for a substantial share of the financing needed for investments and would have borne most of the commercial and operational risk.

In 2009, attention shifted to a management contract instead of a concession in response to the expressed unwillingness of the private sector to take on broad commercial risks in the uncertain environment of Liberia. A request for proposals was issued to prequalified bidders in January 2010. In March 2010, three bids were received and Manitoba Hydro International (MHI) was selected as the winning bidder. The management contract, with a term of five years, was signed in April 2010, and operations started at the beginning of July 2010.

The overarching objectives of the management contract are to:

- manage system expansion and new connections;
- progress toward the Government's objective of providing access to electricity to 30 percent of the population in Monrovia by the end of 2015, including middle- to low-income households;
- reduce technical and commercial losses and the level of operating and capital costs;
- in general, strengthen the capacity of LEC, bringing it up to a level of full functionality as a power utility with fully trained staff.

There is a clear emphasis on training and capacity building to further the sustainability of the improvements. The operator has been given virtually full control over financial, procurement, and personnel matters (including hiring and firing). The contractor receives a fixed fee of US\$8.2 million over the five years, paid by development partners. Development partners have committed about US\$50 million for investments in the distribution system, of which US\$10m is output-based aid aimed at connecting 16,000 customers.

In addition, the contract includes performance targets and bonuses for out-performance (to be paid by donors for the first two years) and penalties for shortfalls (capped in the aggregate) based on:

- new connections made;
- improvements in collection efficiency;
- reduction in losses;
- improvements in the operational efficiency of the system.

Bonuses could go as high as US\$9 million over the five-year period – a scheme with strong incentives for performance. Maximizing its bonus payments will require the operator to make certain trade-offs. For example, extending service to poorer areas will work against reducing cost per kWh sold. The operator will have to determine the optimal intensity of each of its activities. One difficulty in designing the incentives in high-powered management contracts is to avoid creating perverse incentives, where the optimal effort from the operator's point of view leads to a skewed emphasis from

the public-sector point of view. In this sense, time will tell if the LEC-MHI contract has achieved a good balance.

The arrangements give a prominent role to an independent expert, selected by a process including a short-list approved by all, including the management contractor.⁴ The role of the independent expert is:

- to advise and assist the Government and donors in a wide range of things concerning the contract;
- to monitor the operator's performance;
- to negotiate or try to resolve disputes with the operator;
- to approve certain things:
 - annual investment plan and operating budget;
 - calculation of the performance payments.

Use of an independent expert in this way was considered to be an important means to compensate for the present weakness in Government oversight capacity and to build up that capacity, especially in the absence of a sector utility regulator. Performance has improved significantly since the operator took over. MHI has been able to quickly improve LEC operations and the customer base has been doubled (albeit starting from a very low level). There has been a decline in operating costs per kWh sold, losses have been reduced and sector policy planning has improved. For example, MHI has prepared an Electricity Master Plan to assist in planning the expansion of services in Monrovia.

Box 2.2: Key Lessons Learned from the LEC-MHI Experience

- Usage of management fee to bring in the private sector where risks are too high for a full concession;
- Use of independent expert to bolster government capacity and lack of GOL sector regulator.

Buchanan Renewables IPP

The Buchanan Renewables IPP project was initiated in the Spring of 2008 with a view toward providing cheaper power to Monrovia generated by biomass from rubber wood chips as an unsolicited proposal to the Government of Liberia. The project includes the construction of a 36MW plant with a 56km transmission line (66kV) connecting into the LEC Paynesville sub-station. The technical design calls for two generators producing about 18MW each.

The project developer and operator, Buchanan Renewables (Monrovia) Power Inc., is responsible for the designing, financing, constructing, equipping, operating and maintaining of the power plant through a 25 year BOOT (build, operate, own and transfer) PPP. The transmission line connecting the IPP into the LEC system will be transferred to LEC after commissioning.

Given Buchanan Renewables (Liberia) Fuel operations – a business focused on harvesting non-producing rubber trees, chipping, and exporting the chips to Europe as fuel – Buchanan Power anticipates it can use about 400,000 tones/year of rubber wood chips to generate the power.

The total cost of the project is estimated to be around US\$148 million. The project will be financed by US\$40m equity and includes an OPIC loan of US\$112m priced at 24 year fixed US Treasury rate plus a risk premium of 1 percent. Following several challenges during negotiations of the final power-purchase agreement, the Government of Liberia agreed on a price of US\$0.185 per kWh and signed the concession contract in September 2010. Power is expected to come online by 2014.

Payment terms principally consist of a time-based capacity price and an energy price per kWh of power taken. The prices, expressed in US\$, are subject to price indexation formulas. The GOL does not guarantee any payments from LEC to Buchanan Power. However, payment from LEC to Buchanan is secured by an escrow arrangement in which all revenue from LEC must first be used to make payments owing to BR Power and thereafter any excess revenue can be used by LEC for other purposes.

The Buchanan Renewables experience has proved to be a challenge for the Government of Liberia in several respects. The project was originated as an unsolicited proposal to the GOL. The result of such led to skepticism on the technical and economic design. One concern is that given the relatively large size of each generating unit, shutting one unit down for repairs will leave many without power. A second criticism born from the unsolicited proposal was the high overall cost of the project. Some believe that competitive tendering would have brought the overall cost of the project lower and resulted in better value-for-money.

From a sector planning perspective, the Buchanan Renewables project has serious consequences for future power investments. Buchanan Renewables priority right to payment from LEC's revenues stream compromises the financial viability of LEC to meet its management contract performance objectives and to engage with other private sector investors due to their exposure risk. Furthermore, Buchanan Renewables "first-mover" IPP status sets a benchmark for power pricing at US\$0.185 per kWh. While this benchmark rate is significantly lower than the existing price for power in Liberia today, it is still around US\$0.07 higher than the World Bank projected cost of biomass energy.

Finally, the Buchanan Renewables experience has defined in large part Liberia's private sector engagement in the power sector in Liberia since 2008. Due to the unsolicited nature of the procurement process, this has resulted in an atmosphere of confusion in developing a transparent and coherent power sector engagement strategy toward the private sector.

Box 2.3: Key Lessons Learned from the Buchanan Renewables IPP Experience

- Unsolicited bids can disrupt sector planning and result in projects that do not achieve the best value-for-money;
- "First-moving" private sector investment in a specific sector sets the tone for further private sector engagement in that sector;
- Financial terms and payment arrangements must be considered carefully in the context of both current and existing development plans.

Box 2.4: The “Swiss Challenge” Method of Dealing with Unsolicited Bids

One particular method of treating unsolicited bids for PPP transactions is called the “Swiss Challenge.” The Swiss Challenge involves the procuring agency publishing the bid and inviting third parties to match or out-compete the proposal. In some scenarios the original bidder is entitled to also submit a modified proposal. This method has been used in South Africa, Guam, and the Indian state of Gujarat.

Solid Waste Contracts for Monrovia

In June and July 2011, the Monrovia City Corporation (MCC) entered into a set of contracts for solid waste collection and disposal for the entire city (expected to be progressively expanded to cover the larger municipal area), in the context of the World Bank-administered Emergency Monrovia Urban Sanitation Project (EMUS).

One set of contracts was concluded for primary waste collection with 14 community-based organizations. These have a one-year duration. The contractors collect waste from households and carry it to the nearest skip (waste bin). They pay a fixed quarterly license fee to MCC, and they freely negotiate with households a price to remove their waste. (Households are under a legal obligation to dispose of their solid waste appropriately to the skips.)

Two contractors (north and south zones of the city) are responsible for secondary collection under three-year contracts, involving transportation of solid waste by truck from the skip containers throughout the city (about a hundred of them) to transfer stations, and then from the transfer stations to the Whein Town disposal site, a sanitary landfill 30 km from the city center, with a present capacity of 300,000 cubic meters, expected to be expanded to 540,000 cubic meters. The two contractors that won in a competitive bidding process are a Liberian company and a Ghanaian company. Their remuneration is based in part on the weight of solid waste brought to the landfill.

Finally, a set of four contracts deal with several aspects of the landfill. One, a two and a half-year contract, is for operation and maintenance of the landfill. A second is for the development of new cells of the landfill. A third is for the provision of three weighbridges – two at the transfer stations and one at the landfill. The fourth is for monitoring, once every six months, of groundwater quality in the surrounding areas to ensure that pollutants are not leaching from the landfill. Additional components of the program support these activities. A public awareness campaign serves to sensitize city residents about the impact of unsafe handling and use of waste and seeks to encourage them to use the solid waste collection services. Another component provides technical and financial contract oversight on behalf of MCC and builds the relevant capacities within the MCC administration.

This is a complex system of private sector participation that involves several kinds of interrelated contracts. The goal has been to design the type of contract best suited for each particular activity. It was thought that this would be better than to push most of the components (excluding monitoring and oversight) into one comprehensive PPP contract. Another important reason in this case for breaking up the project into different contracts was the desire to make it possible for Liberian companies to play a role in some of the project components. If one all-encompassing contract had been let, only foreign firms would have had the capability to win.

Single-point responsibility can be a positive feature in PPPs, but designing a project in a disaggregated way can have its advantages too. Nevertheless, it does put a heavier management and administrative burden on the city.

It is too early to be sure of how successful the program is but there has been an immediate and substantial improvement in the perceived cleanliness of the city. The main problems that have surfaced in the first few weeks of operation concern the unwillingness of some residents to pay the primary collectors to take away their trash. Efforts are now focusing on how to remedy this through the planned awareness campaigns coupled with stronger enforcement against illegal dumping.

Box 2.5: Key Lessons Learned from Monrovia Solid Waste

- Disaggregate services in order to reduce risk and crowd-in local private sector.

Natural Resource Concession in Liberia

Prior to the civil war, the mining sector contributed to 25 percent of exports and Liberia ranked as the world's fifth largest iron ore producer. This changed dramatically by the time the wars were over as all the critical infrastructure was destroyed and the largest mining companies had left the country. However, beginning in 2006, the Liberian government undertook an extensive program of re-concessioning the key natural resource concession areas to private investors as a way to re-stimulate the economy and leverage Liberia's natural resources for economic growth.

As previously mentioned, to-date 30 contracts have been signed in the last 5 years and many others are currently being developed. These contracts can be broadly divided into three main sectors: (i) agriculture, consisting of rubber, palm oil, and rice; (ii) mining, including iron ore, gold and diamonds; and (iii) forestry, which is mostly for the harvesting of logs. With these concessions come sizeable infrastructure investments in rail, ports, rail and roads. Expected investments in optimistic scenarios of growth in these industries could reach upwards of US\$5 billion dollars. By 2030, mines alone could account for more than 80 percent of the national power demand and almost 100 percent of rail freight traffic.

The fiscal implications for these concessions are equally impressive. Already, from 2009-2010, the Government of Liberia received a reported US\$35.3 million in taxes, royalties, rental, administrative fees, and other contributions from mining, oil, forestry, and agriculture companies.⁵ This amounts to almost 10% of Liberia's 2010-2011 fiscal year budget (US\$369 million). About 50 percent of contributions came from the agriculture sector and 30 percent from the mining sector.

Of particular interest in looking at Liberia's recent experience with natural resource concessions is examining how this experience relates to the GOL's interest in developing PPPs more broadly. Lessons learned from the natural resource concession experience relating to PPP development falls into three main categories:

- Infrastructure investments
- GOL institutional capacity to coordinate and plan
- Consideration for local private sector development and job creation

INFRASTRUCTURE INVESTMENT

Infrastructure provisions are considered in the natural resource concessions contracts. Table 2.2 below outlines the key provisions for electricity, ports, roads and railways that are covered in these contracts.

Table 2.2: Key Infrastructure Provisions Found in Natural Resource Concession Contracts

| | Electricity | Ports | Roads | Railways |
|--|---|---|---|---|
| Rehabilitation of existing infrastructure | No existing infrastructure. | China Union has obligation to rehabilitate infrastructure at Freeport of Monrovia and Arcelor-Mittal at Buchanan. | No obligations. | China Union and Arcelor-Mittal both have obligation to rehabilitate existing mining railways. |
| Construction of new infrastructure | Right to construct whatever needed, in some cases plans must be submitted in Feasibility Report. | Right to construct whatever needed with prior Government approval. BHP Billiton, Putu and Golden Veroleum have explicit right to construct new ports. | Right to construct whatever needed with prior Government approval. Roads outside concession area become public property. | BHP Billiton and Putu both have the right to construct new railroads. |
| Third-party access to concession infrastructure | Concessionaires can (and in some cases should) supply excess energy to Government and potentially other third parties. | Required as long as facility has excess capacity and third party does not interfere with operations. | Required. Can only be denied with government authorization in case of clear operational or security concerns. Right to toll Heavy Goods Vehicles for road damage. | Required, typically as long as spare capacity exists, there is no interference with existing operations, and associated costs are covered by third parties. Provisions weakest in the case of Arcelor-Mittal and strongest in case of Putu. |
| Concessionaire access to public infrastructure | No public infrastructure exists at present. Rights of access to future transmission not explicit but implied by right to sell excess power. | Government will give concessionaire priority access to relevant public facilities, and facilitate purchase of adjacent land. | Right assured. No obligation to pay for repair or maintenance of such roads unless they are sole user. | No public infrastructure exists. |

Source: Authors.

While these key areas of infrastructure are treated, they are often not done so in sufficient detail and with substantial technical detail. Port and rail infrastructure tends to be given more detail than power and road infrastructure. A recent study looking into leveraging investments by natural resource concessionaires consolidates the implications of these concession contracts for each infrastructure sector. In the context of PPP development, the most relevant of these observations are:

- While infrastructure provisions are treated, they are not done so in a systematic or consistent manner leading. One example of this is third party access to surplus infrastructure capacity for ports, rail, and power;
- Interface with national infrastructure planning is not well-developed. This has caused the Government to miss on opportunities to integrate large-scale infra-

structure investments for natural resources into larger national infrastructure and investments plans.⁶

GOVERNMENT INSTITUTIONAL CAPACITY TO COORDINATE AND PLAN

Government institutional capacity to coordinate and plan concessionaire investments in Liberia is weak. This can be attributed to a few main factors. One is that following the civil wars the Government is under great pressure to resuscitate key sources of economic growth to strengthen economic growth and employment. This resulted in the re-concessioning of assets before proper national investment plans and strategies were in place in an effort to achieve economic returns quickly. Secondly, the weak institutional and legal framework for concessions created confusion within Government and limited the effectiveness of proper institutional coordination. Without a systematic and transparent process for concessions that included clear requirements for integrating concessionaire investments into national infrastructure plans, infrastructure investments became ad hoc and scattered. Finally, a lack of human capacity to integrate best practices into the formulation of these natural resource concession contracts left the contracts lacking technical details that would benefit the GOL and ensure better compliance.

CONSIDERATION FOR LOCAL PRIVATE SECTOR DEVELOPMENT AND JOB CREATION

In most natural resource concession contracts, there are elements that relate both directly and indirectly to local private sector development and job creation. For example, all concession contracts include a local employment clause requiring all unskilled labor to be Liberian. Similarly, there are clauses that require mining concessionaires to achieve 70 percent Liberian management within 10 years. Also related to local private sector development are clauses on out-grower schemes, training and employment of Liberia citizens, industry funding to government-run industry funds, local procurement clauses.

Lost in these contracts is the opportunity to tightly tie natural resource investment in local private sector development through SME financing mechanisms, provision of surplus infrastructure to benefit local enterprises, and coordinated approaches to growth corridor investment that would have serious knock-on effects for employment.

Box 2.6: Key Lessons Learned from Natural Resource Concession Experience Related to PPP Development

- Need to consider a coordinated approach to concessionaire investment to maximize large-scale infrastructure development and avoid redundancy;
- Need to strengthen and standardize GOL engagement with private sector to facilitate efficiency, transparency, and effectiveness of investment;
- Considerations for local private sector development and job creation should be sharpened;
- National and sector planning would establish sturdy parameters with clear objectives toward which concessionaire investments would be oriented.

Notes

1. Vivien Foster and Nataliya Pushak. *Liberia's Infrastructure: A Continental Perspective*. March 2010.
2. Jordan Schwartz, "The Private Sector's Role in the Provision of Infrastructure in Post-Conflict Countries: Patterns and Policy Options." August 2004.
3. Data from National Port Authority Annual Report, 2010.
4. This independent expert is referred to in the management contract as the "Technical Consultant."
5. 2nd LEITI Report. February 2010.
6. Foster, Prioritizing Investments for Economic Diversification. Infrastructure Policy Notes. June 2011.

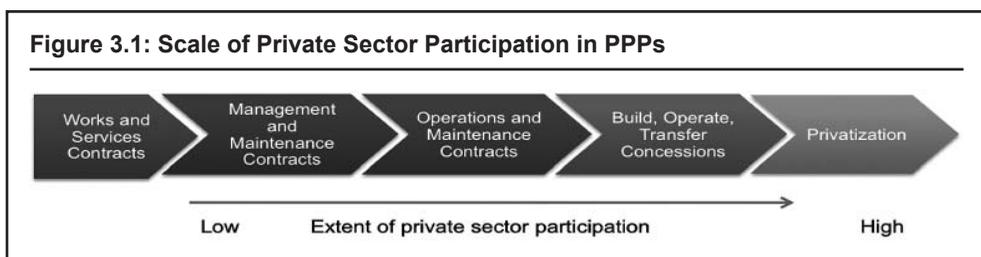
Themes Useful in PPP Project Structuring Based on Experiences and Lessons Learned

Experience with PPPs in post-conflict Liberia reveals particular patterns of sequencing and certain unique characteristics that need to be addressed. These cover the spectrum of the PPP project development cycle – from upstream project planning to downstream project-specific structuring technical details. This chapter brings together Liberia’s experience with natural resource concessions and PPPs with trends common to PPP development in post-conflict environments to summarize a few key themes that will be useful in developing public-private partnerships in Liberia moving forward.

Phased Risk-Based Approach Preference from Private Sector Toward the Development of PPPs

Given the heightened risks along a number of dimensions in a post-conflict country, one principle of designing appropriate PPPs is to adjust the features of the arrangement to reduce or eliminate (for the PPP company) the risks that are expected to pose substantial obstacles to attracting private companies or that might create an unstable PPP.

In chronological order of involvement after conflict ceases, the pattern of PPP engagement tends to be: first, mobile telephony; second, power generation (IPPs), fixed-line telecom services and seaports; finally rail, roads, power distribution, and water & wastewater.¹ This pattern also tends to follow the scale of private sector participation in PPPs, with the private sector initially taking less commercial risks and engaging in service contracts, management contracts and sometimes operations and maintenance contracts and then over time moving toward BOO and BOT concessions (see figure 3.1).



Source: Authors.

