COVID Financial Impact Assessment Tool for Water and Sanitation Providers User Guide

MAY 2020

WORLD BANK GROUP

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About GWSP

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Contents

Preface

In response to the new demands that the novel coronavirus has placed on water and sanitation providers (WSPs) in emerging markets, the World Bank Water Global Practice, with support from the Global Water Security and Sanitation Partnership, has developed a simplified financial planning tool to help such WSPs quantify the financial impact on their operations and, make evidence-based justifications for additional funding as a response to the pandemic to maintain and expand water resources during this critical period, regardless of the source of that additional funding.

The financial planning tool has been specifically designed for the stated objective and may not conform to more customized financial models that would be used by a WSP to develop long-term projections for project financing or other purposes. Moreover, the tool has been designed to allow most WSPs to be able to use it for the intended objective. As such, it has been purposely simplified. If existing financial models or other instruments can help quantify the financial impact of the pandemic on water service operations, they can be used, as this is not intended to be the only tool.

The tool is designed to first provide a baseline monthly financial projection of the WSP's cash flow under normal operating assumptions. A second projection is then warranted by altering various operating and financial assumptions related to the contagion effects of the COVID-19. The financial impact is then determined by deducting the baseline cash flow from the COVID-19 Assessment Cash Flow.

The tool is intended for a 12-month projection period, and it can be updated monthly or when information on revenue and operating expenses become available. If the impact of the pandemic on operations runs longer than 12-months, an update could be made for the following year or other, more sophisticated models should be considered.

Finally, this tool is the product of the World Bank staff with external contributions and is subject to copyright. Any findings, interpretations, and conclusions derived from this tool do not necessarily reflect the views of the World Bank, its Board of Executive Directors, or the governments they represent. Because the World Bank encourages dissemination of its knowledge, this tool is made available for public use as long as full attribution to the World Bank is given. Users are strongly encouraged to provide feedback on the tool itself and the major findings resulting from the tool. It is recognized that some organizations may want to customize a version of the model for more detailed analysis. For any of these points, please contact Aileen Castro (acastro2@worldbank.org) at the World Bank for further information and discussion.

Acknowledgments

This guide and accompanying financial tool was developed by Aldo Baietti (consultant) with contributions from Carlo Alberto Amadei and overall review and guidance from Joel Kolker (TTL), Patricia Lopez (Co-TTL), Midori Makino (CO-TTL), Josses Mugabi, Gustavo Saltiel, Christine Ochieng, Fook Chuang Eng, Pascaline Wanjiku Ndungu, Jean-Martin Brault, Rado Russev, Stephane Dahan, Rajesh Advani, Aileen Castro, Erin Ann Barrett, Ye-rin Um, and Dominick Revell de Waal.

The team would like to thank the water utilities, Bank TTLs, and consultants who participated in the piloting of the financial impact tool and provided valuable feedback for its improvement.

Abbreviations

CAPEX	capital expenditures
DFI	development finance institution
DSCR	debt service coverage ratio
EIRR	economic internal rate of return
ENPV	economic net present value
FIRR	financial internal rate of return
FX	foreign currency
IRR	internal rate of return
NPV	net present value
NRW	non-revenue water
OCCR	operating cost coverage ratio
ODA	official development aid
O&M	operation and maintenance
OPEX	operating expenditures
PCG	partial credit guarantees
PFI	private financial institutions
PPP	public-private partnership
PRG	partial risk guarantees
ROI	return on investment
SFR	self-financing ratio
VGF	viability gap financing
WSP	water and sanitation provider
WSS	water and sanitation sector

Section 1

1.1 Purpose of This Guide

The COVID-19 pandemic is placing enormous additional constraints on water and sanitation providers (WSPs) across emerging markets. While hand washing is universally recognized as a frontline infection prevention control measure, the practical reality for the water service continuity is that they will be confronted with a series of new challenges, particularly in urban environments in lower-income countries. The additional pressure on WSPs stems from lower revenues (as households struggle to pay bills and public mandates for water supply increase), increased costs (overtime, bringing in agency labor and importing inputs like chemicals), limited service delivery and coverage (where rationing is routine), debt service pressures (to repay international financial institution financing, local banks, and PPPs), challenges with the need to ramp up hours of supply, and the need to secure safe working environments for their management and staff.

While the emergency needs of the health sector are well established, the additional pressure on water utilities to respond to this emergency has been considered secondary. To fully respond in the emergency phase, WSPs need to be able to articulate, demonstrate, and justify an ensuing financing gap associated with the pandemic and justly claim additional resources in order to effectively respond to the service requirements of their customers.

In response to the new demands that the novel coronavirus will place on WSPs in developing countries, a simplified financial planning tool has been developed to help such providers quantify the financial impact on their operations and, as appropriate, make evidence-based justifications for additional public finance support as a response to the pandemic. The financial planning tool should be utilized to first provide a baseline monthly financial projection of the service provider's cash flow under normal operating assumptions. A second financial projection is then warranted to assess the financial impact due to the virus by altering various operating and financial assumptions related to the contagion effects of COVID-19. The financial impact assessment is then determined by deducting the baseline cash flow from the COVID-19 Assessment Cash Flow.

The final process for service providers is to develop a brief financial impact assessment report documenting the various assumptions taken in each financial projection with conclusions that would be offered to ministries responsible for water, the Ministry of Finance, legislatures, regulators, and debt holders.

This user guide provides a step-by-step process for understanding the workings of the financial model and for populating the different assumptions that will be needed to produce a coherent Baseline Projection and a COVID Financial Impact Assessment.

1.2 Software Requirements

The financial planning model was created as an Excel file and requires the hardware and software configuration that would be needed to support the use of Microsoft Excel. No additional software is needed.

1.3 Presentation of the Financial Statements

The model produces a COVID Impact Assessment Statement and a revenue and cost build-up sheet. The results of the cost and revenue build-up sheet become inputs to the COVID Impact Assessment Statement.

1.4 Data Requirements

This simplified version of the COVID financial model assumes minimal data requirements and draws on data inputs that are largely available to most WSPs in emerging markets as part of their normal water and sanitation operations. The intent of the model is not to replace the financial planning model that a WSP may have developed for its long-term planning but rather to be used as a tool by water operations to develop a financial impact assessment that may result from the COVID-19 crisis. That said, the model incorporates input cells for revenues and expenses that can be used by individual WSPs to approximate their total operations.

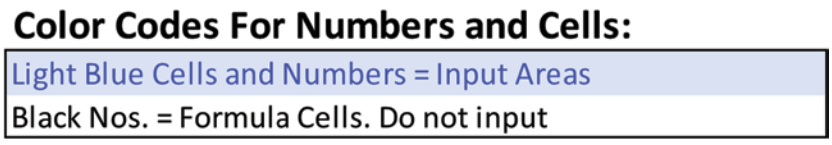
Section 2

2.1 Installation

There are no specific installation requirements other than to open the file in Microsoft Excel. Copy the original version of the model in your files in case errors arise while you are inputting the assumptions. The likely reason for this is that you may have inputted a number or value in a formula cell, which would create a cascade of errors on your worksheets.

2.2 Moving Around the Model

The model incorporates a simple color-coded legend for easy identification of cells that may require input versus those that are formula cells and should not be altered or modified. As shown below, light blue cells with blue numbers or letters are input cells, while white cells with black numbers or letters are formula cells.



2.3 The COVID Financial Impact Statement Worksheet

The COVID Financial Impact Statement includes several sections including:

- Identifier Information
- Revenue Section of the Income Statement
- Cost Section of the Income Statement
- Cash Flow Statement
- COVID CAPEX Response Program

2.31 Identifier Information

This section is used for indicating the name and contact information of the WSP as well as for setting the opening month of the projection period. The "opening month" is the month just prior to the first projection month for which the WSP has actual data. For example, if January is the first projection month, the opening month would be December or "12" as the calendar number. The opening month can be changed, which then resets the projection period. The input for the opening period should be the number that corresponds to the month. In other words, "1" corresponds to January, "2" for February, "3" for March, and so forth. This section also includes the currency used, keeping in mind that outputs are displayed in millions, whereas units for inputting operating costs are in the currency as described in the Revenue and Cost Build-Up section.

WSP Financial Projections Period	**2020**	
Name of WSP	Sample WSP	
Name of Contact Person	Finance	
Contact Tel and Email Address		
Opening Month	**3**	***Enter Month number***
Currency	**US$**	***Please enter data in blue cells***

2.32 Revenue Section of the Income Statement

INCOME STATEMENT *Enter Average Revenue Over Last 12 Months*	**Actual Average** **Mar**	**Projection** **Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Pre-COVID Total**	**Post-COVID Total**	**Financial Impact Total**
REVENUES																
Billed Revenue from Water Sales (million)	0.600	0.604	0.686	0.703	0.720	0.736	0.745	0.745	0.745	0.745	0.745	0.745	0.745	7.200	8.661	1.461
Billed Revenue From Sewerage Sales	0.730	0.729	0.792	0.807	0.813	0.820	0.823	0.823	0.823	0.823	0.823	0.823	0.823	8.760	9.719	0.959
Revenue collection efficiency (%)	90%	60%	60%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%			
Actual revenue collected (million)	1.262	0.800	0.887	0.755	0.766	0.778	0.784	0.784	0.784	0.784	0.784	0.784	0.784	15.144	9.471	5.673
Connection Revenue		0.060	0.060	0.060	0.036	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.252	0.252
Other revenue *(please specify, if applicable)*	0.200	0.139	0.139	0.139	0.139	0.139	0.139	0.139	0.139	0.139	0.139	0.139	0.139	2.400	1.668	0.732
TOTAL REVENUES	1.462	0.999	1.086	0.954	0.941	0.953	0.923	0.923	0.923	0.923	0.923	0.923	0.923	17.544	11.391	6.153
Local Government Transfers (Plus/Minus)	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	2.400	2.400	0.000
Total Revenue (Plus/Minus) Transfers	**1.662**	**1.199**	**1.286**	**1.154**	**1.141**	**1.153**	**1.123**	**1.123**	**1.123**	**1.123**	**1.123**	**1.123**	**1.123**	**19.944**	**13.791**	**6.153**

The Revenue section of the worksheet includes water and sewerage revenue, connection fees, and other revenue that the WSP may wish to include in its assessments. These amounts are calculated in the Cost and Revenue Build-Up worksheet and will be explained later. The revenue calculations also include amounts that can be entered for transfers to or from the local government. These could be in the form of subsidies provided by the local government or funds distributed back by the WSP.