One example of this is to use a “management contract” type of PPP instead of a “concession” type. In a concession-type arrangement, the conceptual starting position in designing the PPP is for the company to be responsible for, and take the full risks of financing, investments, operation, and billing and collection. Certain adjustments can then be made to this risk allocation.² In contrast, the conceptual starting position in designing a management contract is that the private sector contractor receives a fixed periodic fee for managing the public service provider and does not bear any of the risks of financing, investments, operation, and billing and collection. Since it is important to incentivize the company to perform well, risks are then reintroduced by way of bonus payments that are made to the company depending on the company’s performance as measured against a set of objective indicators.

A management contract therefore ensures that each party bears the risks that they are best at managing. It can provide a more fine-tuned way of introducing certain risks in calibrated intensities – which can be adapted to the appetite of investors and operators in the post-conflict environment of the particular country. The downside is that the incentives may not be strong enough to effect real improvements – or the incentives may be partial.

Considerations such as these led to a change in the envisaged type of PPP for LEC from a concession to a management contract. Depending on the experience of MHI in its role as management contractor for LEC, this approach should be considered for other similar circumstances – e.g. perhaps the Monrovia water system.

Next along the scale of shifting of risk to the private operator is a lease contract. In this form of PPP, all or most of the financing and investment risks are taken by the public sector, leaving the PPP company (with respect to commercial risks) mainly with just operating & maintenance risks. In examining different PPP options in Liberia in near future, this also is a type of PPP that might be suitable for some sectors in the short-term. This could be particularly useful in the urban water sector around Monrovia.

Liberia’s experience and confirmed by other post-conflict countries confirms that a more commercially risky PPP structure such as a BOT might be best suited for the power and port sectors. Such structures are already underway in Liberia – with Buchanan Renewables and Freeport, Monrovia – and would likely be the best suited PPP scheme for further IPPs and port operations.

Preference by the Private Sector for Remuneration by User Charges

By their very nature, PPPs depend on government decisions in many respects and are subject to country risk, which in general is relatively high in post-conflict countries. The effect of country risk can be mitigated, however, the more that PPPs can depend on the market rather than the government.

This is one reason why certain PPPs that depend on user charges, rather than payments from the government treasury, might be preferred in the early years. This would apply most strongly to the extent that the PPP operator is able to set user charges itself. In the case of public services, this power is rare, however, and the political economy and institutions for tariff regulation therefore take on great importance. In the case of ports, for example, there is no powerful and focused local constituency clamoring to keep port charges low. Compared with the strong pressure that exists in many countries not to

raise, for example, water tariffs it is not too surprising that port PPPs appear to be preferred in the early stages to PPPs and water distribution and sales.

PPP companies can be remunerated for the services they provide by means of user charges or by payments made by a government department or state-owned enterprise – or by a combination of both. In a post-conflict country such as Liberia, relatively low revenue going to the state budget coupled with high demands for essential public expenditures can translate into an extremely tight state budget for years to come. Even if future payments from the national treasury to PPP operators are not counted as if they were public debt – and in most national accounting systems they are not – the effect is similar in terms of constraining the ability to make future payments and in terms of investors' perception of country risk. For this reason, PPPs that are remunerated mainly by user charges should be preferred in Liberia during the next few years for public policy reasons.

PPP companies are also likely to look more favorably on PPPs remunerated largely by user charges – provided of course that the risks of un-affordability and nonpayment are manageable. The creditworthiness of state-enterprise off-takers is weak, and the Government itself – as primary payer or guarantor – is not yet in a strong fiscal position.

Port PPPs fall squarely into the category of PPPs remunerated by user charges, and they have the advantage of generating hard currency revenue. This is also one of the reasons why opportunities to leverage the activities of the natural resource concessionaires are appealing (setting aside countervailing considerations): payment risk is eliminated since the concessionaire is remunerated by an offset against fees and taxes paid to the Government in connection with the primary activity of the concessionaires, not by a net cash flow from Government to concessionaire.

Need to Address Low Capacity to Develop, Monitor, and Evaluate

There is a common misconception that because doing a PPP involves the government in delegating to a private company the task of providing a public service, it becomes less important for the government to build up its own capacities. Although the government department will no longer need to deliver the service, it will need to monitor the performance of the PPP company and to exercise more general contract oversight, which may include renegotiation of the contract to a lesser or greater extent over time, often in response to changed circumstances. These activities require appropriate institutional arrangements and trained personnel – and most of all the continued commitment of the government.

In Liberia, these capacities do not exist or are very weak. One solution is to bring in external advisors to engage in capacity building in the responsible department – ideally working with the department during the initial period as they deal with the new PPP operator and encounter the many issues that arise in every case.

Another approach (complementary to the one above) is to include in the PPP contract itself the use of independent experts to carry out periodic monitoring of the PPP company's performance and in some cases to resolve certain kinds of disputes that may arise between the PPP company and the government department. One advantage of including this mechanism in the PPP contract (agreed by both parties) is that these experts can then be given binding decision-making power. Such services could be provided well by the World Bank and IFC specialists.

The MHI-LEC management contract includes another use of external expertise. In addition to its substantial role in performance monitoring, the external expert is to provide advice to the Government (and to the donors involved in contributing funds) “on any matter relating to this Contract, or any associated utility matter” and to assist the Government “in any negotiations with the Operator.”³ This expanded role of an independent expert provided for in a PPP contract can be a useful way to bridge the gap while capacity is being built in the responsible department or in a newly established regulatory agency.

Likewise, the GOL worked with the World Bank to establish the Extractive Industries Technical Advisory Facility (EITAF). The EITAF was put in place to reinforce government capacity to structure concession contracts in the extractive natural resources industry, specifically mining. EITAF keeps high-level technical experts on-hand for GOL use. Similar advisory facilities could be established (or in some ways expanded) to include PPP project development.

Avoidance of Additional Missed Opportunities for Joint Infrastructure Development by Natural Resource Concessionaires

One way that the Government can leverage the activities of the natural resource concessionaires to develop public sector infrastructure is by negotiating (usually on an individual basis) so that concessionaires develop additional infrastructure to benefit the public paid for by the Government. If economies of scale exist, the public sector should be able to benefit from the lower incremental cost of the additional services. This solution is discussed later in the contexts of electricity and feeder roads.

Another way that the Government could gain by facilitating the natural resource concessionaires to develop and share common infrastructure – e.g. in power, railroads, or ports. This may not be given the priority it deserves within the Government because the benefits are indirect – they arise not by providing a direct benefit to the public but by reducing the concessionaires’ costs.

The general tendency of most concessionaires is to want to retain full control over the infrastructure they need. The transaction costs of negotiating agreements to ensure that their interests will not be restricted under the contingencies that could arise (e.g. suppose their own needs for capacity increase unexpectedly) can be high. Nevertheless, it is expected that when the common benefits are clear and technical or contracting complexities can be kept within bounds, concessionaires will, on their own initiative, seek out and agree to joint development or operation of infrastructure – for example, two adjacent mining concessionaires sharing power generation facilities. The question is whether they will do this themselves in every case in which there is a joint benefit to be gained; and whether they will put sufficient effort into seeking joint solutions.

Access to infrastructure by third parties is the practice now involved in Liberia’s concession agreements. The provisions, however, include qualifiers and are not sufficient by themselves. For instance, third party use is not required if it is detrimental to the primary user.⁴ In the example of a railway, a concessionaire might well be reluctant to give access to a third party, or if it does, the secondary user might consider the arrangement to be too risky and user charges too high, as any “detriment” could cause the primary user to suspend 3rd party access. Likewise, excess capacity may disappear, the

primary user may develop new resources and may need to transport more iron ore and therefore squeeze out the secondary user.

In some cases, the lack of interest in sharing infrastructure may be well founded for technical or economic reasons. Power is one example. One option that has been suggested for providing power to many of the mining concessions is that the concessionaires join to construct a single large thermal plant (perhaps 700 MW, excluding possible non-mining demand) near the coast which would then be used to supply all of them with power (in part using the transmission lines to be installed as part of the West Africa Power Pool (WAPP)). Such a solution – which, on the basis of simplified assumptions, may well be the least cost solution – runs into problems caused by the different timing of needs and quantities of electricity by different concessionaires. In fact, even different areas within one concession may have different plans for their power needs.

It may well turn out that this would not be the least-cost solution if a substantial amount of the capacity of a large plant (even if designed in a modular way) were to sit idle for long periods because the concessionaires do not require all the power. The problem of planning such a plant is compounded by the present uncertainty in the timing of the power needs of the concessionaires. A preliminary question to be answered is in which sectors and types of project might such shared infrastructure be expected to bring significant gains? Rail is perhaps the prime example in Liberia.

There are three existing railways for use by the mining concessionaires: Buchanan to Yekepa, associated with ArcelorMittal (250 km); Monrovia to Bong Mines, associated with China Union (80 km); and Monrovia, via Tubmanburg, to Mano River at the border with Sierra Leone, associated with the Western Cluster (145 km). All three are single track systems. At least two other mining concessionaires (Putu and Wologizi) will need to develop their own railways, and possibly BHP Billiton too.

One example of unnecessary duplication is that of the rail facilities where two concessionaires – AM and BHP – plan to bring their iron ore from Nimba County to Buchanan port. ArcelorMittal was given rights over the existing railway and has recently completed rehabilitation of the system. BHP Billiton may end up having to build its own railway if it cannot reach agreement with ArcelorMittal to share its tracks. In addition, the mining companies with interest in the iron ore deposits in neighboring Guinea (Simandou next to Yekepa) have interest in transporting material through Liberia as it is closer to the coast than through Guinea itself. In this case it too would need to use rail transport to bring the material to Buchanan.

Sharing a railway line could bring considerable savings. Moreover, having one double track system would be more cost effective than each concessionaire having its own single track system. (In a single track system, inbound and outbound trains need passing loops – short double track sections along the way – to cross paths, which slows down transport considerably).

The case of ports is more complex. Mining companies – at least iron or companies – prefer to have their own dedicated berths at ports. They generally consider port operations to be part of their core business: they want full control from mine to ship. Moreover, there may not be anything to gain by sharing berths once their operations reach full production.

In the case of some other natural resource products – such as timber – the best solution may be for the Government (i.e. NPA) to contract out responsibility for port op-

eration to a third-party port operator, rather than to encourage joint action by the concessionaires themselves. Forestry concessionaires are less likely to want that kind of involvement in the port facilities they use.

A crucial question is how the Government can do more to facilitate mutually beneficial solutions. It should not be up to the Government to dictate the solutions (unless it wishes to take over full responsibility for providing the needed infrastructure). An approach of suggesting the basic parameters of a solution, convening a strategic dialogue with potential participants, and pushing hard for a result might be more appropriate.

Establishment of Clear Principles for Selecting and Prioritizing PPPs in Liberia

A closer look at the lessons learned reveals that Liberia lacks clear principles for selecting and prioritizing PPPs. There is little sector planning or a cohesive understanding for determining how to determine if a proposed project should be a PPP. This is due to an unclear institutional structure and the non-existence of a PPP Policy that sets out how the GOL should select and structure a PPP project.

Likewise, there is little coherent strategy in the concessioning of the natural resource contracts. This too has suffered an ad-hoc approach and has resulted in the GOL's inability to coordinate natural resource concessionaires for the benefit of the country.

Regardless of the institutional structure adopted by a country for PPPs, one of the lessons that has emerged is that line ministries (and other governmental entities responsible for implementing PPPs – the “ownership” role) generally require substantial advice and support throughout the PPP process: preparation, procurement, and oversight.⁵

In countries with a well-developed consultancy industry that has solid advisory experience in PPPs, external consultants can play a large role in supporting the PPP capacities of line ministries. The government, however, must still play a key role – even in advanced economies – for two principal reasons. *First*, there needs to be capacity to manage consultants well and to assess the quality of the work. *Second*, external consultants work best during the later stages of project preparation and in the procurement phase (e.g. a “transaction team” of consultants). The early highly iterative stages consisting of project identification and preliminary formulation of the PPP concept require intense involvement by the responsible government departments. Crucial decisions are made at this stage – e.g. affecting fundamental project objectives, constraints and risks – and the government must have sufficient in-house capacity to understand the issues in depth and take sound decisions. This cannot be outsourced.

A number of countries around the world have set up PPP support units (of one kind or another) to fulfill this important function. The degree to which they merely give advice & support, or in fact have the power to take certain decisions concerning the PPP or PPP process – and whether these decisions are *general* in nature (e.g. mandatory guidelines and methodologies) or are about *specific* PPP projects (e.g. required approvals) – varies from country to country (see table 3.1).

Table 3.1: Enabling Environments in Neighboring Regional Countries

| | Cameroon | Cote d'Ivoire | Ghana | Kenya | Nigeria | Senegal |
|-----------------------------------|--|---------------|---|---|--|--|
| PPP Unit | Council for the Implementation of Partnership Contracts (CARPA) | None | PPP Advisory Unit (PAU) and Project Finance and Analysis Unit (PFA) | A PPP Secretariat to the PPP Steering Committee, the latter being a cabinet-level body (not a unit) | Infrastructure Concession Regulatory Commission (ICRC) | A number of entities [National Agency in charge of Investment and Major Works Promotion (APIX); Directorate in Charge of Support to the Private Sector (DASP); & the Infrastructure Council] |
| Location of the PPP Unit | Under the Prime Minister | None | Under the Public Investment Department (PID) in the MoFEP | Under the MoF | Under the Presidency | APIX is under the Head of State, DASP is in the MoF, and the Infrastructure Council is an independent body |
| PPP Supporting Legislation | An act in 2006 and a decree in 2008 setting the regime for partnership contracts | None | PPP Guidelines (2004); PPP Law (in progress, expected in 2011); PPP Policy 2011 | Kenyan Public Procurement and Disposal (PPP) Regulations (2008) | ICRC Act (2005); PPP Policy (2009); PPP Regulations (in draft, 2011) | CET law (BOT Law) 2004 |

Source: Authors.

One of the important ways in which a PPP unit can improve the quality of the PPPs is by recommending or requiring a structured process for PPPs to follow in their path from inception to contract signature – and beyond. Although there are different variants, the general lines of the PPP process that has been adopted in a number of countries follow a scheme like this:

- Initial screening and identification of PPP project ideas.
- Preliminary work in fleshing out the basic PPP concept, exploring different options, understanding stakeholder concerns, identifying major risks and constraints. The output of this stage is sometimes referred to as a PPP pre-feasibility report or concept paper.
- Further preparation and analysis of the PPP project (including a financial analysis and assessment of “value for money”) – to a stage where an informed and meaningful “go or no-go” decision can be taken. The output of this stage is often referred to as a PPP feasibility report or business case.
- The procurement stage: preparation of bidding documents (including a full draft PPP contract); conduct of the bidding process; evaluation of offers; final negotiations; signing of the PPP contract.
- Proactive monitoring and oversight of the PPP, including managing any renegotiations.

A key role of a PPP support unit should be to shepherd the line ministry through these various steps in a methodical way. Where this is not done, major flaws in the PPP will often emerge in later stages – often only once implementation begins – flaws that could have been avoided (or if not, would have led to rejection of the PPP project) if they had been identified earlier on.

Notes

1. See Jordan Schwartz, et al., *The Private Sector's Role in the Provision of Infrastructure in Post-Conflict Countries: Patterns and Policy Options*, Social Development Papers, Conflict Prevention & Reconstruction, Paper No. 16 (Aug. 2004), World Bank.
2. This is not to say that the contract is designed in this two-step manner in practice.
3. Schedule 14 of the LEC-MHI management contract.
4. For example, the Mineral Development Agreement with ArcelorMittal (as amended in 2007) states as a proviso to third party use of the railway and iron ore port: "...that the Concessionaire confirms that excess capacity exists and that third party use of such excess capacity does not unreasonably interfere with the efficient and economic conduct of the [Concessionaire's] Operations."
5. In countries where a line ministry undertakes many PPPs (e.g. the transport ministry in a country with many PPP road projects), the ministry can develop strong in-house capacity for the entire PPP process. But even in such a case, external advice and support is needed during the early years, for the first few PPPs.

Deepening PPP Development through Legal and Institutional Reform

Another critical lesson derived from examining Liberia's experience with natural resource concessions and PPPs is the need to improve the legal and institutional enabling environment for PPPs. This chapter reviews the central areas that need to be addressed in improving the enabling environment: (i) achieving a more comprehensive definition of PPPs and understanding the relationship of this definition with natural resource concessions; (ii) understanding the existing institutional roles and responsibilities for natural resource concessions and PPPs; (iii) identifying the weaknesses with the legal framework for natural resource concessions and PPPs; (iv) analyzing legislative and institutional options for deepening the links between natural resource concessions and PPPs; and (v) providing recommendations for implementing a strengthened PPP framework.

Overview of Legal and Institutional Enabling Environment

Liberia has substantial experience in managing natural resource concessions. Notwithstanding its historical experience, the recent efforts to review and re-concession several iron ore, timber and rubber assets has resulted in new and valuable capacity-building-through-experience within Government in engaging the private sector, negotiating contracts, assessing the development consequences of long-term concessions, and identifying subsequent opportunities to build off these concessions for further growth. Furthermore, the Government, as tested by experience, has acknowledged the need to reform the framework to address exigent weaknesses that limit transparency, equity and efficiency. Much of this experience can be used to both advance an improved framework around concessions, and to extend the framework to include PPPs.

No different in achieving a strong legal and institutional enabling environment for extractive industries concession is having a structured legal and institutional framework for public-private partnerships. Like concessions, PPPs must consider the perspective of the private sector given they rely on private sector investors and operators as equal counterparts in each transaction. This suggests that Government consider its actions and policies through a private sector lens and marry the most important principles of private sector development with best practices in public management. Such mixing of public and private principles in situations where commercial risk is divided is a relatively new dimension to governance and the political economy of development objectives and ac-

tivities. Likewise, the Government must assess the short and long-term consequences on partnering with private sector operators and investors and identifying which monitoring and evaluation structures must be in place to ensure all parties uphold their responsibilities as set out in each contract. Similar consideration is given in concession contracts. Within this context, the Government should structure an enabling environment that reflects international best practice and standards that are easily understood, clear and consistent across sectors, and address Liberia's specific needs.

A strong enabling environment includes both clear institutional arrangements and a coherent policy framework including laws, regulations, policies and guidelines. The institutional arrangements should streamline the process of developing and implementing PPPs without sacrificing proper due diligence and monitoring and evaluation.¹ The legal framework must be harmonized with sector legislation and set out defined roles and responsibilities for each participating government entity. In the specific case of Liberia, the framework must also distinguish the definitions between a concession and a PPP.

Weaknesses to the Legal and Institutional Enabling Environment Detailed

Problems with Definitions of PPP and Natural Resource Concession

LIBERIA'S USE OF "CONCESSION"

Certain common threads are evident in the above examples. Reduced to their simplest terms all of them describe a PPP as an agreement between the public sector and a private partner to provide infrastructure services. Against this background it is now appropriate to review the language used by Liberia. In Liberia, the term "concession" has evolved over time as the scope and content of concession contracts has become broader and more sophisticated.