Input Instructions:

- **Base Case (actual average).** The COVID Financial Impact Assessment calculates the difference between a baseline of actual performance versus a month-by-month projection of likely impacts to the WSP due to the COVID contagion. The simplified model takes the averages of revenue and actual cost data from the month or a combination of months just prior to the projection period. These averages should be based on actual operational results assuming a non-COVID operational environment. Given that some WSPs have seasonal variations in production and consumption, it is best to take a 12-month average to capture such seasonal trends as the base case.
- The Revenue Statement includes the opportunity to directly input the collection ratio as this variable is probably the most impactful to the WSP from the COVID contagion. In such cases the WSP will need to assume how collections will be impacted and input the appropriate collection ratio on this section of the worksheet. The revenues will then be reflected on a cash basis, and no additional adjustments are needed in the cash flow of the statement for this variable.
- Input transfers to or from the local government as appropriate.

2.33 Cost Section of the Income Statement

INCOME STATEMENT OPERATING COSTS	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Pre-COVID Total	Post-COVID Total	Financial Impact Total
Water Operating Costs																
Water Operating Salaries	0.300	0.297	0.349	0.349	0.349	0.297	0.297	0.297	0.297	0.297	0.297	0.297	0.297	3.600	3.722	0.122
Water Extraction Cost	0.030	0.029	0.033	0.033	0.034	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.360	0.412	0.052
Water Production Electricity Cost	0.020	0.023	0.026	0.027	0.028	0.028	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.240	0.333	0.093
Chemical Treatment	0.020	0.025	0.028	0.029	0.030	0.030	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.240	0.355	0.115
Maintenance & Repairs	0.035	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.420	4.200	3.780
Pension Expense	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Administration	0.135	0.153	0.153	0.153	0.153	0.153	0.153	0.153	0.153	0.153	0.153	0.153	0.153	1.620	1.836	0.216
Other Water Operating Costs		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Water Supply Operating Costs	0.540	0.877	0.939	0.941	0.943	0.894	0.895	0.895	0.895	0.895	0.895	0.895	0.895	6.480	10.859	4.379
Wastewater Operating Costs																
Wastewater Employee Salaries	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	1.620	1.622	0.002
Electricity Costs	0.020	0.027	0.029	0.029	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.240	0.353	0.113
Maintenance & Repairs	0.065	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.780	1.020	0.240
Administrative Expenses	0.184	0.194	0.194	0.194	0.194	0.194	0.194	0.194	0.194	0.194	0.194	0.194	0.194	2.208	2.328	0.120
Other Wastewater Costs	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	1.320	1.320	0.000
Total Wastewater Costs	0.514	0.551	0.553	0.554	0.554	0.554	0.554	0.554	0.554	0.554	0.554	0.554	0.554	6.168		
Other Direct Costs	0.010	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.120	1.200	1.080
Total Operating Costs	**1.06**	**1.528**	**1.592**	**1.594**	**1.597**	**1.548**	**1.549**	**1.549**	**1.549**	**1.549**	**1.549**	**1.549**	**1.549**	**12.768**	**18.702**	**5.934**
Interest Expense (if applicable)	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.120	0.120	0.000
Depreciation Expense	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.144	0.144	0.000
TOTAL COSTS	**1.09**	**1.550**	**1.614**	**1.616**	**1.619**	**1.570**	**1.571**	**1.571**	**1.571**	**1.571**	**1.571**	**1.571**	**1.571**	**12.888**	**18.822**	**5.934**
PROFIT BEFORE TAXES	0.576	0.351	0.328	0.463	0.477	0.417	0.448	0.448	0.448	0.448	0.448	0.448	0.448	7.056	5.031	12.087
Income Taxes (if applicable)	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.480	0.000	0.480
PROFIT AFTER TAXES (assumes cash collections)	0.536	0.351	0.328	0.463	0.477	0.417	0.448	0.448	0.448	0.448	0.448	0.448	0.448	6.432	5.175	11.607

The cost section of the COVID Financial Impact Statement presents the average base case actuals against the projected month-by-month impacts likely to affect the operations from COVID. As shown most of the inputs to this statement are done from the Revenue and Cost Build-Up worksheet and will be explained later. The only input items required in this section are amounts for interest expense if applicable and depreciation expense. While depreciation does not have a cash flow impact, it may affect the taxes payable in the event the WSP is charged income tax on profits. In such cases the WSP would need to estimate the applicable income taxes for each projection month.

Input Instructions:

- As for the revenue section, the WSP would need to develop and average monthly expenses as the baseline figure.
- Input the remaining month-by-month projection items where applicable.

2.34 Cash Flow Statement

CASH FLOW STATEMENT	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
PROFIT AFTER TAXES (assumes cash collections)	0.536	0.351	0.328	0.463	0.477	0.417	0.448	0.448	0.448	0.448	0.448	0.448	0.448
Add: Depreciation Expense	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110
Operating Cash Flow	0.646	0.241	0.218	0.353	0.367	0.307	0.338	0.338	0.338	0.338	0.338	0.338	0.338
Principal Repayments	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
Cash Flow After Debt Service	0.546	0.341	0.318	0.453	0.467	0.407	0.438	0.438	0.438	0.438	0.438	0.438	0.438
COVID-19 Related CAPEX Costs	0.000	0.350	0.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Programmed Funding For CAPEX	0.000												
Month End Cash Flow	**0.546**	**0.691**	**0.518**	**0.453**	**0.467**	**0.407**	**0.438**	**0.438**	**0.438**	**0.438**	**0.438**	**0.438**	**0.438**

The income statement information is converted to cash impact through the cash flow statement. The cash flow statement will include requirements to pay down the principal balance of any outstanding loans where applicable as well as inputting a new CAPEX requirements. The result calculates the month ending and cumulative projected cash flows, which are then reviewed against the baseline ending cash flow, to determine the financial impact of the COVID. In the example shown the financial impact is calculated as 12.157 million, where this impact is caused by a reduction of cash revenue of 6.153 and an increase in costs of 5.934. Because there is also a reduction in net profits from the base, the WSP would likely avoid paying income taxes from the base case averages in the amount of 580 thousand. However, the example shown also indicates that additional CAPEX will need to be undertaken in the amount of 550 thousand, which results in the final cash flow impact amount.