General Business Law. An early version of the term is contained in Section 6.1 (a) of the General Business Law, viz:²

"The term 'concession' means a grant by the Government of Liberia of a privilege to use for profit through conduct of a business the property or interest of the Government, including, but not limited to, a privilege to use the public lands, whether with or without payment of rent or other consideration, the privilege of cutting timber from Government property, the privilege of extracting minerals from public lands, and the privilege of fishing in territorial waters, unless the person granted the last such privilege is entitled thereto through Liberian citizenship or by treaty. The term also includes the grant of monopoly to do a specified kind of business or sell a specified product in Liberia."

Public Procurement and Concessions Act, 2005. The above very limited view of a concession as a privilege to use public lands, to cut timber, to extract minerals, and to fish was expanded considerably in the Public Procurement and Concessions Act of 2005.³ Section 73(1) of that Act defines a concession as follows:

"Concession means the grant of an interest in a public asset by Government or its agency to a private sector entity for a specified period during which the asset may be operated, managed, utilized or improved by the private sector entity who pays interest in the asset and that the asset will revert to the Government or agency at a determined time. Under this Act, the term concession shall comprise of all its variants including but not limited to the following:

(a) "Build/Refurbish/Modernize-Operate-Transfer (BOT)": Where a private entity finances the development of infrastructure/facility/utility and operates it for a specified

period after which the project is handed over to the Government/public entity free of lien or at a cost to the public entity.

(b) *“Build/Refurbish/Modernize-Own-Operate-Transfer (BTO)”*: Where the Government/public entity contracts a private entity to build or complete a facility the ownership of which is transferred to the Government/public entity on completion after which the facility is leased back to the private entity for a fixed or renewable term.

(c) *“Build/Refurbish/Modernize-Own-Operate-Transfer (BOOT)”*: Where the private entity obtains a franchise for a fixed period, whether exclusive or not, to develop, operate, maintain, manage and collect user fees for a public facility over a fixed period at the end of which title to the facility reverts to the public entity/Government.

(d) *“Build/Refurbish/Modernize-Own-Operate (BOO)”*: Where the Government/public entity either transfers ownership and responsibility for a public facility or contracts with a private entity to build, own and operate a new facility is subject to terms and conditions laid down by the Government/public entity for the operation of the facility.

(e) *“Joint Ventures”*: Where the Government/public entity shares investment, profits, losses, and/or control of the operations of a facility with the private entity.

(f) *“Management Contract/Service Contract”*: Where a private entity is engaged as an agent of the Government/public entity, to perform a public function on behalf of the Government/public entity for a fee in whatever form, with or without performance incentives regardless of whether the public entity retains responsibility for the acts of the private entity agent or not.

(g) *“Outsourcing”*: Where the Government/public entity contracts a private entity for the continuous provision of an otherwise public service paid for by the public entity.

(h) *“Partial Privatization”*: The partial disposal of Government interest to a private entity other than through the Stock Exchange.

(i) *The Commission may identify other business arrangements that shall be defined as concessions.”*

This definition is noteworthy in several respects. First, it retains the notion that a concession is a “grant of an interest in a public asset...that may be operated, managed, utilized or improved [upon payment of] fees or royalties....under condition....that the asset will revert to the Government.” Such language reinforces the traditional view of a concession as an agreement providing for the management or operation of an existing public asset by a private entity as opposed to the more new approach which is to envisage a partnership between the public and private sectors for the creation of new assets as well as the operation of existing assets. Second, the definition goes on to include “all its variants” including BOTs, BTOs, BOOTs and BOOs. Such arrangements are routinely considered as examples of a PPP structure but it is not common to single them out as variations of a concession. This definition affixes PPP-like structures to a conventional definition of concession yet in an incomplete way. Third, the references to “Outsourcing” and “Partial Privatization” as examples of a concession are not usual terms used.

The Public Procurement and Concessions Act, 2010: The PPCA amendment and restatement of 2010 led to some important changes to the 2005 definition.⁴ Section 73 (1) retained the opening paragraph and subparagraphs (a) through (e) of the 2005 definition. However, subparagraphs (f) dealing with Management Contract/Service Contract, and (g) dealing with Outsourcing were omitted and the following new subparagraph (g) was inserted:

(g) *“Natural Resources”*: Grants of the right to exploit for private benefit a depleting or renewable asset of the state, such as the right to mine minerals, recover petroleum resources or develop and operate an agricultural plantation when the private entity is responsible for and bears the risks of the capital investment and operating cost of the project.”

It is not clear why management and service contracts were deleted from the 2005 PPCA definition of concession as they are often considered as types of PPPs. The reason may have to do with a rather unusual provision of Liberian law which requires all concessions to be ratified by the Parliament and become laws of the country. Section 6.2.4 of the General Business Law requires that after a concession agreement has been concluded it must be submitted to the President for approval and, if approved, must then be submitted to the legislature for ratification. All concession agreements in Liberia are then published under the style “An Act to Ratify the Concession Agreement Between...” While ratification by the parliament can be understood in the context of large high value concessions, it seems inconvenient to require a parliament to have to spend time reviewing and ratifying a management or a service contract. The same is true for outsourcing contracts.

ISSUES OF THE DEFINITION OF “CONCESSION”

The Liberian concept of a concession has evolved from an award that applied exclusively to the grant of a right to use a natural resource to something broader but still with an emphasis on the use/management of natural resources. The drafters of the 2005 and 2010 PPCAs sought to “add on” some PPP-like concepts with the references to BOOs, BOOTs etc, but in an imprecise fashion. The result is an unclear definition of concession that is not incorrect but is no longer in accord with international best practice and does not wholly address the notion of a partnership between a public and a private sector entity pursuant to which the private party agrees to perform or undertake any kind of infrastructure or social sector service project. It is true that the existing definition can be interpreted in such a way as to cover many PPP-type structures – and the recently negotiated concession between the National Ports Authority and APM Terminals Liberia. Ltd has features that are more akin to a PPP agreement than a traditional concession agreement. But the definition needs to embrace a wider range of partnership possibilities of which natural resource concessions are one variety where a private party assumes financial, technical and operational risks in connection with the performance of a public function or the use of public property.

Unclear Institutional Roles and Responsibilities

In addition to the essential characteristics and principles that underlie a PPP regime, another key dimension is the institutional structure that needs to be put in place to govern the regime. Below is a brief review of the roles of the concerned public sector entities in the context of Liberia. The most limiting factor regarding the institutional roles for PPP development and natural resource concession management is the non-existence of one lead institution with the proper capacity and expertise to assist in project development, coordinate key input from each government institution involved, ensure quality and value-for-money. Contract monitoring and compliance is also a missing function that must be addressed. However, there are different options (as discussed below) on institutional arrangements for monitoring and compliance of contracts within Liberia’s limited institutional capacity.

Given Liberia's history of concessions, it has managed to build up a stronger capacity to manage concessions than would usually be expected of a country at this stage of development, and as a result has unique institutional arrangements that reflect this.

(a) National Investment Commission (NIC)

The NIC has historically played a key role in overseeing the concession award process in Liberia. The NIC Chairman – a Cabinet-level appointment – chairs the Inter-Ministerial Concessions Committee (IMCC) which is required to approve all key steps in the concession award procurement process. The Chairman also participates in the Negotiation Team appointed by the President to negotiate concessions on behalf of the Government. The NIC itself serves as the Secretariat for the IMCC and the Negotiation Team. One reason for this prominence is that NIC is the technical owner of the government's shareholdings in all state-owned enterprises and is thus required to approve all privatization proposals and by extension all concession awards. NIC's role in natural resource concessions (and currently being used to empower NIC's role in PPPs) is set forth in Section 5 of The National Investment Commission Act of 2010⁵:

"To participate in the evaluation and award of concession or other development rights with respect to assets of the Republic to the extent from time to time mandated by other laws, and in any case to assist or, where authorized by law, to lead Ministers in the review and evaluation and award to investors of concessions and other development rights with respect to assets of the state."

Some NIC staff members have acquired considerable expertise in the handling of concession-related matters. However, this experience has not correlated into strong enough capacity and expertise to structure, procure and manage PPP transactions.

(b) Ministry of Finance (MOF)

The involvement of the Ministry of Finance with concessions has been primarily through the Bureau of Concessions (BOC) – a division of the MOF. The BOC was formally established by a Decree issued in 1985 with the following general function:

"The Bureau of Concessions shall be concerned with the monitoring of industries operated under concessions and related agreements in Liberia, the development of appropriate policies for such industries, the enforcement of such policies and the promotion of new concessions and related investments in Liberia. BOC shall serve as a coordinating unit for ministries and agencies concerned with foreign investment in natural resources."

The Decree goes on to enumerate a number of specific functions which include the collection of revenues from concessionaires, ascertaining that payments are actually made by concessionaires, preparation of reports and advising the Economic and Financial Management Committee on all natural resources-related matters.⁶

(c) Ministry of Planning and Economic Affairs (MPEA)

The MPEA is an important party in the country's concession regime in view of the requirement in Section 88 of the PPCA that no concession project may be initiated without first having been issued with a Certificate of Concession by the MPEA. The MPEA derives its mandate from the Executive Law of 1976. Broadly, the MPEA is entrusted with the following three clusters of interrelated functions: (i) National Economic Development Policy and Planning; (ii) National Development Coordination; and (iii) External Support and Monitoring. The MPEA is also represented on every IMCC and on every Negotiation Team and has the primary role as the country's planning Ministry ensures that it should continue to play an active role in the emerging PPP framework.

(d) Public Procurement and Concessions Commission (Commission)

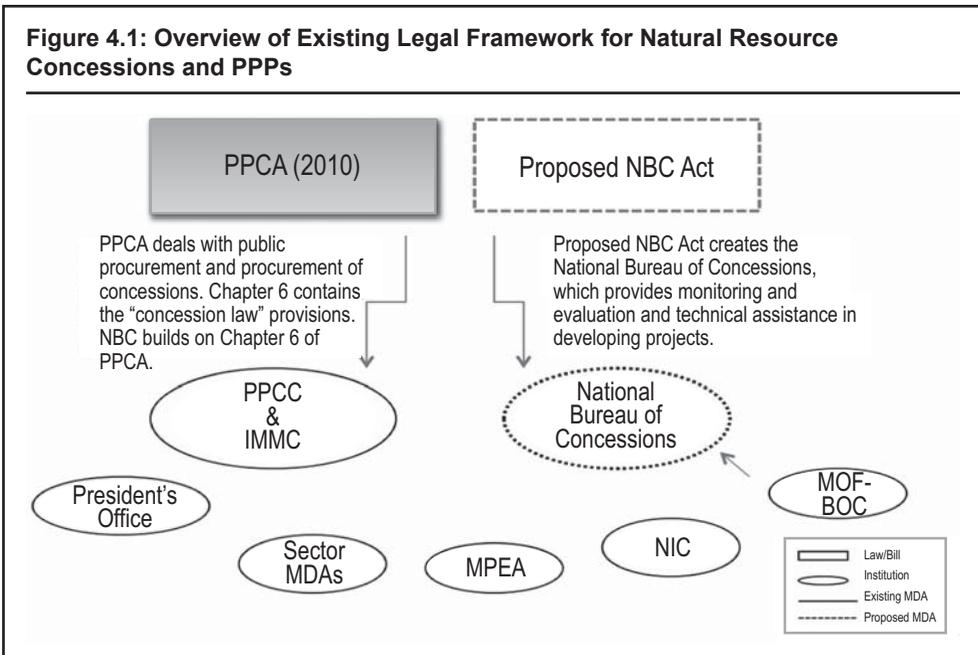
The Commission is the implementing agency of the PPCA. While Section 3(2) of the PPCA entrusts the Commission with oversight responsibility for all “public procurement and concessions” in reality it shares this responsibility with the NIC. The Commission’s primary focus is on public procurement matters and it has tended to leave concession procurement issues in the hands of the respective IMCCs and the NIC. This function can be even strengthened should the PPCA be amended as to enable the Commission to focus exclusively on its public procurement function leaving its concession-related responsibilities in the hands of the NBC (see Section 2.5).

(e) Line Ministries/Agencies

The line ministries are central to the development of PPP projects. Line ministries are responsible for generating PPP projects and being the central drivers of the process. The line ministries and agencies, according to the PPCA, are mandated to initiate concession proposals and, if approved, to establish Entity Concession Committees. As a new PPP regime evolves, it will be important to keep the line ministries as the focal points for project development but working alongside other government entities that ensure the process follows Liberian law and best practices.

Incomplete PPP and Concession Legal Framework

Liberia’s original concession contracts were relatively simple and straightforward from a legal perspective. They focused on the basic details of the concession area, payment mechanisms and the duration of contract. Over time, the legal environment has been strengthened and recent agreements have become much more robust and in line with international best practice. A significant overhaul of the concessions law framework occurred in 2005 with the enactment of the Public Procurement and Concessions Act, 2005. This Act was further revised and strengthened in 2010. Currently, the award of con-



Source: Authors.

cessions is governed by Part VI of the Public Procurement and Concessions Act, 2010 (PPCA). The PPCA is quite comprehensive in its treatment of concessions but it falls short in important areas related to implementation, monitoring and evaluation. In an effort to remedy some of these deficiencies, the GOL has drafted and submitted to Parliament for approval a new law – The National Bureau of Concessions Act (NBC Act). This proposed law will introduce a more comprehensive institutional framework to oversee the concession regime (see figure 4.1).

While concessions will continue to assume the attention of a significant part of the legal landscape in Liberia, the country now seeks to focus on developing its physical and social infrastructure. With that objective in mind, the Government proposes to move beyond a legal regime that deals with concessions per se to one that embraces all kinds of public private partnerships (PPPs). Accordingly, this section of the Analysis addresses the question of what changes need to be made to convert the current concession law regime into a modern, comprehensive PPP law framework.

The PPCA

Liberia's concession and existing PPP legal framework is built upon the PPCA. A closer look at the PPCA, specifically Part VI of the PPCA, reveals the strengths and weaknesses of the legal enabling environment. The principal objective of the PPCA is set forth in Part I in the following terms:

“THIS ACT regulates all forms of public procurement and Concessions, establishes the Public Procurement and Concessions Commission, provides for institutional structures for public procurement and Concessions, and stipulates methods and procedures for public procurement and Concessions and for purposes related thereto.”

The Act applies to the procurement of goods, works and services, financed in whole or in part from public funds and extends to all executive agencies including Government ministries, commissions, bureaus, departments, agencies and various other public sector entities. The Act, however, does not apply to international agreements concluded between the Government and international organizations for general or specific projects in which more project-specific procurement rules and procedures are detailed.

Part II of the PPCA establishes the Public Procurement and Concessions Commission (Commission). The Commission has oversight responsibility for all public procurement and concessions in accordance with the Act. It is charged with ensuring the economic and efficient use of public funds in procurement and with ensuring that public procurement and concession processes are conducted in a fair, transparent and non-discriminatory manner. For this purpose, it is required, *inter alia*, to “review procurement and Concessions documents..., ...formulate policy and prepare standards for procurement and Concessions, including forms of contract,” and “assess the operations of the public procurement and Concession processes and make improvements as and when necessary.”

The Commission is headed by a Chairperson “who shall be knowledgeable in public procurement and Concessions procedures and practices and financial management.” The Chairperson is assisted by six Commissioners drawn equally from the public and private sectors – all appointed by the President with the consent of the Senate. The Act also provides for a Complaints, Appeals and Review Board with wide powers to decide on complaints and appeals to the Commission and to recommend potential improve-

ments in the procedures of the Commission. The Commissioners are empowered to appoint an Executive Director who serves as the Chief Executive Officer.

Part III details the provisions that are to apply to entities that are responsible for procurement and Concession activities. It provides for the creation and operation of procurement committees and procurement units in each entity. The general provisions on procurement proceedings of procuring entities are described in Part IV. This section of the Act deals with qualification of bidders, bid documents, contract administration and standard procurement provisions including price adjustment, records and reports, debarment, and margin of preference. The permitted methods of procurement are described in Part V. These include: national and international open competitive bidding, restricted bidding, sole source and detailed provisions addressing bidding procedures, bid security, bid opening, award of contract, two-stage bidding and related procedural measures. In this context, it must be noted that sub-Part 2 of Part III dealing with procurement structures in procurement entities, Part IV and Parts V are not applicable to the granting of concessions.

For present purposes, the key provisions dealing with concessions are set forth in Part VI of the PPCA (analysis of this part follows in Section 4.0 of this note). Part VII of the PPCA sets out a series of technical rules and procedures governing the disposal of stores, plants and equipment. Part VIII provides for a detailed complaints and review process and, finally, Part IX contains various general provisions addressing issues such as code of conduct, records, issue of regulations, requests for information, repeals and amendments and standard transitional provisions.

The PPCA consists primarily of two components – the public procurement component and the concessions component. The public procurement component is quite complete and robust. Sections of the Act relating to public procurement are thorough and function well. The concession component – Part VI of the PPCA – is also mostly suitable in terms of meeting the country’s traditional concession agreement. This component could benefit from some revision and updates for it to sufficiently serve as the legal basis for the concessions *and* a proposed PPP legal regime.

PART VI OF THE PPCA – THE “CONCESSIONS LAW”

The details of Liberia’s concession law regime are contained in Part VI of the PPCA. Section 75 provides that the Act shall apply to all activities relating to concessions including:

- (a) Identification and certification for Concessions;
- (b) Planning of the process for Concession agreements;
- (c) Preparation of Concession bid documents;
- (d) Invitation and evaluation of bids, negotiations and signing of Concession agreements; and
- (e) Implementation, supervision and monitoring of Concession agreements.

Concessions may be granted in respect of all sectors of the economy except the mining sector which is governed by the Mining Law. Any MDA that wishes to develop a concession is required to obtain the prior approval of the Ministry of Planning and Economic Affairs. It must then establish an Entity Concession Committee to oversee the process and develop a Concession Procurement Plan. The Committee must include a representative of the Ministry of Finance. For each concession an Inter-Ministerial Concessions Committee (IMCC) must be established. The IMCC is chaired by the Chairperson of the National Investment Commission and includes the respective Ministers of

Justice, Finance, Labor, Planning and Economic Affairs, Internal Affairs, two other Ministers appointed by the President and the Minister of the relevant sector Ministry. The IMCC has broad decision-making powers in relation to the proposed concession and is responsible for reviewing and approving all key aspects of the procurement process.

Part VI then sets out detailed provisions regarding the concession process including the need to hold a stakeholder forum, records of the bidding process, inspection of records, national and international competitive bidding, margins of preference for Liberian businesses, sole source and unsolicited bids and prequalification of bidders.