2.35 COVID CAPEX Response Program

	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Tanker Trucks		0.300											
Kiosks & Hand Washing Stations			0.200										
Cleaning and Sanitation Equipment		0.050											
CAPEX intervention 4													
CAPEX intervention 5													
Total capital costs	0.000	0.350	0.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

This is the section where additional CAPEX requirements are indicated. The model allows the WSP to change the name of the investment and input the amounts in the appropriate month. This information will flow directly to the financial impact statement and can be revised as needed for simulations.

2.4 The Revenue and Cost Build-Up Worksheet

2.41 Production & Connection Program for Households and Commercial Customers

Sample WSP

Water Capacity, Production & Connection Program

Opening Household Indicators	Month Ending	Month-End House Connections	Weighted Average Tariff	NRW				
Please enter data in blue cells	Mar	29,782	0.60	35.0%				
	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov
Unaccounted For Water (NRW)	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Households Operations								
Average Tariff (Currency/m³)	0.60							
Connection Charge (Currency/Connection)	120							
Tariff Rate increases/(decreases)	0%	0%	0%	0%	0%	0%	0%	0%
Domestic Month-End Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Domestic Average Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Effective Tariff	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
New Connections	300	300	300	300	300			
Cumulative Water Connections (Month End)	30,082	30,382	30,682	30,982	31,282	31,282	31,282	31,282
Cumulative Water Connections (Ave.)	29,932	30,232	30,532	30,832	31,132	31,282	31,282	31,282
Percent Growth in Connections	1.0%	0.5%	0.5%	0.5%	0.5%	0.0%	0.0%	0.0%
Average Usage/Connection (m³/day)	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100

Opening Commercial Indicators	Month Ending	Month-End Commercial Connections	Weighted Average Tariff
	Mar	19,850	1.50

	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov
Commercial Operations								
Average Tariff (Currency/m³)	1.50							
Connection Charge (Currency/Connection)	1,000							
Tariff Rate increases/(decreases)	0%	0%	0%	0%	0%	0%	0%	0%
Domestic Month-End Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Domestic Average Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Effective Tariff	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
New Connections	20	200	200	200	200	-	-	-
Cumulative Water Connections (Month End)	1,520	1,720	1,920	2,120	2,320	2,320	2,320	2,320
Cumulative Water Connections (Ave.)	210	1,620	1,820	2,020	2,220	2,320	2,320	2,320
Percent Growth in Connections	1.3%	6.2%	5.5%	5.0%	4.5%	0.0%	0.0%	0.0%
Average Usage/Connection (m³/day)	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000
Water Monthly Production Capacity (m³)	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Total Potential Monthly Demand	1,006,656	1,143,456	1,171,356	1,199,256	1,227,156	1,241,106	1,241,106	1,241,106
Daily Demand (m³)	33,555	38,115	39,045	39,975	40,905	41,370	41,370	41,370
Total Production Requirement (m³)	1,548,702	1,759,163	1,802,086	1,845,009	1,887,932	1,909,394	1,909,394	1,909,394
Total Actual Production (m³)	1,548,702	1,759,163	1,802,086	1,845,009	1,887,932	1,909,394	1,909,394	1,909,394
Total Water Consumed (m³)	1,006,656	1,143,456	1,171,356	1,199,256	1,227,156	1,241,106	1,241,106	1,241,106
Billed Authorized Consumption (m³)	1,006,656	1,143,456	1,171,356	1,199,256	1,227,156	1,241,106	1,241,106	1,241,106
Water (Shortage)/Surplus (m³)	951,298	740,837	697,914	654,991	612,068	590,606	590,606	590,606
Total Water Connections	30,082	30,382	30,682	30,982	31,282	31,282	31,282	31,282
New Water Connection Revenue (mllion)	0.036	0.036	0.036	0.036	0.036	-	-	-
Total Water Revenue (million)	0.604	0.686	0.703	0.720	0.736	0.745	0.745	0.745

Description: The model includes piped water service programs for households and commercial establishments. Commercial and industrial establishments can be combined into a single service. The above worksheets draw from the opening position for each service, which are inputted for the opening month. These include indicators such as number of house and commercial connections, average usage per connection, NRW levels for the system, and the average tariff for both services. The inputs on this worksheet are few and also include new connections and connection charges for both services and tariff adjustments from month to month. Because most WSPs do not adjust tariffs monthly and sometimes even yearly, the requirement for inputs in these cells are typically minimal. However, the worksheet also provides results information by considering the water production rated capacity of the system, the calculated water volume demand for each service, as well as the production requirement based on the assumed NRW levels. Based on these calculations the water surplus or deficit is calculated, which provides the analyst information on the utilization for the productive capacity.

Input Instructions:

- As indicated, this worksheet requires few inputs and instead provides useful data on production, demand, and utilization of water treatment capacity.
- Monthly tariff adjustments should also be minimal unless and perhaps the WSP may also decide to lower tariffs in lieu of not requiring payment.
- The other input items on this sheet are the monthly water production capacity and the connection charges for households and commercial establishments.