The next sections deal with concession document preparation including the carrying out of preliminary feasibility studies, bid documents, invitation to bid, bid security, pre-bid meetings, opening and evaluation of bids, and post evaluation issues. Each concession agreement must be developed by the concession entity in consultation with a Concession Bid Evaluation Panel and approved by the IMCC prior to negotiations. The final form of the agreement as executed is subject to review by the Ministry of Justice. Once the IMCC has approved the concession proposal, the President appoints a Negotiation Team consisting of Cabinet-level officials and chaired once again by the Chairman of the National Investment Commission. The Negotiation Team reports to the President and is required to take into account a lengthy but standard list of concession provisions.

Of note, the PPCA does not address contract execution issues. Nor does it deal with the process by which the negotiated agreement is ultimately approved by the President and ratified by the Parliament. In this respect, as noted in Section 3.6, the practice discussed appear to be to rely on the provisions of Chapter 6 of the General Business Law.

The Proposed NBC Act

As previously discussed, Liberia has developed a strong legal framework for the processing of concession proposals but the oversight of concession agreements has been weak mainly as a result of capacity constraints and poor enabling environment. In 2010, with a view to remedying this deficiency, the GOL introduced the NBC Act to provide “for the creation of an autonomous entity headed by a Presidential appointee subject to the consent of the Liberian Senate to monitor and evaluate compliance with concession agreements in collaboration with all concession entities in Liberia.” At the time of writing the draft NBC Act has passed one of the two chambers of the Parliament and is under consideration by the other.⁷

The preamble to the NBC Act provides that “the institutional capacity of the Government to administer the concession process is to be strengthened by the creation of a new body, to be known as the ‘National Bureau of Concessions’ to assist the Government in the solicitation of bids for concession contracts, the evaluation of concession contract bids, the negotiation of concession contracts with successful bidders and the monitoring of concession contracts.” The Act establishes the National Bureau of Concessions (NBC) as an administrative body of the Government but also as an independent legal entity with broad purposes, objectives and functions to monitor, evaluate, provide technical assistance and serve as a source of technical expertise and as a central repository of skills and knowledge with respect to concessions.

The NBC is also intended to function as the focal point for coordination of external technical and professional assistance in relation to the concession process. It is required to establish a concession agreement database and to coordinate with all ministries, departments and agencies of Government to ensure proper monitoring of and compliance

with obligations set forth in concession agreements. For this purpose the NBC is required to establish and implement an evaluation and assessment plan after consulting with all relevant stakeholders.

The proposed NBC will be headed by a Director-General nominated by the President and with the consent of the Senate shall be appointed by the President for a term of four years with a right of renewal for two additional terms. The Director-General serves as the CEO and is to have responsibility for the administration, organization, operations and management of the NBC. The Act contains other standard provisions relating to staffing, reports, financing, audit and conflicts.

Finally, the NBC Act concludes by repealing the Decree that established the Bureau of Concessions. The Bureau of Concessions is a division of the Ministry of Finance and, according to its Decree, currently has responsibility for monitoring industries operated under concessions and related agreements in Liberia, the development of appropriate policies for such industries, the enforcement of such policies and the promotion of new concessions and related investments in Liberia.

WEAKNESSES OF THE PROPOSED NBC ACT

The proposed NBC Act is a significant step forward as a response to the need to improve Liberia's capacity to monitor the administration and compliance of its concession agreements. It envisages a strong monitoring and evaluation role coupled with a much improved institutional oversight function. However, the draft Act has features that are likely to limit its effectiveness. Furthermore, in the context of the Government's desire to introduce a comprehensive PPP regime to develop the country's infrastructure and social service sectors while maintaining its concession framework as well, the draft Act has a number of limitations preventing it from reflecting international best practices and incorporating PPPs.

The proposed Act should go further in its objectives on advisory services, coordination, promoting transparency and developing a central repository of expertise. The Act is not clear, for example, on the relationships between the line ministries, the PPCC and the IMCC. There is some overlap of functions and, in some case, some conflict. While the NBC is obligated to provide technical assistance there is no obligation on the line ministries either to seek such assistance or to accept it. Nor is there any requirement for NBC to be represented on the line ministry concession committees (unlike the Ministry of Finance) or for NBC to "approve" line ministry procurement proposals and bid documentation.

The proposed functions of the NBC are appropriate for a concession-oriented regime and the existence of an external coordination focal point and training and capacity function are strong features. Again, however, in the context of a PPP regime the Act should give the NBC a much more central and influential role. For example, NBC should be empowered to make recommendations to the appropriate decision-making body on all aspects and stages of the procurement process. It should be empowered to advise the President of any serious failures on the part of concession holders or line ministries to enforce compliance with concession agreements. It should also have the authority to impose sanctions in the case of persistent failures to comply with contractual obligations.

Perhaps the most significant weakness is in the area of governance. While the Director-General will have the authority implicit in a presidential appointment, there is a significant risk that such a person will operate independently. It is not common in any jurisdiction for an independent government entity to be responsible to a single individual.

The norm is for public sector agencies, commissions or other such entities to be headed by a chief executive officer who is, in turn accountable to a Board. It is the Board that sets the policy parameters for the entity, oversees the operations and approves all key decisions. Moreover, in an operational sense, the Director-General's right to report directly to the President and bypass the IMCC may give rise to undesirable conflicts and tensions. The Director-General should be empowered to attend and participate fully in meetings of the IMCC. One final aspect is on the right of the Director-General to serve for a term of four years and for not more than two additional four-year terms. A total term, potentially, of twelve years is too long for any individual to serve in such an important position.

Legislative and Institutional Options to Deepen the Links between Natural Resource Concessions and PPPs and Expand PPP Development

Legislative Options

The extension of Liberia's concession law framework to a broader PPP legal regime will involve different amendments to the PPCA and either transformation of the proposed NBC Act to a comprehensive PPP Act or the introduction of an additional separate PPP Law to cover traditional PPPs beyond natural resource concessions. Various alternatives are possible and are divided into two broad categories. The first is an "Integrated" approach to develop a shared legal framework that covers both natural resource concessions and PPPs. The second is the "Separate" PPP option where separate and new PPP legislation is proposed to cover PPPs while the natural-resource concessions-based proposed NBC Law remains in its present form.

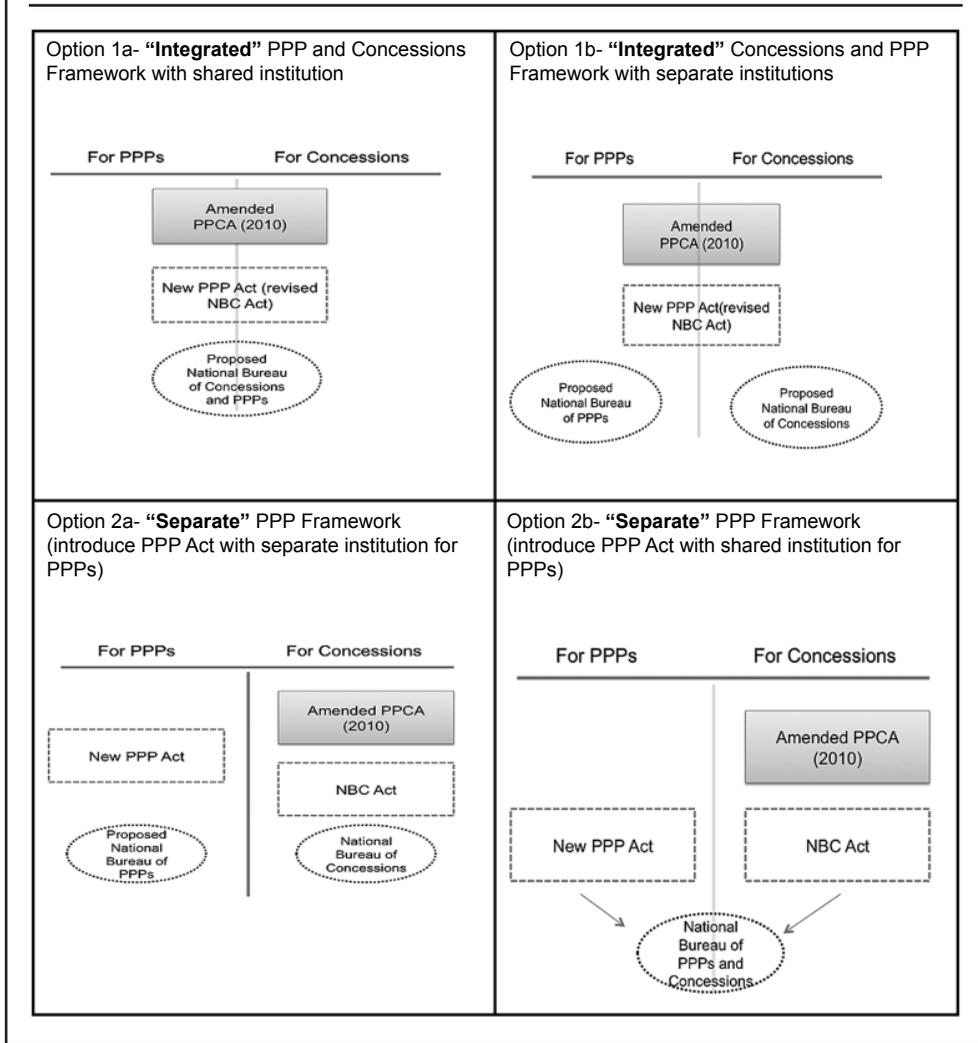
One distinct advantage of an "integrated" approach is that it supports the initiative to link investment for natural resource concessions to other private sector development methods including PPPs. Given that there are some shared skills between natural resource concession development and PPP project development – such as value-for-money analysis, contract structuring and negotiation, monitoring and compliance, and significant infrastructure considerations – it would be beneficial to have legislation that ties these two concepts together in order to facilitate coordination and proper implementation.

Institutional Options

Coupled with the legislative approaches to improving the framework are two distinct options for the institutional arrangements governing PPPs. One is to have a shared entity that manages both PPPs and concessions and the second is to have separate bodies. The rationale for sharing an institution is based upon the limited capacity for the Government to manage two new entities, one for PPPs and one for concessions. Similarly, given that PPP transactions can draw on many of the technical and oversight skills used in concessions, there is a strong motivation to keep these two functions under the same roof. Finally, given Liberia's nascent stage in developing PPPs, it seems that the limited PPP deal flow does not merit a separate and new institution.

Separate institutions do, however, make more sense from both a governance perspective. While it is true that the deal flow for Liberia in PPPs is currently limited this is expected to grow. Furthermore, while some skills for managing concessions can be transplanted to developing and managing PPPs, there are significant differences in the required skill set. Figure 4.2 displays these different options.

Figure 4.2: Legislative Options to Strengthen Liberia’s PPP and Concessions Framework



Source: Authors.

OPTION 1: THE “INTEGRATED” PPP OPTION

Option 1a. Option 1a would retain present structure of the PPCA but Part VI would undergo significant amendment. The definition of “concession” would be replaced with a new definition that covers both PPPs and natural resource concessions. A new Part VI would form the basis of a new PPP Act that draws on much of the proposed structure in the NBC Act but addresses many of the governance weaknesses and covers traditional PPPs more robustly. The proposed NBC Act would be converted into the new PPP Act with additional improvements. The end result would be the retention of an amended PPCA and a new PPP Act.

Option 1b. Option 1b would be the same as Option 1a except there would be the provision for two separate government entities – one for PPPs and another for concessions. In the context of the low capacity for the GOL to manage either PPP or concession and

given the hesitancy to establish additional independent government bodies that cannot be staffed properly, Option 1b is not as favorable.

The central advantage of Option 1 is that it would not involve the introduction of entirely new legislation to the existing legal framework but rather amendments to the PPCA and transformation of the NBC. This approach may meet less resistance amongst key stakeholders. Furthermore, much of the working experience with the PPCA would be retained and the in-depth due diligence already completed on the proposed NBC would be incorporated and utilized to strengthen the new PPP Act. It will also allow the Commission to focus exclusively on its public procurement mandate.

OPTION 2: THE "SEPARATE" PPP OPTION

Option 2a. Under this scenario Part VI of the PPCA would be deleted in its entirety and all references to concessions in that Act would be removed. The intention would be to limit the scope of the Act to general public procurement issues. In essence the Act would become a stand-alone Public Procurement Act similar to procurement legislation in other parts of the world. The former Part VI and parts of the NBC Act would be replaced by a new PPP law. This would result in a PPP Law enabling a PPP-specific government body and the NBC Act that would create an independent concessions entity.

Option 2b. A variation of this approach would be to introduce a new PPP Act, as in Option 2a, but to have a shared Bureau for PPPs and Concessions to address the weak GOL capacity at this point.

Option 2 has two main advantages. First, like option 1, it will allow the Commission to focus exclusively on its public procurement mandate. Secondly, it will give the GOL the opportunity to "ring-fence" PPP issues away from natural resource concession-related challenges that would be covered by the NBC Act and handled by the proposed National Bureau of Concessions.

Recommendations for Implementing Strengthened PPP Framework

Implement Option 1a: Transform the Proposed NBC Law into a New Comprehensive PPP Act

Given the considerations described with the existing institutional arrangements as well as the body of legislation- the PPCA and the proposed NBC- in Liberia and the GOL's interest in bringing together natural resource concessions and PPPs, the recommended best option for implementing a strong PPP legal and institutional enabling environment is Option 1a. This will allow the GOL to transform the proposed NBC Act into a comprehensive PPP Act that covers both traditional PPP structures as well as natural resource concessions. Key distinctions must be made in the wording between these two, however, many similarities can be leveraged to produce a robust law. Similarly, given the few PPP transactions completed in Liberia to-date, the anticipated time needed to develop the PPP project pipeline, and the skills acquired from existing natural resource concessions, it makes sense to bring under one roof the expertise required for PPPs and natural resource concessions.

There are many institutional options for how to organize a shared PPP and natural resource concessions bureau. Such options must be considered for distinguishing skills necessary for PPPs and natural resource concessions as well as differences in roles between project development and project monitoring and evaluation. These must be considered carefully and be given serious thought to minimize the potential governance

issues associated with housing project development and monitoring and evaluation functions in one entity.

Establish a New Definition of PPP That is Broad Enough to Include Natural Resource Concessions but Distinguishes Them from Traditional PPPs

A new comprehensive PPP Law will incorporate this new definition to cover both traditional PPPs and natural resource concessions. However, it will be sure to differentiate the two given some of the technical differences in developing traditional PPPs (BOO, BOT, BOOT, etc) and natural resource concessions.

The Sierra Leone Public-Private Partnership Act provides a good example for a comprehensive definition of PPPs.⁸ Such a model could be used and customized to add in specific consideration for natural resource concession definitions, while mining should be left to the Mining Act.

Box 4.1: Sierra Leone Public-Private Partnership Act Definition of PPP

On the definition of PPP, the Sierra Leone PPP Act states:

“PPP Agreement” means a contractual arrangement between a contracting authority and a private partner, made in accordance with this Act, in which the private partner:

- (a) agrees to perform or undertake any infrastructure project or social sector service project;
- (b) assumes financial, technical or operational risks in connection with the performance of a public function or the use of public property; and
- (c) receives consideration for performing a public function or utilizing public property, by way of:
 - (i) a fee from any revenue fund or budgetary fund of the Government;
 - (ii) user levies collected by the private partner from end-users or customers for a service provided by the private partner; or
 - (iii) a combination of the consideration paid under sub-paragraphs (i) and (ii);

“Infrastructure project” means the design, construction, development and operation of any new infrastructure facility or the rehabilitation, modernization, expansion or operation of any existing infrastructure facility, where

- (a) in the case of a new facility, the facility would have been, prior to the start of the project, of a type that would be within the responsibility of a contracting authority; and
- (b) in the case of an existing facility, the facility was, prior to the start of the project, within the responsibility of a contracting authority.”

“Social sector service project” means the design, development or operation of any systems that directly or indirectly provide social services to the general public over a period of at least three years, where such systems were within the responsibility of a contracting authority prior to the start of the project.”

Source: Sierra Leone PPP Act.

Strengthen Part VI of the PPCA Act When Using It to Form the Basis of the New PPP Law

Extracting Part VI of the PPCA and planting it in a new PPP Law alone would not be sufficient to satisfy best practices for a PPP law. There are important aspects that are missing that must be treated in the Law. These include things such as technical and financial offers, two-stage bidding procedures and contract termination. Appendix 3 provides a list of the most critical areas to be included.

Clarify the Institutional Roles and Responsibilities of the Envisaged PPP and Concessions Bureau in the New PPP Law (Building on Structures in Proposed NBC Act)

The new PPP Law would draw heavily on many of the structures already set out in the proposed NBC Act. However, as discussed earlier, the proposed NBC Act in its current format has several weaknesses relating to the institutional roles and responsibilities. The key areas that must be reinforced deal with the (a) establishment of the envisaged PPP and Concessions Bureau, (b) the objectives of this Bureau, (c) the functions of this Bureau, (d) the role of the Director General, (e) and other various considerations. Appendix 3 provides in-depth recommendations for each area.

Conduct Stakeholder Consultations Including Key Private Sector Participants

In drafting the new PPP Law, it will be important for the GOL to include private sector feedback throughout the process. This will help the GOL produce a Law that is private sector friendly and signals to the private sector that the GOL recognizes the importance of the private sector in setting policy.

Recommendations for Additional Framework Support

The primary emphasis in this note has been on the changes to the legal and institutional environment that will be necessary to introduce a stronger PPP regime to Liberia. However, there are several other elements to a strong legal and institutional enabling environment that should also be considered and pursued simultaneously.

PPP Policy Paper

In the “textbook” course of enacting a PPP legal framework, the introduction of a new legal regime is preceded by a Policy Note which seeks to set out the Government’s thinking on the new regime. Typically, the Policy Note – often described as a “White Paper” – is the result of an extensive consultative process during which the authorities seek to develop a broad framework for the particular regime and to gain public and private sector acceptance of the proposals. Once the Policy Note has been endorsed by the Cabinet it becomes the official policy of the Government. It is at that stage that the lawyers then become involved and given the task of converting the policy framework into appropriate laws and regulations.

The process of developing a PPP Policy Paper also gives the Government and key stakeholders the opportunity to work through the challenges of finding the right institutional arrangements to develop and oversee PPP transactions. In the case of Liberia, it would be also a valuable opportunity to develop consensus around promoting PPPs and encouraging private sector development in infrastructure as well as to build capacity around the understanding of PPPs in general.

Even at the current stage of developing laws in Liberia to manage concessions and PPPs, it would be useful to prepare a PPP Policy Note in order to build consensus, capacity, and define more specifically how the GOL wishes to move the PPP agenda forward. This will be particularly important when it comes to establishing the institutional framework. Clarity on the roles of the central PPP authority vis-a-vis the line Ministries and other stakeholders will be crucial.