2.42 Sewerage Treatment, Connection Program & Other Revenue

Opening Sewerage Connections	Mar	29,000	Opening Connections					
	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov
Sewerage tariff/m³	1.10							
Connection Charge (currency/connection)	120							
Tariff Rate increases	0%	0%	0%	0%	0%	0%	0%	0%
Domestic Year-End Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Domestic Average Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Effective Tariff	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Sewerage Connections	19,850	20,050	20,250	20,250	20,250	20,250	20,250	20,250
New connections	200	200	200	-	-	-	-	-
Monthly Wastewater Capacity (m³)	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Sewerage Processed (m³)	662,933	719,776	733,184	739,222	745,080	747,943	747,943	747,943
Total Sewerage Connections	19,850	20,050	20,250	20,250	20,250	20,250	20,250	20,250
Sewerage Billed (million)	0.7292	0.7918	0.8065	0.8131	0.8196	0.8227	0.8227	0.8227
Sewerage Connection Revenue (million)	0.024	0.024	0.024	-	-	-	-	-
Other Revenue (million)	0.139	0.139	0.139	0.139	0.139	0.139	0.139	0.139

Description: This worksheet is used for inputting the sewerage operations including new connections, tariff increases, connection charge, and monthly wastewater treatment capacity. The worksheet can also be used for inputting other monthly revenue in the event the WSP has other sources of operating revenue, such as tanker truck kiosk revenue or septage services. The worksheet provides calculated information on monthly sewerage processed, sewerage billings, and sewerage connection revenue based on information inputted. Inputs on the opening sewerage connections and the average sewerage tariff are inputted directly onto the dashboard.

Input Instructions:

- Input blue cells for connection charge, new programmed connection, and monthly wastewater treatment capacity and tariff increases.
- Similar to water services, new connections and tariff increases should be made if they had been programmed under normal conditions as part of the baseline projection.
- As indicated, a line item has been included to input other operating revenues of the WSPs that are not specifically included in the worksheet. In such cases, the amount should equate to the total other programmed revenue of the WSP that may arise from its other operations such as tanker truck and kiosk sales or septic services. This line item should not include non-operating revenues of any kind.
- In the event the WSP charges a sewerage tariff to sewerage-connected customers as a percentage of the water bill, the average sewerage tariff should be calculated on this basis. For example, if the sewerage charge is 100% of the water tariff, the average tariff would be same amount as the water tariff where the revenue is still calculated as the average tariff times the amount of wastewater treated.
- If on the other hand, the WSP charges a flat environmental tariff to all water customers based on their monthly bill, the analyst should revise the wastewater treated to equal the amount of water consumed (by revising the number of sewerage connections and consumption per connection to equal the number of water connections). In such case the average wastewater tariff should also be the environmental fee.

2.43 Water Supply Service Operating Costs

Water Supply Operating & Admin Costs	Feb	Mar	Apr	May	Jun
Water Extraction Cost					
NRW @ Extraction	3%	3%	3%	3%	3%
Monthly Water Extraction	1,609,392	1,826,310	1,856,402	1,872,232	1,888,062
Cost/m³ in Currency	0.0108	0.0108	0.0108	0.0108	0.0108
Water Extraction Costs (million)	0.017	0.020	0.020	0.020	0.020
Water Production Electricity Cost					
Monthly Water Production	1,562,516	1,773,116	1,802,332	1,817,701	1,833,070
Water Pumping Cost/m³	0.015	0.015	0.015	0.015	0.015
Electricity Costs (million)	0.023	0.027	0.027	0.027	0.027
Chemical Treatment					
Chemical Costs (Currency/m³)	0.016	0.016	0.016	0.016	0.016
Chemical Cost (million)	0.0248	0.0282	0.0287	0.0289	0.0291
Maintenance & Repairs					
Maintenance (million)	0.350	0.350	0.350	0.350	0.350
Salaries & Pensions					
No. of Employees	55	55	55	55	55
Cost/Employee (currency/month)	3,729.41	3,729.41	3,729.41	3,729.41	3,729.41
Monthly Direct Salaries Costs	0.205	0.205	0.205	0.205	0.205
Allowances and Bonus as % of Direct	10%	10%	10%	10%	10%
Allowances and Bonuses (million)	0.021	0.021	0.021	0.021	0.021
Overtime as % of direct costs	35%	35%	35%	35%	35%
Overtime costs (million)	0.072	0.072	0.072	0.072	0.072
Pension Expense					
Administration (million)	0.153	0.153	0.153	0.153	0.153
Other Water Supply Costs	-	-	-	-	-

Description: The water supply operating cost worksheet allows the WSP to input fixed and variable costs of the water service operation. Several categories have been included based on what are the main operating costs of a typical WSP. These include Extraction, Electricity, Chemical, Maintenance and Repairs, Salaries and Pension, and Administration Expenses. An additional line item is included for inputting other water supply service-related operating costs in the event not all operation costs are captured under the specified categories. Electricity and chemical costs are regarded as variable costs and directly dependent on monthly water production, whereas the other cost categories are considered quasi-fixed based on the given operation. All unit variable cost estimates are in the currency used for the projection run, whereas the total monthly costs that are calculated are in millions of the currency utilized. Salaries are calculated based on the operating labor complement times the average monthly salary. The worksheet also allows for the calculation of allowances and overtime if needed. The administration costs should include management and back office staff that are not considered operating staff. In addition, administration expenses should include general and overhead items for office supplies, telephone, travel, and so on. The worksheet also includes pension expense items if needed and, as indicated, another line item for other water supply service-related expenses.

Input Instructions:

- Input all cost categories where applicable. For example, gravity-fed systems would not include electricity costs. As indicated all unit input costs should be entered in the currency being utilized, whereas the outputs in the white cell are calculated in millions of the currency. It is important to maintain this protocol. Otherwise the analyst will get erroneous amounts.