Sector Reviews

A thorough review of the needs of the various infrastructure sectors should be carried out in tandem through the lens of enabling PPPs. To date, the concessions awarded by Liberia have tended to proceed on an ad hoc basis. Going forward it will be desirable to develop short Policy Notes or Sector Reviews on the road, rail, ports, airports, water, fishing, electricity, forestry and other such sectors and to promote PPPs in a coherent and coordinated fashion having regard to the country's financial and economic priorities.

Regulatory Authorities

Regard should be given to the need to develop appropriate Regulatory Authorities to oversee issues such as tariff setting, toll rates, utility rate increases, competition issues, standards of performance and the like. This is necessary for the healthy functioning of each sector and for reducing the perceived risk to the private sector (see the following section for greater discussion).

Capacity Building and Institutional Strengthening

For each participating line ministry and central agency, capacity building and institutional strengthening should be provided to assist the GOL to understand how to develop, procure, and monitor and evaluate both PPPs and concessions. This support can be in the form of specific technical assistance, workshops and seminars, study tours promoting best practice, and making available specialized advisory facilities from which the GOL can extract quality guidance. In particular, in-house legal technical expertise is needed to guide the legal processes and provide quality control over contracts, disputes, and negotiations.

Notes

1. *Towards Better Infrastructure: Conditions, Constraints, and Opportunities in Financing Public-Private Partnerships*. Riham Shendy, Zachary Kaplan and Peter Mousley. Chapter 3. World Bank. 2011.
2. Republic of Liberia. *General Business Law 1975*. Section 6.1.
3. Republic of Liberia. *Public Procurement and Concessions Act 2005*. Section 73(1).
4. Republic of Liberia. *Public Procurement and Concessions Act 2010*. Section 73.
5. Republic of Liberia. *The National Investment Act 2010*.
6. To date, however, the BOC has not been provided with the staff and resources necessary to carry out its functions. This is one of the primary reasons that has led the authorities to propose the establishment of a National Bureau of Concessions – see Section 7 of this note.
7. The comments that follow are based on the most recent draft of the Act.
8. Republic of Sierra Leone. *Draft PPP Act 2010*.

Generating the Next Set of PPP Transactions in Liberia

This chapter sets out a list of “quicker wins,” or “short-list,” of potential PPP transactions that could be developed in response to the Government of Liberia’s request to internalize the lessons learned and PPP project trends gained by experience to date in Liberia. The development of a set of potentially viable PPP transactions in Liberia depends on the past experience with PPPs as well as the GOL’s appetite for introducing private sector investment in priority areas. This proposed short-list of PPP projects has been formed on the basis of government consultations and guidance and initial upstream analysis of transactions that offer some levels of commercial interest to the private sector. The next step in PPP project preparation for these transactions would be a PPP Pre-Feasibility Analysis. The projects below are organized by themes that take into consideration Liberia’s lessons learned in previous PPP transactions and Liberia’s experience with natural resource concessions.

The PPP Short List

The short-list of PPP projects described below is organized into the following themes: (i) projects that leverage existing strong sector success with PPPs such as the ports; (ii) projects that suit an immediate high user demand and national priority, in this case power; and (iii) projects that are connected into existing concessionaire investments.

Buchanan and Greenville Ports

Liberia’s National Port Authority (NPA) manages four seaports: Monrovia, Buchanan, Greenville, and Harper. Although the Freeport of Monrovia handles the largest part of Liberia’s ocean trade at present (90–95%), the other ports have important roles to play in the future development of Liberia’s export trade.

Brief descriptions of these ports are as follows:

- The commercial quay of Buchanan port, 334 meters long and with a depth of 9.5 meters, handles wood chips exported by Buchanan Renewables and a limited amount of container and general cargo. ArelorMittal has rights over a 255-meter ore loading quay adjacent to the commercial quay.
- Greenville port has two quays and two berthing facilities, 70 and 180 meters long, with a depth of 6 meters. Greenville would be the natural port for timber (and other wood) exports by the forestry concessionaires in the east of the

country and also possibly iron ore by a mining concessionaire (Putu). Logging concessionaires say that their exports will be blocked unless the Greenville port is rehabilitated.

- Harper port has a 100-meter pier with an available water depth of 5.5 meters. It could serve to export products such as timber, rubber, and palm oil.

One of the forestry concessionaires was recently discussing with NPA with an offer to take on the task of rehabilitating Greenville Port (in return for a compensatory reduction in fees and taxes.). However, consultations with the private sector forestry concessionaires showed that this is not an activity in which they wish to become. The discussions were a result of the need for the services and not out of interest in expanding their operations to port services as well.

Private sector participation in the port sector, beyond the Freeport of Monrovia, would facilitate the reconstruction and modernization of facilities and improvements in operational efficiency. This is fully in line with Government policy. It also reflects a finding that the port sector around the world has been one of the most successful sectors for PPPs.

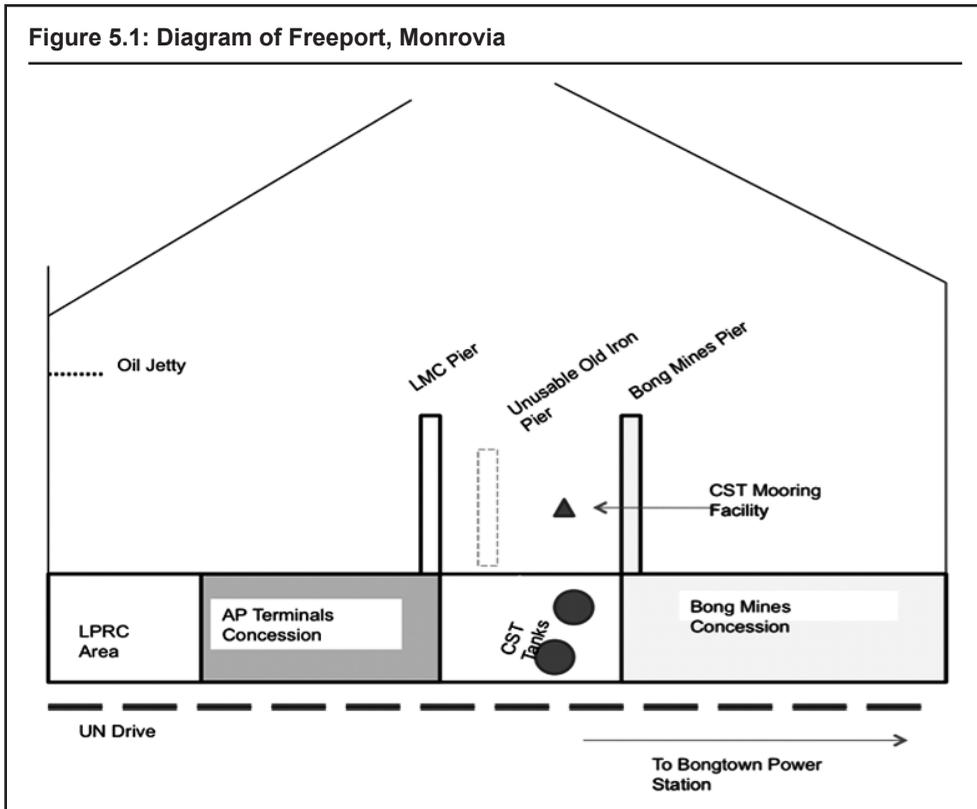
The two most likely candidates for PPPs are Buchanan and Greenville ports. Buchanan is the most likely in the medium term, but opinions differ greatly as to which port offers the greatest potential in the long run. There is considerable uncertainty over estimates of future traffic. In principle, a model similar to that used in the Freeport of Monrovia (broadly speaking, a concession model – with the exact allocation responsibilities and risks being adjusted after project-specific analysis) might be suitable for these other two ports.

The behavior of the natural resource concessionaires is an important factor driving future demand. This differs depending on the type of concession. For example, most forestry concessionaires would be happy to ship timber using port facilities run by a professional third-party ports operator. In contrast, iron-ore concessionaires prefer to maintain control of the ore from mine all the way to ship, using their own dedicated port berths.

However, neither of these concerns constitutes an absolute obstacle. Both of them could be mitigated sufficiently by adjustments to the design of the PPP – e.g. public sector financing of some part of the investments, lower concession fees, mechanisms to allocate more traffic risk to the public sector (e.g. lower fixed fees and higher royalties).

HFO Facilities at Freeport

HFO was once imported and handled by the Liberian Petroleum Refinery Corporation (LPRC) at the product storage terminal (PST) close to the Free Port of Monrovia. The HFO facilities (see figure 5.1) were destroyed during the wars, and there is currently no supply of HFO to Liberia. LPRC is involved at present in importing only “white” petroleum products (i.e. lighter products from the top end of the refining process).



Source: Authors.

There is a pressing need for facilities at or near Monrovia port for the unloading, storage, and transport by means of a short pipeline (1.2–1.5 km) of heavy fuel oil (HFO) to be used in power generation by LEC. Medium- and long-term power options for Monrovia include hydropower and biomass generation. In the short term, however, HFO is the preferred option.

The World Bank (IDA credit) is funding certain parts of the HFO facilities on the LEC side, amounting to US\$4.7 million. This arrangement leaves the port, main storage, and transport facilities unfunded.

Separate facilities are needed for handling HFO (more precisely, for “black” petroleum products). Although there could be some administrative economies of scale in putting both under a single terminal, it is not unusual to find ports that have entirely separate black oil terminals.

HFO-fired generation is less expensive than diesel, which is used at present for the entirety of LEC’s capacity. The World Bank estimates the benchmark levelized cost of HFO generation to be US\$0.16/kWh, compared with US\$0.27–0.32 for diesel.¹

LEC would choose to move to HFO rather than diesel for future non-renewable power (aside from expected power from the West Africa Power Pool) if a supply of HFO existed. HFO-fired power forms an essential part of Liberia’s least cost power capacity expansion plan. HFO-fired plants are viewed as the least-cost means to close the forecast medium-term power gap; they would add a total of 15 MW by 2014.²

Even when hydroelectric capacity comes on line (the first being from Mount Coffee, expected in 2016), HFO units would serve to fill in the troughs in hydroelectric output during dry seasons. In all, it is expected that LEC could use 15–50 MW in HFO-fired power over the medium term.³ That translates into a need for 25,000–83,000 tons of HFO per year.⁴

Potential demand is not restricted to LEC. For example, some ships use HFO as bunker fuel, and this would provide some additional demand. Mining concessionaires will also have large needs for power and sometimes use HFO. It is yet not clear what their demand for HFO will be, however. At present, with modest power demands each of e.g. 10–20 MW, they use diesel-fueled units. Once they begin intensive production (involving heavy grinding and pelletization), in some cases they may meet their increased power needs with coal-fired units. This question would need to be studied in a market analysis associated with the preparation of any PPP for HFO facilities.

Another question in relation to the mining companies' possible demand is that Monrovia might not be the optimal location for HFO unloading facilities for them. For several mining concessionaires, Buchanan might be better placed. Trucking HFO from Buchanan port to Monrovia, however, would result in an additional cost for supply to LEC. This is another issue that would need to be examined in the pre-feasibility work for a possible PPP.⁵

In principle, a project for the rehabilitation and operation of HFO facilities could be suitable as a PPP. A specialized company could be given the responsibility to construct, rehabilitate, finance, and operate the facilities.

In a PPP framework, there would be at least two options for how HFO would be purchased. Under one model, the PPP company would not be involved in purchases of HFO. LEC would use competitive procurement (bidding or shopping) to get the best price for HFO (e.g. one-year contracts) and then purchase it themselves, paying a fee to the PPP company, which would be responsible for offloading, storing, and transporting the product to LEC.

Another PPP model would involve a long-term all-in HFO supply contract with the PPP company. The price to be paid would need to include adjustments based on changes in the market price. The company would need to be adequately incentivized to provide the lowest supply price of HFO at any time – e.g. by keeping a share of the gains obtained relative to a market benchmark (provided by a specialized company, e.g. Platts). The advantage is that LEC would not have to develop specialized HFO procurement expertise; the downside is that LEC would pay a premium for the PPP company to do this.

There are two variants of this second option. The company could be a specialized facilities operator that would purchase HFO from suppliers. Alternatively, the company could be an HFO supplier itself.

One obstacle might be the investment size. The capital cost of the facilities is estimated to be at most US\$16 million. This might not be large enough to be interesting as a stand-alone PPP. Moreover, the volume of oil to be supplied may limit the amount of capital private operators would be willing to mobilize. One option could be an all-in contract with a major fuel supplier that can identify potential customers and their needs outside LEC, and that already has activities in Liberia. Another option is, if grant or concessional financing were available, the rehabilitation of the facilities could be carried

out as a public-sector project, and an operator could be contracted to run and maintain the facilities. A PPP Pre-Feasibility Study of this HFO facility would assist in selecting the best PPP structure for this transaction.

Power Projects

Mt. Coffee

The Mount Coffee hydroelectric power plant, located on the St Paul River, began operation in 1966 and was the primary source of electric power for Monrovia during the wet season until operation stopped in the early 1990s because of the wars. The reconstruction of Mount Coffee is at the top of the list as a way to increase energy supply to Monrovia. Given its specific situation, energy costs are expected to be significantly below any alternative Greenfield hydroelectric project. Moreover the project can be staged to match load growth in Monrovia.

A feasibility study for the reconstruction and expansion of the Mount Coffee hydroelectric facilities was carried out for LEC in 2008. Although several technical variants were considered, the recommended solution consists of four units with a total capacity of 66 MW, along with reconstruction of the powerhouse, intake structure, and substation. The project would also include the construction of a larger storage reservoir to reduce the previous high seasonality of output.

Capital costs (excluding the reservoir) are estimated at US\$162m (2008 prices). The facilities are expected to result in a levelized cost of electricity estimated at US\$0.11/kWh. The feasibility study estimated that it would take about 3? years from decision point to proceed until commercial operation of the first unit, and 1? years more to complete the other three units. The project, of key priority, could be realized in several different ways:

- Development partners have expressed keen interest; and sufficient financing, in the form of grants and loans at concessional rates, could potentially be mobilized.
- The Government has discussed with a mining company the idea of financing and implementing the needed works as part of a broader deal involving the mining company's right to transport iron ore from Guinea to a port in the Buchanan area, and in addition the right to receive a portion of the power output of the reconstructed Mount Coffee.
- A third possibility would be to implement the Mount Coffee project as a competitively procured IPP, in which a contractor would be responsible for civil works, equipment and subsequent operation and maintenance for 20–30 years (See discussion on IPPs). This solution could be combined with donor financing – e.g. the reservoir works could (and might more appropriately) be implemented as a conventional public sector project.

Interfacing these options with the ongoing World Bank support to the power sector, and harmonizing these choices with the recent power sector Options Report will assist the GOL in selecting the best options for developing Mt. Coffee.

Mini-Grid Power PPPs

The electric grid that is progressively being rebuilt in Liberia will affect only the Monrovia area for years to come. At present, there are no other publicly provided power ser-

vices outside Monrovia, except a limited municipally run mini-grid in Gbargna. There are 14 towns in Liberia (excluding Monrovia) with populations each over 10,000 (2008 data). The combined population of these 14 towns is 371,000. Nine of these towns are county capitals.

When the WAPP CLSG (the transmission backbone) is constructed certain counties will be able to be connected to the nascent national grid. A large part of the country, however, will remain off-grid for a long while. These areas will need off-grid sources of power if they are to be electrified.

The Rural and Renewable Energy Agency (RREA) was established in 2010 to deal with electricity provision outside the Monrovia area. (In this context, “rural” effectively means being off the Monrovia grid, which includes other towns).⁶ Although one objective of Liberia’s National Energy Policy (2009) was to “lay the foundation for the creation of an enabling environment to attract private sector capital to the energy sector,” the Policy does not describe how that might work in the context of off-grid electrification of towns.

There is no single best-practice way to implement rural or off-grid electrification. There is a range of models that can work, depending on the country and circumstances:

- The systems can be run by a national, regional, or municipal utility company.
- The rural electric cooperative model is an alternative (involving a nonprofit company consisting of users), based originally on U.S. experience.
- PPPs could be employed.

In a common example of the PPP model, an operator is given responsibility for a small vertically integrated utility system covering an entire town – generation, distribution, sales, and revenue collection. The operator would be responsible for investments and financing, as well as operation and maintenance. The duration of such a PPP would typically be 20–25 years. These systems, where the power is of grid quality, can be termed as “mini-grid” systems.⁷ In some cases, nearby towns could be clustered together and covered by one PPP.

PPPs have been used for this purpose in several other countries – e.g. Chile, Ethiopia, Mali, Bolivia, Dominican Republic, Senegal. For example, in Senegal the Agency for Rural Electrification has launched a program of 11 PPPs, awarded by international competitive bidding, often for clusters of villages, with each cluster covering 5,000–10,000 customers.

PPPs are not suitable for this purpose in all circumstances. Total population, population density, and willingness and ability to pay all have to be sufficiently high. Substantial demand from non-residential customers is another positive factor. Of key importance is the availability of considerable grant financing for the distribution network as a way to keep tariffs affordable. In the Senegal PPPs, for instance, the grant element can reach 80% of total investment costs.

There has been a great deal of experience in the past few years in applying output based aid (OBA) principles to electricity connections. This experience should be drawn on in designing how grants would be used in the context of these mini-grid PPPs. For example, 70–80% of the grant amount could be disbursed against construction milestones and the remaining 20–30% against verified new connections and service quality. Most OBA experience, however, in power systems off the main grid has been for isolated off-grid systems for rural electrification involving the “dealer model” in which private

dealers sell entire stand-alone systems. Experience in providing OBA grants for mini-grid systems in small towns appears to be more limited.⁸

Towns that might prove to be suitable for mini-grid PPPs are some of the county capitals, such as Gbarnga and Voinjama, and other large urban areas such as Ganta and Zorzor. RREA aims to prepare a master plan for rural energy (with EU funding). This is expected to take up to two years to complete. This should not bar the preparation and implementation of several pilot PPPs in selected towns since it is unlikely that the master plan would entirely exclude PPPs as an option. Moreover, the experience of preparing pilot projects could be fed back into the preparation of the master plan.

The capacity needed for each system would most likely be in the range of 100 kW to 1 MW, depending on the extent of non-residential use, as well as population of the town or cluster of towns. The technologies used for power generation would depend on local conditions. Diesel would be most appropriate for some.

Liberia has six major rivers, and it is expected that the proximity of rivers to some towns would favor mini hydropower plants (e.g. perhaps Zorzor). Twenty-four sites have been identified as possibly suitable for small hydropower schemes, with a capacity totaling 66 MW (median 700 kW).⁹ RREA intends to carry out an assessment of Liberia's small hydropower resources for mini-grid and community electrification. Likewise, properly designed biomass projects could also provide an important source of low-cost energy some towns. Hybrid systems would be most appropriate in some areas – e.g. because of the seasonality of hydropower.

Finally, there are a number of cases where a candidate town is less than 40 km to the nearest mining concession. Long-term arrangements could be entered into with concessionaires to provide power, in which case the mini-grid PPP would cover only transmission, distribution, and sales. PPPs of this type should not be done haphazardly. The first few should be done very carefully as a prelude to the development of a well-articulated national policy.

One important aspect of national policy would be to set uniform technical standards so that the mini-grids could easily be connected up to the national grid as it is developed, or where a number of minigrids gradually expand to connect with other minigrids.

Another aspect of national policy in this area would concern tariff setting. One would expect each of the mini-grids covering a town or cluster of towns to have a system-specific tariff based on nationally uniform principles permitting recovery of efficient (benchmarked) costs (and taking into account the grant component of the financing), but also including incentives for the operator to increase the number of connections and for other aspects of good performance.¹⁰

An important issue that would need to be dealt with at the start is how the payment principles and payment mechanism would change once the system is connected up to the national grid. Operators would need assurance that, regardless of how tariffs would be set from that time on and where the revenue would go, under the national grid regime they would be kept in the same financial position as contractually agreed at the start. The policy should also have principles for sales by mini-grid PPPs of excess power to the national grid.

It will be important to explore ways that risks can be mitigated. For example, collection risk could be reduced by adopting the current practice of LEC for Monrovia: LEC now charges for power up front, one month in advance; the result is a 93% collection rate for LEC at present.

Projects That Are Tied to Natural Resource Concessions

Power as Spin-Offs from Mining Concessions

It has been estimated that Liberia's mining concessions will require about 840 MW of power.¹¹ In principle, additional power could be supplied to the Monrovia system, or to other areas of Liberia, by using excess generating capacity of the mining concessionaires. Liberia has made use of arrangements like these in the past. LEC depended on excess power from Bong mines during the dry season when its own hydroelectric power supply was low.

Concession agreements in Liberia often provide that the Government is entitled to buy any excess power that the mining company produces, without however any obligation on the company to provide for excess power. Sometimes the provisions go further than that. For example, the Putu Iron Ore Mining company is obligated to provide power to users within a 10 km radius of its plant.

Leveraging off of the concessionaires' power production could have several advantages. There could be cost savings since the unit cost of capacity added on to a plant that the company must build in any case would normally be less than the cost of a separate plant providing the same incremental capacity. Also important is that the company would provide financing for the investment, and implementation time should be less.

Although, in negotiating deals with individual concessionaires, the Government would have to forgo the benefits of competition, benchmarked costs would be used in the negotiations and the benefits of economies of scale might outweigh any losses from the lack of full competition. Leaving these arrangements ad hoc and flexible, as they are today, has advantages. They do not substitute for entering into arrangements situated more securely in the context of LEC's longer term planning.

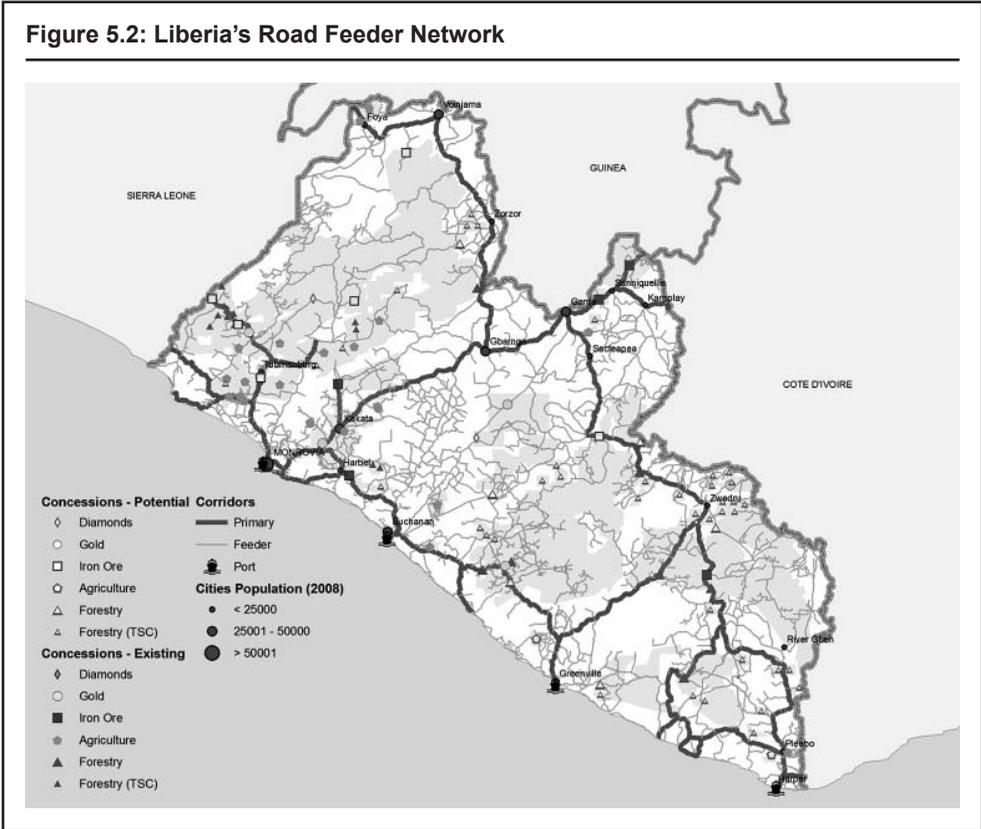
To fit in with sound long term planning by LEC, one could move more toward what would be, in effect, well-developed power purchase agreements with mining concessionaires. Clear and long-term commitments on both sides would make sense only in the context of a more formalized mechanism for keeping track of and coordinating, on the one hand, LEC's medium-term capacity expansion needs and plans (and those of off-grid systems – see section on off-grid power solutions below) and, on the other, the mining concessionaires' needs and plans. The idea would be to identify points where there is a close enough correspondence between the two parties' interests in particular cases that mutually beneficial deals could be struck.

Road Works as Spin-Offs in Forestry Concessions

Most of Liberia's roads and bridges were seriously damaged or destroyed in the wars. Rehabilitation and repair is proceeding for sections of the primary road network. There are an estimated 2,400 km of feeder roads (see figure 5.2), many of which were constructed initially by natural resource concessionaires (logging and mining) and partially by farmers.¹² It has been estimated that about one-third of the feeder road network is within the natural resource concessionaires' territories.¹³

Feeder roads will play an important role in the development of the Liberian agricultural sector. Many of them ultimately feed into the development corridors that allow agricultural and forestry products to move to sea ports. The most intensive agricultural areas are in the central corridor and in the far northwest and southeast. Noteworthy are the secondary roads in Nimba County, where the potential for increased agricul-

tural production by small farmers is high.¹⁴ Moreover, by reducing transport costs, passable and well-maintained feeder roads can open up entirely new areas to cash crop production.¹⁵



Source: Barra, 2011 GIS Analysis.

One of the strategic goals of the Government over the first Poverty Reduction Strategy (PRS1) period was to work in partnership with the concessionaires to undertake the rehabilitation of certain feeder roads.

Forestry and agricultural concessionaires are responsible for rehabilitating and maintaining the roads within their concession areas, except for major highways. In principle, these roads should be maintained to standards appropriate also for other users, as verified by the Ministry of Public Works (MPW).

In some cases, the Government (MPW and the Ministry of Finance) has negotiated with forestry concessionaires arrangements by which they rehabilitate and maintain feeder roads outside their concession areas, in exchange for a reduction in forestry-related taxes (e.g. stumpage fee, export taxes, land tax).

The forestry concessionaires have the right kinds of equipment and expertise since this is an activity that they already carry out for their own needs. It should therefore be possible in principle to realize economies of scale.¹⁶ Moreover, the concessionaires gen-

erally express a willingness to do this kind of road work outside their concession areas. Bridge maintenance is another possibility.

In some cases, the roads involved are more substantial than feeder roads. One of the forestry concessionaires, for example, has been in negotiation with the Government to construct and rehabilitate a 175 km road in Grand Kru and Sinoe Counties in the southeast of the country – a secondary road facilitating transport from a broad area to Greenville.

The major drawback to dealing with these activities by one-on-one negotiations with natural resource concessionaires is that the advantages of competitive tendering are forgone. Given the unsystematic and often unsatisfactory nature of these ad hoc negotiations in the past, there is a certain distaste now within the Government for this kind of solution.

This type of problem could be remedied to some extent if the negotiations were carried out in a more systematic and coherent manner. The components of such a system could include the following:

- A well developed system of cost benchmarking.
- The use of standardized financial models to determine the level of reductions in taxes and fees paid to the Government that would fairly compensate the concessionaire for the additional work.
- Standard contract terms, to be used as amendments to the concession agreements.
- An explicit linkage made between the effective payment for these services and MPW budgetary allocations for feeder roads – to demonstrate the fiscal justification for the reduction in taxes and fees.
- A system of independent experts who would carry out cost estimation and verify compliance with performance standards (at the moment, these activities are performed by MPW and the Forestry Development Authority).

“Long List” of PPP Transactions

In addition to the “quick wins,” or “short list” of PPP transactions that can be prepared in the short term, other potential PPP projects can also be supported in Liberia in the medium term. These can be referred to as a “long list” of potential PPP transactions. These projects are found in both the core infrastructure and also the social sectors. Appendix 3 sets out the list of these pipeline transactions and provides a brief description. While these may not be the projects the GOL wishes to support immediately, they can still be initiated with upstream technical analysis and scoping studies that will help the GOL move the process forward. Of the proposed “long list,” two – TVET PPPs and IPPs around the Monrovia area – draw particular attention.

Technical and Vocational Education and Training (TVET)

Businesses in Liberia – including the concessionaires – find that the workers they hire are often lacking in basic skills. The wars destroyed many of the vocational training centers in the country, and unemployed youth during this period did not have the opportunity to learn on the job.

The private sector can be introduced to provide either TVET services or related infrastructure and materials initially on a service or management contract. Appendix 3 also provides greater detail on the initial concepts of introducing PPPs to TVET services and facilities. Should the GOL wish to pursue this approach in some manner for TVET, further analysis and thinking must be conducted to clarify the specific role the private sector could play.

IPPs in Proximity to Monrovia

PPPs for power generation – known as independent power producers (IPPs) – can be a useful component of a country's energy program. They can be especially useful when additional electricity is needed urgently and as a way to increase, at least in the short term, overall financing available for public infrastructure. If donor grants and concessional financing are limited, amounts could be shifted and used for other important public sector projects if private sector financing is found for IPPs.¹⁷

In the IPP model, a private sector developer finances, constructs, operates, and maintains the power plant. Power is sold to the government off-taker (usually a utility company) through a 20–25-year power purchase agreement (PPA). Remuneration is generally structured as a fixed periodic capacity payment and a variable energy payment. Demand risk and fuel-price risk are eliminated for the IPP operator, thus permitting a lower financing cost than for some other types of PPPs. These risks, however, are shifted to the utility company – and hence to customers or government – which can cause difficulties if demand is lower than expected. This means that IPPs should be conceived in the context of a sound energy plan based on reliable information about future demand and supply.

Apart from bringing in additional financing in the short term, IPPs have other advantages, notably including faster implementation and greater technical competence in operating and maintaining the plant – although most of these benefits could be obtained by the combination of a well designed and supervised turnkey construction contract and subsequent operation and maintenance (O&M) by a competent and financially capable electricity utility company or through a stand-alone O&M contract.¹⁸

As a general statement (with the exception of Mount Coffee – see below), it may be premature to plan for IPPs for Monrovia in the immediate future because of the considerable uncertainty over a number of aspects needed for sound planning, including the following:

- timing of future power needs;
- availability of donor funds and willingness to provide grants and concessional financing;
- access to heavy fuel oil;
- date of coming on stream of the WAPP;
- possible supply to the public grid by certain mining concessionaires.

Other considerations that might also disfavor using IPPs in the immediate future are:

- the need for relatively small increments of additional power as the distribution system expands, not ideally suited to an IPP;
- the presence of a management contractor, MHI, capable of operating and maintaining power plants that are added to the system.

This does not mean that there would not be a role for IPPs in the medium term. They might be especially important if the start of supply from the WAPP is delayed beyond 2015. IPPs could also play an important role if conventional financing cannot be found for additional diesel or HFO-fired units to meet the gap that will develop before 2015.

In this context, in July 2011, LEC issued a request for expressions of interest to initiate discussions with potential IPPs about the feasibility of investing in facilities with an initial capacity of 10 MW and with options for small increments in capacity rising to 40 MW over three years. Wood- or HFO-fired thermal generation is expected to be the technology of choice.

Moreover, there is the special case of the rehabilitation of Mount Coffee (see the section on Mt. Coffee for more information about the project). The Government has been considering several different ways of financing and implementing the project. One way could be as an IPP. The project is expected to be large enough to be of interest to some private sector contractors/operators. Even if the capital works were implemented as a conventional public sector project with donor financing, a subsequent O&M contract might make good sense since the needed expertise is specialized and goes beyond LEC's present capacities in relation to thermal plants.

If IPPs are considered in the near future, it will be important to find ways to mitigate risks as a way to reduce the cost of financing, which would otherwise be expected to include a considerable country and project risk premium in present circumstances. The creditworthiness of LEC itself is not strong at present, given its low revenue base and its goal to reduce tariffs to a more affordable level. MIGA guarantees or World Bank partial risk guarantees could be considered; DFI involvement of some kind would be warranted.

Next Steps in Pipeline Development

This analysis and review of the forming the PPP project pipeline short-list illustrates that many of these proposed transactions are at different upstream stages of development regardless of their potential for introducing PPPs. The GOL can take definite steps in advancing each one of these proposed projects. Critical next steps in PPP pipeline development in Liberia include:

Planning and Confirmation of Projects

With this initial analysis on the short-list of PPP projects that could be supported, the GOL should reach consensus on confirming an initial set of transactions they wish to develop as PPPs. Agreement across central and line ministries on these projects cannot be understated. Once these projects are chosen and agreed upon, proper screening can be conducted to ensure that these projects fit with the GOL's development plans and sector strategies.

Project Screening and Selection

Develop systematic guidelines and criteria for line ministries to draw upon in screening and selecting projects to develop as PPPs. These Guidelines must require that the screening and selection be integrated into sector strategies and development plans. This will ensure that the projects being selected to be developed as PPPs are in line with central planning outlooks and GOL's development vision.

Pre-Feasibility Analysis

For the above short-listed projects, the GOL should carry out Pre-Feasibility analyses that carefully study the important aspects of how to introduce PPP to a particular transaction. Important in this analysis is clarifying different options for PPPs and if a PPP is the best suited model for developing the select infrastructure asset or service. The Pre-Feasibility (for each PPP being planned) should include:

- a. Formulating an initial PPP concept, including outputs, payment mechanism; and developing and assessing a broad idea of risk allocation, the basic physical components of the project, an estimate of costs and a preliminary financial model – i.e. carrying out a broad-brush assessment of the feasibility of the PPP project.
- b. Broad objectives of the pre-feasibility work: to explore the objectives, preferences, and constraints of major stakeholders; to flesh out the project concept just enough so that major stakeholders will be able to have an *informed* opinion; to identify important risks and potential obstacles; to obtain a rough idea about needed tariff levels (if relevant) and needed financing; to be able to tailor to the specifics of the project the terms of reference for the consultants who will undertake the full PPP feasibility study.
- c. To achieve this, the study should: (i) ensure conformity with the Government's strategic objectives and goals for infrastructure development in the particular sector; (ii) assess the suitability of the type of project for treatment as a PPP (as opposed to conventional public procurement); and (iii) assess different PPP options, if relevant.

Support to project development should also be accompanied by a strengthening of the GOLs capacity to define, structure, implement and monitor PPP transactions, as well as to engage in a strategic dialogue with concessionaires to leverage investment and coordinate PPP spin-off developments. Steps to do so include:

Encouraging Coordination of Concessionaire Investment

Establish a task force to draw on recent sector analysis on leveraging concessionaire investment and identify key infrastructure projects the GOL would like to develop as a spin-off from existing and/or planned concessionaire infrastructure investments. Of this list, the GOL could also select particular projects that they wish to assess the feasibility of developing as a PPP. Furthermore, this task force should also develop a strategy for harmonizing existing concessionaire infrastructure investment and future investments from concessionaires.

Strengthening Sector Plans and Policy

Strengthen sector policy and planning by supporting sector infrastructure planning and/or building on existing sector plans. Solid sector planning makes selecting which projects the GOL is interested in developing as a PPP and which projects should remain as publicly financed much easier. Furthermore, robust sector planning helps build consensus within the government on how each project under development fits into the GOL's overall growth strategy and development vision.

Building Capacity

The GOL should work with development partners to build its in-house capacity to screen and analyze infrastructure projects to develop PPP transactions or as publicly financed operations. The skills needed to assess the feasibility of PPPs are relevant also to strengthening the GOL's oversight in publicly financed and managed infrastructure projects. While many of these projects could be done as PPPs, it is equally important for those that are to be completed publicly that they are assessed, developed and managed according to best practices for public management processes.

Notes

1. Estimates of the levelized cost of power generation in this report are taken from World Bank, *Options for the Development of Liberia's Energy Sector*.
2. In the short run, JICA has explored the possibility of contributing a 10 MW HFO-fired plant, provided the facilities for receiving HFO are operational.
3. The quantities needed are sensitive to the capital cost of HFO-fired plants, the price of power to be supplied from through the West African Power Pool (WAPP) transmission line, and the timing of hydropower (Mount Coffee) start-up, among other things.
4. At an 80% load factor and 35% efficiency.
5. A feasibility study (prepared by Optec Energy Services, March 2011) has been carried out to examine the technical and legal aspects of different options for where to situate the offloading, storage, and transport facilities for HFO in the Monrovia port area.
6. It is not clear yet, however, whether county capitals would fall administratively under RREA or LEC.
7. The term "off grid" can also be used, referring to the lack of connection to a main nationwide grid.
8. See Yogita Mumssen, et al, *Output-Based Aid: Lessons Learned and Best Practices*, Chap. 5, "Energy," World Bank (2010).
9. See World Bank, *Options for the Development of Liberia's Energy Sector*.
10. See, e.g., *Guidelines for Developers of Small Power Projects*, issued by the Tanzanian regulator, EWURA (March 2011).
11. See Foster and Pushak.
12. *Liberia Poverty Reduction Strategy* (April 2008), Chap. 9.
13. Leveraging Investments by Natural Resource Concessionaires, Infrastructure Policy Note, World Bank (June 2011).
14. Ministry of Planning and Economic Affairs, *Liberia's Vision for Accelerating Growth: Development Corridors Desk Study*.
15. *Prioritizing Investments for Economic Diversification*, Infrastructure Policy Note, World Bank (June 2011).
16. Even if all the road works equipment of a concessionaire is being used at full capacity and so additional equipment would need to be purchased, there should still be economies of scale in management, logistics, equipment maintenance and repair, etc.
17. It is questionable, however, whether IPPs increase available financing in the long run, compared with public-sector projects. Future payments owed to IPP companies have a similar effect in constraining fiscal space as do debt service payments made directly by a public sector entity.
18. In some types of PPP, significant benefits can be realized by bundling responsibilities for construction and O&M and including both in the same PPP. It is not clear whether this would hold for most IPPs, however.