2.44 Wastewater Service Operating Costs

Wastewater Service Operating & Admin Costs	Feb	Mar	Apr	May	Jun
Wastewater Employee Salaries					
No. of Employees	25	25	25	25	25
Cost/Employee (currency/month)	3,729.41	3,729.41	3,729.41	3,729.41	3,729.41
Direct Salaries Costs	0.093	0.093	0.093	0.093	0.093
Allowances and Bonus as % of Direct	10%	10%	10%	10%	10%
Allowances and Bonuses (million)	0.009	0.009	0.009	0.009	0.009
Overtime as % of direct costs	35%	35%	35%	35%	35%
Overtime costs (million)	0.033	0.033	0.033	0.033	0.033
Energy Cost (unit cost/m³)	0.040	0.040	0.040	0.040	0.040
Electricity Costs (million)	0.027	0.029	0.029	0.030	0.030
Maintenance & Repairs	0.085	0.085	0.085	0.085	0.085
Administrative Expenses	0.194	0.194	0.194	0.194	0.194
Other Wastewater Costs	0.110	0.110	0.110	0.110	0.110
Monthly Cost	0.509	0.511	0.512	0.512	0.512
Wastewater Costs/ (m³)	0.76	0.70	0.70	0.69	0.68

Description: This next worksheet allows the WSP to input the operating costs related to the wastewater operation, and again several cost categories have been included for direct input. These include salaries, electricity maintenance, and administrative expenses. In addition, a separate line item is included for other costs, which may be applicable for the WSP.

Input Instructions:

- The input instructions for this worksheet are like the previous worksheet. An important point to note with regard to this schedule is that the input data should be categories according to the revenue and expense categories for maximum compatibility. Should the WSP have additional categories that have been reported separately, they should be consolidated and summarized within the categories shown above.

Section 3

3.1 Useful Financial Terms for Water and Sanitation Providers[1]

- **Blended Financing vs. Viability Gap Financing (VGF).** Blended finance involves a mix of public grants and concessional loans with commercial loans to derive a financial solution. This solution is determined by deriving a projected cash flow for the consolidated water entity such that all debt obligations are amply satisfied throughout the entire projection period. The importance here is the crowding-in of commercial financial involvement in the financing plan to increase the total pool of finance and reduce information gaps among commercial lenders. Viability gap financing is similar in concept, but its primary objective is to close the financial viability gap irrespective of the mix of loans and grants. It primarily works by financially engineering a mix of grants and concessional loans primarily to lengthen maturities and reduce the cost capital to create a financially viable cash flow stream. While the objectives between the two are similar, blended finance involves commercial finance, whereas VGF necessarily does not.
- **Capital Contributions vs. Capital Expenditures (CAPEX) Subsidies.** Often a source of misunderstanding, capital contributions to a public water entity are not necessarily CAPEX subsidies. Like in all entities, the owners of WSPs have the obligation to properly capitalize their entity with a mix of equity and debt. The appropriate mix should be a matter of policy that incorporates several factors, including mitigating debt leverage risk. Such a policy should not necessarily give rise to the incidence of a subsidy. If there is a subsidy component to the capital contribution, it would arise if there are absolutely no expectations for the utility to realize an appropriate return on this capital, which would cover the opportunity cost of the government. Unfortunately, this is not explicitly stated, so it is often difficult to unequivocally state the incidence of CAPEX subsidies on capital contributions as opposed to the interest rate difference on concessional loans or on operating expenditures (OPEX) subsidies where WSPs fall short of their explicit revenue requirement.
- **Cost Recovery.** In the simplest terms, cost recovery is the ability of the WSP to cover its explicit costs from user tariffs. However, it has been recognized that this basic definition does not fully capture the more complex related issues surrounding WSPs. For example, explicit costs may not capture forgone maintenance or subsidies on capital costs and rate of return requirements. The simple cost recovery formula may also include gross performance problems, which inherently increase costs or lower revenues from tariffs. For this reason, it is important to look at cost recovery from different dimensions by assessing the complete situation and correcting specific operational and financing deficiencies.
- **Collection Period.** Measures whether the utility is getting paid on time. If the utility operates a monthly billing cycle, anything more than 30 days' receivables outstanding can highlight late or non-payments. The quality of receivables of a water entity can be further assessed by carrying out an aging analysis of receivables. This would show whether the receivables are stale and non-recoverable. Moreover, it can also provide information for stepping up collection efforts. Utilities with fairly good information systems should be able to develop an accurate aging analysis as well as determine patterns among

different customer classes. For example, government offices and military are known to be notoriously late in making utility payments. Moreover, utilities may not be able to disconnect these customers, which often exacerbates the situation. Being able to clearly isolate such problems does bring the process one step closer to resolution, particularly if donor agencies or other key stakeholders are involved.