Conclusion

Liberia has built up a solid body of experience in engaging the private sector through concessioning and re-concessioning its extractive industry resources, and developing a handful of PPP transactions. From these interactions, the Government of Liberia has accumulated its own library of experiences and lessons learned. Many of these lessons – positive and negative – reflect general international experience. More importantly, however, several are specific to Liberia and accentuate gaps that the Government must bridge in order to crowd-in private sector investment into infrastructure, improve the operating environment for the local private sector, and create jobs.

There are three examples of good-practice and potentially successful PPPs (though too early to know for sure) that have been developed and are in the operational stage now (Monrovia port, LEC, Municipal solid waste). Each has been developed with strong support from DFIs and intensive work by teams of external consultants. What is promising is that in each case the Government (city in the case of solid waste) has taken sound decisions in developing the PPP, including through rigorous upstream analysis, and through competitive and clear procurement procedures. This bodes well for future PPP transactions in Liberia and sends a strong signal to the private sector market.

The Government's legal and institutional enabling environment for PPPs and concessions still requires institutional reinforcement and legal clarity. Notwithstanding this, systematically developing PPPs as independent transactions and concession spin-offs are now a key part of the overall infrastructure development dialogue. The PPCA now covers public procurement activities well and is stronger on concession management than its predecessor. The proposed NBC Act will deepen the Government's monitoring and evaluation processes over concessions, yet it still could benefit from further strengthening. The overall framework must also be expanded or accented with supporting legal and institutional measures to cover PPPs.

Liberia has a promising PPP pipeline that consists of both short-listed and long-listed projects covering many critical sectors. By incorporating its experience to date, Liberia can pursue infrastructure development through partnerships with the private sector, but doing so will require the prioritization and screening of potential PPPs, and the conduct of proper technical analysis to structure these transactions effectively. These actions must be accompanied by overall technical assistance to the Government to deepen its capacity to carry PPPs and concessions from inception to completion.

This Study has not covered one important aspect of the PPP market in Liberia- the financial sector. This has not been done for lack of importance given to this element, but rather the acknowledgment of a need for a complete look at the capital market and long-term financial constraints in Liberia. A significant part of this work has recently been completed for the region and additional analysis of Liberia's financial sector is cur-

rently underway.¹ However, a particular look at options for financing PPPs in Liberia – viability gap facilities (VGF), project development facilities (PDF), financial intermediary loans (FIL), etc- is crucial for a complete look at the enabling environment for PPPs. This analysis should also consider the concept of “regional” financial facilities such as regional VGF or regional PDF that could be established for several smaller countries, like Liberia, in West Africa.²

Should the Government wish to advance the PPP agenda further in Liberia, next steps would include:

- efforts to strengthen government capacity and awareness – including the development of a PPP ‘policy’;
- the selection, screening and confirmation of a short-list of transactions to be developed using PPP instruments;
- the conduct of proper upstream pre-feasibility analyses on these transactions;
- the implementation of steps to reinforce the legal and institutional enabling environment.

These actions could be pursued with the support of development partners, including the World Bank, and draw upon international expertise.

Although small in relation to many of its neighbors, Liberia’s reform efforts since exiting conflict, its long-standing engagement with the private sector through its extractive industries, and its strong development vision combine to offer many lessons for others in the region. Many sub-Saharan countries have economies largely based on mining or other extractive industries and continue to seek creative methods to leverage the investments based on these resources for other infrastructure development projects. Likewise, other post-conflict countries in the region are endeavoring to identify ways to engage the private sector in various places of the local market including in infrastructure provision. Liberia is doing both, and its new interest in using PPPs as a development tool may assist in bridging these two distinct endeavors.

Notes

1. See *Towards Better Infrastructure*.

2. Similar analysis looking at the feasibility and relevance of establishing regional financial facilities to assist in developing PPPs in a particular region is currently underway with East Africa Community.

Appendixes

Appendix 1: Existing Concession Contracts

Table A.1.1: Existing Concession Contracts

| Sector | Investor Name | Commodity | Contract Signing Date | Contract Termination Date | Size (hectares) |
|-------------|---|------------------|--|-------------------------------------|---|
| Agriculture | Firestone Liberia Inc. | Rubber | Effective Date: 04/12/2005 (1.14), Amended date: 03/31/2008 | 12/31/2041 (3.2) | 48,154 (4.1) |
| | ADA Commercial Inc. | Rice | 04/05/2008 | 03/05/2028 (2) | 15,000 (1.30) |
| | Liberia Forest Products Inc. | Palm Oil | 12/21/2007 | 2057 | ~ 8,014 (19,795 acres) (3.1.c) |
| | LIBINC Oil Palm Inc. | Palm Oil | 12/31/2007 | 2057 | ~ 13,967 (34,500 acres) (3.1.c) |
| | Rubber Cultuur Maatschappij 'Amsterdam' and Nordmann Rasmann and Company with respect to the Salala Rubber Plantation | Rubber | 08/01/1959 | 2029 (13) | ~ 40,486 (100,000 acres) (2) |
| | Sime Darby Plantation (Liberia) Inc. | Palm Oil, Rubber | 04/30/2009 | 2072 (63 years) (3.1) | 220,000 (1.12) |
| | Golden Veroleum (Liberia) Inc. | Palm Oil | 08/16/2010 | 65 years from date of signing (3.1) | 220,000 (4.1.d) |
| Mining | PUTU Iron Ore Mining Inc. and Mano River Iron Ore Ltd. | Iron Ore | 09/02/2010 | 2035 (25 years) (3) | Not found |
| | China-Union (Hong Kong) Mining Co., Ltd. and China-Union Investment (Liberia) Bong Mines Co., Ltd. | Iron Ore | 01/19/2009 | 2034 | 153,000 acres |
| | Mittal Steel Hodling A.G. and Mittal Steel (Liberia) Holdings Limited | Iron Ore | 08/17/2005 (amended 12/28/2006) | 2030 | 617 km ² |
| | AMLIB United Mineral Inc. (Rivercess) | Gold, Diamonds | 03/05/2009 | 03/05/2034 | 1,443 km ² in total exploration area |
| | AMLIB United Mineral Inc. (Grand Gedeh) | Gold, Diamonds | 03/05/2009 | 03/05/2034 | 200 km ² |
| | AMLIB United Mineral Inc. (Monserredo) | Gold, Diamonds | 03/05/2009 | 03/05/2034 | 100 km ² = 24,710 acres |
| | BHP Billiton | Iron Ore | 09/16/2010 | 2035 | 2,373 km ² (included Initial and Additional Exploration areas) |

(Table continues on next page)

Table A.1.1: Continued

| Sector | Investor Name | Commodity | Contract Signing Date | Contract Termination Date | Size (hectares) |
|-----------------|---|------------------|------------------------------|----------------------------------|------------------------|
| Forestry | Alpha Logging and Wood Processing Inc. (Area A) | Logs | 10/06/2006 | 10/05/2033 | 119,240 |
| | EJ & J Investment Corporation (Area B) | Logs | 10/06/2008 | 10/05/2033 | 57,262 |
| | GEBLO Inc. (Area T) | Logs | 09/17/2009 | 09/16/2034 | 131,466 |
| | International Consultant Capital (ICC) (Area K) | Logs | 09/17/2009 | 09/16/2034 | 266,910 |
| | Liberia Tree and Trading Company Inc. (Area C) | Logs | 10/06/2008 | 10/05/2033 | 59,374 |
| | Euro Liberia Logging Company (Area F) | Logs | 09/17/2009 | 09/16/2034 | 253,670 |
| | Atlantic Resources Ltd. (Area P) | Logs | 09/17/2009 | 09/16/2034 | 119,344 (A1) |
| | Akewa Group of Companies (A3) | Logs | 07/21/2010 | 07/20/2013 | 5,000 |
| | B + V Timber Company (A6) | Logs | missing | missing | 5,000 |
| | B + V Timber Company (A9) | Logs | 06/27/2008 | 06/27/2011 | 5,000 |
| | Bargor and Bargor Ent. Inc. (A7) | Logs | 06/27/2008 | 06/27/2011 | 5,000 |
| | Sun Yeun Corp. (A15) | Logs | 07/21/2010 | 07/20/2013 | 5,000 |
| | Sun Yeun Corp. (A16) | Logs | 07/21/2010 | 07/20/2013 | 5,000 |
| | Tarpeh Timber (A2) | Logs | 06/27/2008 | 06/26/2011 | 5,000 |
| | Thunderbird International Liberia Inc. (A8) | Logs | 10/01/2010 | 11/30/2012 | 5,000 |
| | Bassa Logging Timber Corporation (A11) | Logs | 07/21/2010 | 07/20/2013 | 5,000 |

Source: Derived from Liberia Natural Resource Concessions database, 2011. Composed by the World Bank with information provided by the Ministry of Foreign Affairs, Liberia, and Bureau of Concessions at the Ministry of Finance, Liberia.

Appendix 2: Potential Concession Contracts

Table A.2.1: Potential Concession Contracts

| Sector | Name | Resource | Location | Area km ² |
|--------------------|-------------|----------|------------------|----------------------|
| Agriculture | Kedica Farm | Rubber | Maryland | 51.07 |
| Forestry | TSC "A-19" | Forestry | Grand Cape Mount | 42.41 |
| | TSC "A-10" | Forestry | Grand Cape Mount | 50.44 |
| | TSC "A-4" | Forestry | Gbarpolu | 49.82 |
| | TSC "A-17" | Forestry | Gbarpolu | 39.71 |
| | TSC "A-18" | Forestry | Gbarpolu | 51.31 |
| | TSC "A-12" | Forestry | Lofa | 49.95 |
| | TSC "A-13" | Forestry | Lofa | 50.05 |
| | TSC "A-14" | Forestry | Lofa | 50.23 |
| | TSC "A-1" | Forestry | Grand Bassa | 51.84 |
| | TSC "A-20" | Forestry | Rivercess | 53.07 |
| | TSC "B-1" | Forestry | Rivercess | 51.14 |
| | TSC "B-2" | Forestry | Rivercess | 50.39 |
| | TSC "B-3" | Forestry | Nimba | 52.65 |
| | TSC "B-4" | Forestry | Nimba | 51.27 |
| | TSC "B-5" | Forestry | Nimba | 50.85 |
| | TSC "B-6" | Forestry | Grand Kru | 53.26 |
| | TSC "B-7" | Forestry | Grand Gedeh | 50.58 |
| | TSC "B-8" | Forestry | Grand Gedeh | 52.38 |
| | TSC "B-9" | Forestry | Grand Gedeh | 50.39 |
| | TSC "B-10" | Forestry | Grand Gedeh | 50.87 |
| | TSC "B-11" | Forestry | Grand Gedeh | 50.15 |
| | TSC "B-12" | Forestry | Grand Gedeh | 50.10 |
| | TSC "B-13" | Forestry | Grand Gedeh | 50.43 |
| | TSC "B-14" | Forestry | Grand Gedeh | 50.45 |
| | TSC "B-15" | Forestry | Grand Gedeh | 50.95 |
| | TSC "B-17" | Forestry | Grand Gedeh | 50.15 |
| | TSC "B-18" | Forestry | Grand Gedeh | 51.47 |
| | TSC "B-19" | Forestry | Grand Gedeh | 50.64 |
| | TSC "B-20" | Forestry | Grand Gedeh | 51.93 |

(Table continues on next page)

Table A.2.1: Continued

| Sector | Name | Resource | Location | Area km² |
|-------------------|---------------------------------|-------------------|-----------------------------|----------------------------|
| Forestry | TSC "C-1" | Forestry | River Gee | 47.20 |
| | TSC "C-2" | Forestry | River Gee | 53.15 |
| | TSC "C-3" | Forestry | River Gee | 50.30 |
| | TSC "C-4" | Forestry | River Gee | 50.72 |
| | TSC "C-5" | Forestry | River Gee | 50.51 |
| | TSC "C-6" | Forestry | Maryland | 49.91 |
| | TSC "C-7" | Forestry | Grand Kru | 50.44 |
| | TSC "C-8" | Forestry | Grand Kru | 46.38 |
| | TSC "C-9" | Forestry | Grand Gedeh | 53.35 |
| | TSC "C-10" | Forestry | Grand Gedeh | 49.70 |
| | TSC "C-12" | Forestry | Rivercess | 52.35 |
| | TSC "C-13" | Forestry | Sinoe | 50.61 |
| | Area "D" | Forestry | Gbarpolu & Grand Cape Mount | 3670.20 |
| | Area "H" | Forestry | Sinoe | 2604.48 |
| | Area "J" | Forestry | Rivercess | 825.92 |
| | Area "M" | Forestry | Gbarpolu | 3693.11 |
| | Area "G" | Forestry | Grand Gedeh | 1296.74 |
| | Area "E" | Forestry | Nimba | 588.34 |
| University Forest | Forestry | Sinoe & Grand Kru | 1222.07 | |
| Mining | Amlib United Minerals Inc. | Diamonds | Grand Bassa | 200.00 |
| | Mano River Resources Inc. (Kpo) | Diamonds | Gbarpolu | 200.00 |
| | Belle Resources Inc. | Iron Ore | Gbarpolu | 531.93 |
| | Iron Resources Inc. | Iron Ore | Nimba | 496.75 |
| | Western Cluster | Iron Ore | Grand Cape Mount | 93.10 |
| | Western Cluster | Iron Ore | Bomi & Gbarpolu | 114.42 |
| | Western Cluster | Iron Ore | Grand Cape Mount | 63.06 |
| | Wologisi Range | Iron Ore | Lofa | 237.85 |

Source: Derived from Liberia Natural Resource Concessions database, 2011. Composed by the World Bank with information provided by the Ministry of Foreign Affairs, Liberia, and Bureau of Concessions at the Ministry of Finance, Liberia.

Appendix 3: Recommendations to Strengthen PPCA and Proposed New PPP/NBC Act

The PPCA and the proposed NBC Act are envisaged to serve as the basis from which a new comprehensive PPP Law will be created. In order to do so, the PPCA must be amended and the existing proposed NBC Act structure must be improved when brought together to form the envisaged new PPP Law.

Recommendations to Bring the PPCA in Line with PPPs and Concessions

While Part VI of the PPCA deals adequately with the processing of concessions it lacks a number of provisions which are typically found in PPP framework. Two important omissions relate to the absence of a two-stage bidding procedure and the lack of provision for technical and financial offers as separate documents in the request for proposals. However, the more significant differences between the present concession-oriented regime and a PPP legal framework are that (i) most PPP laws prescribe in considerable detail for the matters that must be addressed in a PPP agreement rather than leaving the inclusion of such matters to be subject to the agreement of the parties, and (ii) most PPP regimes incorporate the institutional framework necessary for the law to be implemented. In the case of Liberia, the second limitation will be addressed to some extent by the proposed NBC Act (see the next section of this note) but the first limitation remains a significant deficiency.

To bring the PPCA into line with a comprehensive PPP framework that also covers concessions as a sub-set of transactions involving the private sector, the following specific provisions should be incorporated:

- Technical and financial offers
- Two-stage bidding procedure
- Contents and implementation of a PPP agreement
- Governing law
- Ownership of assets
- Acquisition of rights related to project site
- Easements
- Financial arrangements
- Security interests
- Assignment of a PPP agreement
- Transfer of controlling interest in private partner
- Operation of a PPP project
- Compensation for specific changes in legislation
- Revision of a PPP agreement
- Takeover of a PPP project
- Substitution of private partner
- Duration and extension of a PPP agreement
- Termination of a PPP agreement by contracting authority
- Termination of a PPP agreement by private partner
- Termination of a PPP agreement by either party
- Compensation upon termination of a PPP agreement

- Management of PPP agreements
- Winding up and transfer measures.

Recommendations to Improve Key Aspects of the Proposed NBC Act When Transforming It to the New PPP Law

In order to transform the present structure of the NBC into one that can best serve the new PPP framework being contemplated for Liberia the following key changes to the structure of the Act are recommended:

Establishment

In order to strengthen the governance structure contemplated by the NBC Act it would be highly desirable to provide for the creation of a Board to oversee the actions of the Director-general and staff and to provide a desirable level of accountability. Specifically:

- The Board should provide oversight of PPP activities and monitor actions of the Director-General. Such a Board should serve to restrain unduly independent actions of the Director-General;
- The Board should consist of experienced individuals drawn from both the public and private sectors but should not include ministerial-level officials;
- The Board should be responsible for:
 - approving, modifying or rejecting guidelines, policies and regulations proposed by Director-General;
 - ensuring competition, transparency, fairness and equity in concession/PPP selection and approval processes;
 - approving templates for feasibility studies, bid documents, concession administration plans, etc;
 - requiring line ministries and other agencies to supply the Bureau with information, details and documents required in relation to any concession/PPP process or agreement;
 - requiring line ministries to enforce provisions of concession agreements including imposing sanctions for non-compliance; and
 - directing the Director-General to take any steps required to comply with the terms of the new PPP Law.

Objectives

The objectives set forth in the draft Act could go into greater specificity. In particular:

- The Bureau should be an ex officio member of every Entity Concession Committee and every Concession Bid Evaluation Panel as defined in the PPCA;
- The Bureau should be empowered to make recommendations to line ministries and line ministries should be required to accept recommendations from the Bureau unless there are compelling reasons to the contrary;
- The Bureau should be required to provide a "Certificate of Approval" before a line ministry submits a concession/PPP proposal to the Cabinet and the President for approval;
- The Bureau should be mandated to develop and implement a public awareness program;

- The Bureau should be empowered to commission any study relevant to the determination of any concession/PPP; and
- The Bureau should be empowered to inspect, visit and review any concession or PPP.

Functions

The prescribed functions are satisfactory but should go further. Specifically:

- The Bureau should be an ex officio member of the IMTC;
- Director-General should be empowered to make recommendations to the IMCC; and
- The Board should be empowered to advise the President and the Legislature of any persistent failures of concession holders or failures on the part of line ministries to enforce compliance with concession agreements.

Director-General

The Director General should be accountable to the Board. The Director General needs to have full authority to advise and insist on compliance with PPP policies and procedures but not to the point of being able to bypass existing administrative structures. Specifically:

- Director-General should report to and be accountable to the Board;
- Director-General should not be eligible to serve more than two terms of four years; and
- Director-General should be entitled to attend meetings of the IMCC.

Other Matters

- The Board should be empowered to issue regulations to implement the Act; and
- Need to separate project development and monitoring/evaluation functions either in the Act or in supporting regulations.

Appendix 4: Long List of Potential PPP Projects

The following long list of potential PPP transactions in Liberia is based on projects that have been identified in priority sectors for the GOL but do not have ample detail and/or upstream analysis to merit a PPP Pre-Feasibility Study as the next step in the development process.