- **Creditworthiness.** Measures the capacity of a borrower to fulfill all its debt repayment obligations. Creditworthiness is a valuation performed by lenders and independent credit agencies to determine the possibility a borrower may default on his debt obligations. A creditworthy borrower is one that can demonstrate long-term financial strength and ability to pay its financial obligations in full and on time. The best assessment of creditworthiness is through a consolidated financial projection that demonstrates the capacity of the utility to honor financial obligations throughout the projected period. A creditworthiness assessment based on historical performance has its limitations because it does not consider forward obligations.
- **Credit Rating.** A credit rating measures the creditworthiness of a potential borrower, and it is presented in the form of a symbol or investment grading. Credit ratings are generally assigned to potential borrowers by independent credit rating agencies and are an important step for promoting WSPs to borrow from commercial financial institutions. A high credit rating indicates a high possibility of paying back the loan in its entirety without any issues; a poor credit rating suggests that the borrower has had trouble paying back loans in the past and might follow the same pattern in the future. Shadow credit ratings have been utilized by governments and WSPs to estimate the rating that would be arrived at by a formal credit agency. A high credit rating not only improves the chances of the WSP qualifying for a loan but also may improve the terms the lender offers.
- **Credit Enhancements.** A credit enhancement is a way the WSP can improve its credit rating with the lender. Through credit enhancements, the commercial lender is provided with additional assurances that the WSP will meet its debt obligation. The WSP can offer additional collateral such as pledging revenues, increasing cash reserves that help countervailing deposits, obtaining a letter of credit from another financial institution, or obtaining a third-party guarantee. Credit enhancements reduce credit/default risk of a debt and can also lower interest rates.
- **Cross-Subsidies.** Are commonly utilized by WSPs to lower the cost of service of one class of consumer by commensurately taxing another. In most cases, tariff structures involving cross-subsidies are designed to tax the commercial and industrial customers most and benefit poorer communities. This is typically rationalized on the "ability to pay principle." While such structures of cross-subsidies can be regarded to have some merit, particularly if they do benefit lower-income communities, many go counter to their intended objectives and may create more economic-related problems. It has also been criticized that subsidies for the poorest communities should be direct rather than implicit subsidies. However, administratively, this is more difficult to achieve. Therefore cross-subsidies are popular in the WSS sector.
- **Debt Service Coverage Ratio (DSCR).** This ratio measures the ability of the WSP to meet its debt service obligations in terms of current interest charges and any repayment due on the principal portion of the loan. It is calculated by taking the debt service amount (principal and interest due) over the operating

cash flow (see definition of operating cash flow). This ratio is key because it implicitly incorporates both operating and financial performance of the entity. Hence a review of the DSCR will provide a good quick assessment of whether the utility is meeting its external debt obligations and possibly spot performance problems. A DSCR of 1.2 means that operating cash flow is 20% greater than debt service requirements. This has often been regarded as a reasonable value for a WSP to achieve. However, the ratio must be closely reviewed, considering the changing parameters of the entity, its capitalization structure, and expectations for a reasonable return on the investment. For example, if the utility has practically little or no debt, a 1.2 value may not be enough if it wishes to increase borrowing to expand coverage. This ratio is best analyzed under projected assumptions.

- **Depositary Agencies.** A form of credit enhancement whereby the lender requires the borrower have deposit accounts with the lender, which can also facilitate the creation of a collection account. Collection accounts are used to secure revenue receipts of the WSP for debt servicing the loan.
- **Development Finance Institutions (DFI).** DFIs are specialized financing agencies established specially to fulfill developmental objectives in each country. In developing countries, these are primarily public special law lending institutions that act as intermediaries for donor and international financial institution programs and may not necessarily accept customer deposits.
- **Favorable Financial Leverage.** Financial leverage is the ability of the WSP to use borrowed financing to increase the overall returns of the enterprise. Favorable financial leverage occurs if the cost of borrowed funds is less than the overall return on assets of the entity, creating the incentive to increase the debt to equity ratio of the enterprise, particularly in times when the cost of borrowed funds is low. However, as with any enterprise, a highly leveraged capital structure can increase risk considerably and may be considered negatively by a commercial lender.
- **Guarantees.** Guarantees are a specialized form of insurance related to financial transactions in which the risk of noncompliance by one of the two sides in a transaction is taken up by a third-party external to the original transaction. They are essentially a transfer of risk related to a portion of a specific financial transaction. Guarantees can work in several ways to transform opportunities into effective investments. First, they can mitigate risks that lie outside the inherent project fundamentals (that is, political, regulatory, and policy and sovereign risks). Second, they can enhance the creditworthiness of the borrower to extend maturities and lower the effective cost of debt.
- **Implicit Subsidies.** A subsidy is a form of financial aid provided by the government in which the recipient does not have to bear the full economic cost of a given product or service, but something typically lower. Implicit subsidies arise through financial support for performance-related issues and are a form of operational subsidies. Operational subsidies can also be explicit when a specific policy decision is made to shore up revenue to subsidize the tariff of a certain class of consumer. If the government covers the operational deficit due to additional cost of performance-related issues, they would be considered operational subsidies. If customers instead are charged a higher tariff to cover the performance problems, they are in fact being overcharged for the services being provided by the utility.