Power

- IPPs around Monrovia

Perhaps the most critical infrastructure gap in Liberia now is in the power sector.¹ The wars left the electricity system in Liberia in shambles; the grid was destroyed and there was no publicly provided power at all by the late 1990s. After the cessation of hostilities, a small grid was put in place in Monrovia on an emergency basis serving less than 1000 customers and consisting of low-voltage distribution lines and 9.6 MW of installed capacity from several small diesel generators at four substations (Kru Town, Paynesville, Congo Town, and Bushrod Island). This emergency assistance was financed by several donors. Capacity was increased incrementally to 13.8 MW in early 2010 and then to 22.6 MW by March 2011.

The cost of generation at present is about US\$0.32/kWh; this should be compared with average generation costs in Africa of US\$0.18/kWh. Generation capacity will need to be increased in small increments as new connections are installed – ideally, perhaps 5 MW for each increment.

Studies have been carried out to determine the optimal plan for increasing capacity. Highly simplified, the main conclusions of these studies are as follows:

- In the immediate future, diesel will have to remain the main source of additional capacity – at a levelized cost of about US\$0.32/kWh.²
- As soon as the supply of heavy fuel oil (HFO) can be reestablished (see section on HFO), units fired by HFO will be preferred. The benchmark levelized cost of this source of power has been estimated at US\$0.16/kWh.
- Starting around 2015–2016, two new sources should be available and would play a large role:

Power supplied by the West Africa Power Pool (WAPP) through a transmission line interconnection between Côte d’Ivoire, Liberia, Sierra Leone, and Guinea (CLSG) should be one of the feasible alternatives. The expected cost ranges from US\$0.11 to 0.17 per kWh, depending on the mix of supply from Guinea and Côte d’Ivoire, respectively (with Guinean supply expected to come on stream only sometime after 2020). Hydropower from Mount Coffee (see section on Mt. Coffee) – levelized cost of phase one estimated at US\$0.10/kWh.

- In the longer term (beginning, say, in 2020), there could be substantial further potential in Liberia from hydropower. There are no recent studies, but based on studies carried out in the 1970s and 1980s, there is great potential for both large and small hydropower plants. But there is considerable uncertainty over what the cost would be and how it would compare with other sources.

- Biofuel plants – e.g., wood-fired – may also be an optimal choice for the longer term. Studies are needed to explore this further.

Transport

The projects listed below were preliminarily discussed with the GOL as viable PPP transactions in the medium-term:

- Robertsfield Airport terminal and runway is need of significant upgrades and rehabilitation. Current traffic levels are still low but growing steadily. Furthermore, Robertsfield is also seeing a steady growth in cargo traffic.
- Barges/ferries: Although quite upstream in development, the GOL wishes to develop its inland waterway cargo transport capacities.
- Port warehousing services: As Liberia's ports continue to develop, associated port warehousing facilities, transfer stations and cold/grain storage works will be required. There is potential for the private sector to invest and operate particular services.

Oil and Gas

- LPRC terminal: The Liberia Petroleum and Refinery Corporation terminal in Freeport, Monrovia requires significant infrastructure upgrades. Given Liberia's demand for refined petroleum products and the expected future growth in demand, a private sector operator could be introduced to invest capital for upgrades and rehabilitation in return for operation rights. Currently, the World Bank is supporting the emergency rehabilitation of the fuel jetty that is part of this LPRC terminal.

Urban Water

- Monrovia Bulk Water Supply: A bulk water supplier could be introduced into Monrovia to upgrade and rehabilitate much of the water supply infrastructure. More extensive work must be done on sector reforms for urban water as well as a thorough analysis of the rehabilitation work required.

Fisheries

- Fisheries: Liberia's fisheries industries is an important factor in the local and regional economy. The GOL is exploring different options for developing this industry. One aspect could be the introduction of private operators for fishery-related infrastructure services including warehousing, cold storage, and other related services.

Agriculture

- Irrigation: Liberia's support to the agriculture production industry will require proper irrigation and drainage services to commercial producers and small-

farmers. PPPs could be introduced to provide such irrigation and drainage services.

- Silos: Grain silos for storage and cold storage facilities for agriculture products are other options for PPPs in agriculture.

Technical, Vocational Education and Training: Concept for Introducing PPPs to TVET Services and Infrastructure

- Businesses prefer not to have to train people in basic skills such as those listed above. The problem is that these skills are easily transferrable from one company to another. Once trained, the employee can easily move on to another company.
- Companies prefer to limit most of their training to those skills that are closely linked to the particular firm – e.g. use of specific machinery or performance of specific processes. Concessionaires are more willing to develop training facilities for these purposes.
- At present, some concessionaires outsource their needs for basic skills development for their employees. For example, the Monrovia port operator, APM Terminals, has contracted with a local NGO to bring some of their employees up to speed in basic office skills. Several of the concessionaires in the Buchanan area have arrangements with Grand Bassa Community College, owned by the County, to provide training in auto mechanics, welding, carpentry, etc.
- There is a large gap that needs to be filled. An important weakness is the lack of qualified training providers. Moreover, those vocational training providers that do exist are heavily concentrated in the Monrovia area. More opportunities for TVET are needed outside Monrovia to strengthen rural businesses.
- The Government is taking steps to address the problems. A TVET Act has been approved by Cabinet and a draft policy statement on TVET was presented to Cabinet three months ago. Some further work will need to be done on these before they are finalized. The World Bank–supported Youth, Employment, Skills (YES) project is in the process of assessing TVET efforts throughout the country.
- Whatever the specific results, based on experience elsewhere there will be room for both public sector and NGO and private sector TVET activities. They have different strengths. Private sector providers, for instance, tend to respond better and more quickly to the changing needs of the service sector and high-growth industries.
- In most countries, much of NGO and private sector activity in TVET is initiated outside the government and develops mainly in response to the market (with government support in some cases).
- One idea that should be explored in Liberia is the use of a PPP to fill the existing gap and provide certain critical forms of TVET.³ The intention of such a PPP would not be to encroach on the traditional activities of the private sector

in providing forms of TVET; instead it would be a question of the Government contracting out to a private company training activities and/or infrastructure facilities and materials that would traditionally be carried out by the public sector. Remuneration could come from several sources: businesses, Government and donors, and to a small extent the trainees themselves.

- One of the key elements needed if such a PPP is to work well would be to define meaningful and workable performance criteria – objective indicators that would be used to determine if the PPP operator has performed well and to determine the remuneration (or penalties for shortfalls) that the operator would receive.
- If a system of certification for certain of these basic skills were to be set up in Liberia, this could play the key role in defining objective output requirements for a TVET PPP. Remuneration from donors could be partially output based, using certification as a criterion. In developing the required qualifications, it would be important to work closely with concessionaires and related businesses who know well what skills are needed.
- An important issue in designing a PPP would be to determine how much flexibility will be needed to change the required outputs over time. During a first phase, the focus might be on skills needed by the concessionaires. But in a second phase, more training could be carried out in skills suited for companies located along the concessionaires' supply chain.
- More generally, TVET must remain capable of adapting to changing market conditions and needs with a continuing evolving curriculum. Prima facie, this does not constitute ideal conditions for a conventional PPP, at least not one based on a long-term contract, where it is best if the required outputs can be defined precisely at the start of the PPP for its entire duration. But there may be ways to build sufficient flexibility into the PPP contract, while not having to include frequent loosely constrained renegotiations of objectives and outputs.
- Another issue is whether the PPP company would be responsible for the financing of the buildings and equipment needed. This decision is linked to the optimal duration of the PPP. It may be better to have a PPP of a shorter duration if greater flexibility of outputs is needed; in that case, it would be best if the PPP company were not responsible for providing buildings and equipment.

Notes

1. See Vivien Foster and Nataliya Puskak, *Liberia's Infrastructure: A Continental Perspective*. Policy Research Working Paper No. 5597. World Bank (March 2011).
2. Estimates of the levelized cost of power generation in this report are taken from World Bank, *Options for the Development of Liberia's Energy Sector*.
3. The literature on TVET includes references to PPPs, but what is meant are often looser relationships between public sector and private sector.

Appendix 5: Liberia Country Map and Statistics

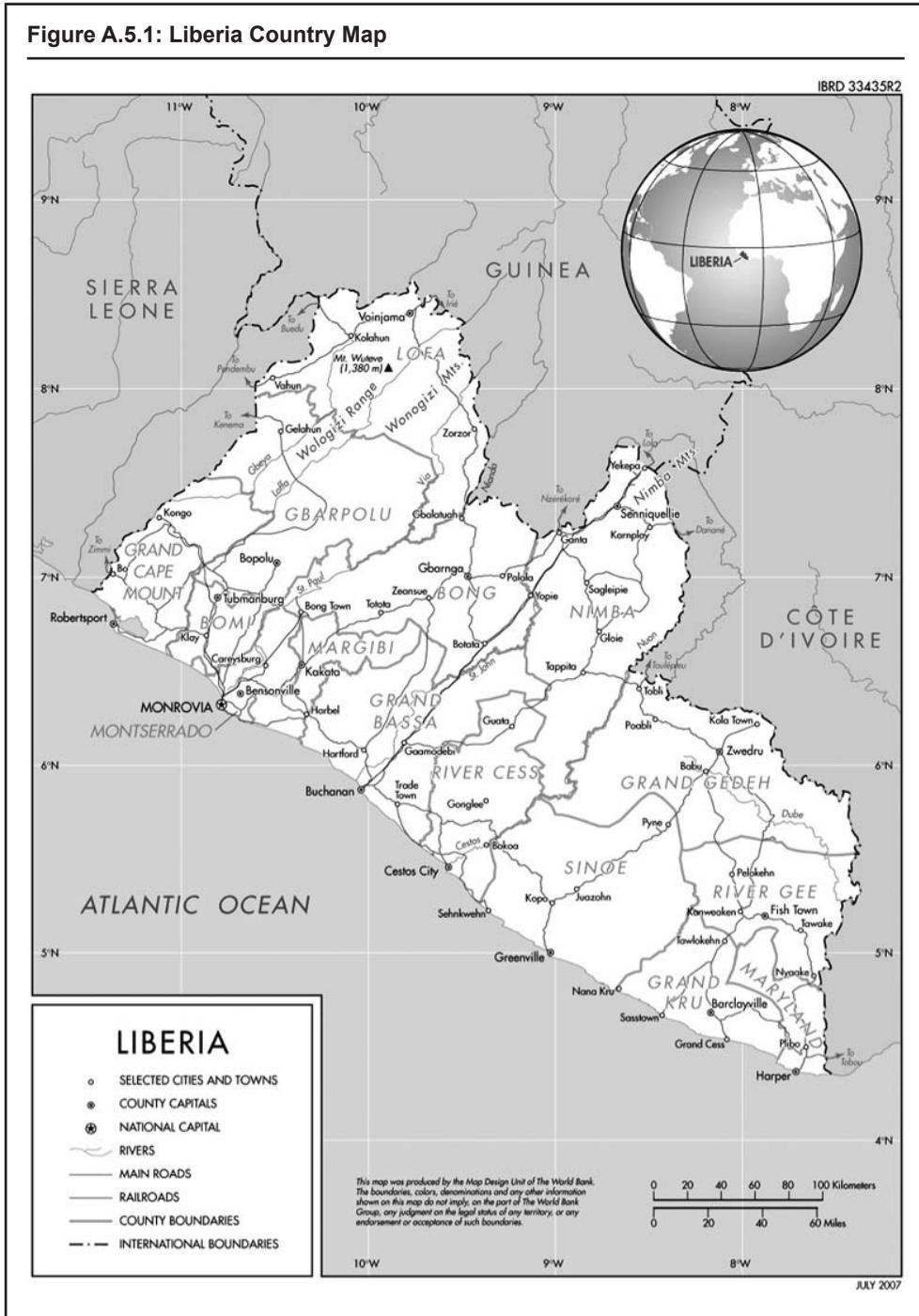


Table A.5.1: World Development Indicators for Liberia

| | 2000 | 2005 | 2008 | 2009 | 2010 |
|--|-------|-------|-------|-------|------|
| World view | | | | | |
| Population, total (millions) | 2.85 | 3.18 | 3.66 | 3.84 | 3.99 |
| Population growth (annual %) | 4.9 | 2.9 | 5.1 | 4.7 | 4.0 |
| Surface area (km ²) (thousands) | 111.4 | 111.4 | 111.4 | 111.4 | -- |
| Poverty headcount ratio at national poverty line (% of population) | -- | -- | -- | -- | -- |
| GNI, Atlas method (current US\$) (billions) | 0.38 | 0.41 | 0.65 | 0.74 | 0.78 |
| GNI per capita, Atlas method (current US\$) | 140 | 130 | 180 | 190 | 200 |
| GNI, PPP (current international \$) (billions) | 0.83 | 0.85 | 1.18 | 1.30 | 1.35 |
| GNI per capita, PPP (current international \$) | 290 | 270 | 320 | 340 | 340 |
| People | | | | | |
| Income share held by lowest 20% | -- | -- | -- | -- | -- |
| Life expectancy at birth, total (years) | 46 | 52 | 55 | 55 | -- |
| Fertility rate, total (births per woman) | 5.8 | 5.6 | 5.4 | 5.3 | -- |
| Adolescent fertility rate (births per 1,000 women ages 15-19) | 149 | 144 | 139 | 135 | -- |
| Contraceptive prevalence (% of women ages 15-49) | 10 | -- | -- | -- | -- |
| Births attended by skilled health staff (% of total) | 51 | -- | -- | -- | -- |
| Mortality rate, under-5 (per 1,000) | 169 | 132 | 114 | 109 | 103 |
| Malnutrition prevalence, weight for age (% of children under 5) | 23 | -- | -- | -- | -- |
| Immunization, measles (% of children ages 12-23 months) | 63 | 62 | 64 | 64 | -- |
| Primary completion rate, total (% of relevant age group) | -- | -- | 58 | -- | -- |
| Ratio of girls to boys in primary and secondary education (%) | 72 | -- | -- | -- | -- |
| Prevalence of HIV, total (% of population ages 15-49) | 3.3 | 2.2 | 1.6 | 1.5 | -- |
| Environment | | | | | |
| Forest area (km ²) (thousands) | 46.3 | 44.8 | -- | -- | 43.3 |
| Agricultural land (% of land area) | 26.9 | 26.9 | 27.2 | -- | -- |
| Annual freshwater withdrawals, total (% of internal resources) | 0.1 | -- | -- | -- | -- |
| Improved water source (% of population with access) | 65 | 67 | 68 | -- | -- |
| Improved sanitation facilities (% of population with access) | 14 | 16 | 17 | -- | -- |
| Energy use (kg of oil equivalent per capita) | -- | -- | -- | -- | -- |
| CO ₂ emissions (metric tons per capita) | 0.2 | 0.2 | -- | -- | -- |
| Electric power consumption (kWh per capita) | -- | -- | -- | -- | -- |
| Economy | | | | | |
| GDP (current US\$) (billions) | 0.56 | 0.53 | 0.84 | 0.88 | 0.99 |
| GDP growth (annual %) | 25.7 | 5.3 | 7.1 | 4.6 | 5.5 |
| Inflation, GDP deflator (annual %) | -1.3 | 13.8 | 10.4 | 7.8 | 11.3 |
| Agriculture, value added (% of GDP) | 72 | 66 | 61 | -- | -- |
| Industry, value added (% of GDP) | 12 | 16 | 17 | -- | -- |
| Services, etc., value added (% of GDP) | 16 | 18 | 22 | -- | -- |
| Exports of goods and services (% of GDP) | 21 | 38 | 31 | -- | -- |
| Imports of goods and services (% of GDP) | 26 | 52 | 173 | -- | -- |
| Gross capital formation (% of GDP) | -- | 16 | 20 | -- | -- |
| Revenue, excluding grants (% of GDP) | -- | 0.3 | 0.4 | -- | -- |
| Cash surplus/deficit (% of GDP) | -- | 0.0 | 0.0 | -- | -- |

(Table continues on next page)

Table A.5.1: Continued

| | 2000 | 2005 | 2008 | 2009 | 2010 |
|---|-------|-------|-------|-------|------|
| States and markets | | | | | |
| Time required to start a business (days) | -- | -- | 31 | 20 | 20 |
| Market capitalization of listed companies (% of GDP) | -- | -- | -- | -- | -- |
| Military expenditure (% of GDP) | -- | 1.5 | 0.6 | 0.8 | -- |
| Mobile cellular subscriptions (per 100 people) | 0 | 5 | 20 | 22 | -- |
| Internet users (per 100 people) | 0.0 | -- | 0.5 | 0.5 | -- |
| Roads, paved (% of total roads) | 6 | -- | -- | -- | -- |
| High-technology exports (% of manufactured exports) | -- | -- | -- | -- | -- |
| Global links | | | | | |
| Merchandise trade (% of GDP) | 177.8 | 83.2 | 125.3 | 79.8 | -- |
| Net barter terms of trade index (2000 = 100) | 100 | 115 | 120 | 111 | 147 |
| External debt stocks, total (DOD, current US\$) (millions) | 2,809 | 3,921 | 3,128 | 1,660 | -- |
| Total debt service (% of exports of goods, services and income) | -- | 0.3 | 142.2 | -- | -- |
| Net migration (thousands) | 453 | -73 | -- | -- | 300 |
| Workers' remittances and compensation of employees, received (current US\$) (millions) | -- | 32 | 58 | 25 | 27 |
| Foreign direct investment, net inflows (BoP, current US\$) (millions) | 21 | 83 | 395 | 218 | 248 |
| Net official development assistance and official aid received (current US\$) (millions) | 67 | 222 | 1,251 | 513 | -- |

Source: World Development Indicators database, December 2010.

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- 5,035 gal. of waste water
- 306 lb. of solid waste

* 40 feet in height and 6–8 inches in diameter



Developing Public-Private Partnerships in Liberia is part of the World Bank Studies series. These papers are published to communicate the results of the Bank's ongoing research and to stimulate public discussion.

Liberia is making great strides to recover from its recent era of conflict and re-establish itself as a global competitor. Central to Liberia's economic growth is its rich endowment of natural resources, such as iron ore and rubber. Liberia's natural resources have defined, in large part, the country's engagement with the private sector. However, the government of Liberia is now exploring new ways to partner with the private sector, with the objective of growing the economy. One method is by developing public-private partnerships (PPPs) in core infrastructure and social services. This World Bank Study examines Liberia's experience with PPPs to date, as well as its experience with natural resource concessions, and builds on the lessons learned to map out a way forward. The study looks in depth at the legal and policy-enabling environment for PPPs to uncover areas that require strengthening. Likewise, the study analyzes existing PPPs and natural resource concessions in Liberia to tease out the most pressing obstacles to future PPP investment, culminating with a review of possible PPP transactions that could be supported in Liberia's next phase of recovery and growth.

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