- **Internal Rate of Return (IRR) vs. Net Present Value (NPV).** The NPV is the value of the sum of a project's projected cash flows discounted at the cost of capital. Any value over zero indicates adequate return, but the higher positive value indicates a higher return. The NPV calculation does not give an exact rate of return in percentage terms. It just indicates that you are either above or below your threshold level. A project's IRR is the rate of return that it yields, expressed as a percentage for the same projected cash flows. The formula for NPV and IRR are the same for the economic analysis as they are for the financial analysis. In such cases, they are usually referred to as the economic net present value or the economic internal rate of return (EIRR) instead of the financial net present value and the financial internal rate of return. The difference between the two is how you define the costs and benefits. The financial analysis includes cost and benefits that accrued to the project only, not externalities that accrue outside the project to the wider economy. It is important to underscore that these indicators should be applied to project analysis and are particularly important for the economic justification of the project. The financial assessment must consider the consolidated financial projection of the WSP to ascertain positive cash flows throughout the projected period and the ability to meet all financial obligations during the period.
- **Municipal Water Departments.** These include WSPs that are part of the municipal organizational structure and as such are not regarded as separate legal entities. Municipal water departments are a direct contrast to water utilities, which have been chartered as separate legal entities either as public corporations or special law companies. The key difference from a financing point of view is that municipal governments would be the legal borrowers for municipal water departments. Nonetheless, for lenders it is important that water providers that are part of the municipal or provincial organization retain complete operational and financial information for credit analysis; and lenders would also need to evaluate the creditworthiness of the municipal government for approving credit.
- **National Transfer Intercept.** A form of third-party loan security available to WSPs that are owned by municipal or provincial governments. Under a decentralized framework, local government units receive an annual transfer from the national government for redistributing tax revenues. The transfer payment received by the local government is pledged as additional security through an automatic intercept mechanism in the event the WSP delays or defaults on its debt service payments.
- **Negative Pledge.** A negative pledge is a clause in the loan agreement stating that the borrower will not pledge any of its assets to another lender if doing so gives the lender less security for its loan. The borrower is limited to financial transactions in which the original lender maintains priority to seize assets in case of a default. It also limits the likelihood that an asset is pledged more than once, creating an issue of which institution has rights to the asset. The negative pledge clause can be utilized in the loan agreement of the senior lender to ensure that other lenders are subordinated.
- **Net Profit Ratio.** The net profit ratio is a common profitability ratio that assesses the net return from revenues. As such, it is calculated as net income after taxes to total revenues. A more precise calculation should focus on operational revenue to obtain a better understanding of operational effectiveness. Like many other financial indicators, the net profit ratio can vary widely between one WSP and

another depending on technical and financial factors. But generally, a range between 10% and 30% would be acceptable. For infant WSPs with sizable investment requirements, this ratio should be on the higher side of this range.

- **Non-Revenue Water (NRW).** NRW is probably the most important indicator because it not only measures the technical efficiency of the operation but also the commercial efficiency of theft control and of the billing and collection process. NRW has several components: (i) unbilled authorized consumption—reflecting problems with the billing system that is not capturing authorized consumption; (ii) commercial losses—reflecting losses related to unauthorized consumption either through theft, faulty meters, or the inability of the utility to measure actual usage; and (iii) physical losses—reflects problems with the actual system through leaks that are not detected.
- **Operating Cash Flow.** Its importance is often overlooked, but it is just as important as net income from operations because it reflects the internal cash generation produced by the utility to pay down its debt service obligations and what remains for leveraging additional financing. Every analyst must look at the financial results of the utility from two very important perspectives: (i) profits from operations and (ii) cash flow since both are needed for different reasons and often a WSP can achieve one but not the other. Operating cash flow is calculated by adding back to net income, interest charges, and depreciation expense and including net changes in working capital (a net increase of working capital would reduce operating cash flow). This amount is then compared against the total debt service requirement to determine the DSCR. Any residual is then "free cash flow" available for new investment expenditures or to pay down debt.
- **OPEX Subsidies.** Provide financial support for the explicit purpose of reducing the cost to consumers for the water service if there is a deliberate policy to keep tariffs below cost recovery levels. The government also bears the burden of operational losses of the WSP, which also need to be funded. For the most part, operational subsidies are handled as cash infusions to the cash flow statement to compensate for operational losses of the WSP. Rarely they are included as an added revenue item on the income statement of the WSP as this would be improper from an accounting perspective because they would distort operational performance of the WSP. At times, operational subsidies are made on an "off-balance sheet" basis such as the payment of civil servants by a government ministry instead of the WSP. However, this is administratively more difficult to achieve.
- **Operating Cost Coverage Ratio (OCCR).** The OCCR measures operational efficiency of a water entity and is calculated by operating costs divided by operating revenues. It does not include other non-operating charges to the income statement, such as depreciation, interest expense, and income taxes. Generally, an OCCR of 1.5 has been regarded as adequate for developing countries. However, this value should always be reviewed against the need for additional financing and particularly the current size of the fixed asset base in relation to its new investment requirements.
- **Partial Credit Guarantees (PCG).** Credit risk instruments are more important for domestic lenders and bondholders and are designed to cover the portion of the debt service that falls due beyond the normal tenor of commercial loans available from commercial lenders. As such, they are typically used to extend maturities beyond what is available through commercial lenders or bondholders in a partial

domestic market. PCGs cover non-payment of the guaranteed portion of the debt obligations. In that sense, they are considered a comprehensive guarantee for both principal and interest for maturities beyond what can be obtained by commercial lenders without enhancements. Credit risk can be offered on only a portion of the debt obligation (typically the periods where maturities have been extended) or a portion of the loan throughout the life of the loan. Credit risk guarantees have also been known to lower the cost of financing overall.

- **Partial Risk Guarantees (PRG).** Cover commercial lenders against the risk of a government (or government-owned entity) failing to perform its contractual obligations or changing policies, which would impact the financial results of the utilities. PRGs can cover several risks, including changes of laws and regulations; non-allowance for agreed tariff adjustment formula or regime; government (or government entity) contractual payment obligations (e.g., periodic or termination payments, agreed subsidy payments, minimum revenue guarantees, etc.).
- **Project vs. Entity Analysis.** The assessment of the project versus the entity is largely a consequence of the perspective of the stakeholder. While it is always important to analyze the specific project as part of any feasibility analysis, it is most critical to analyze the financial capacity of the entity to fulfill all its financial obligations, not just those of the project being considered. As such, the financial information of the project must be consolidated with all other financial parameters of the entity into a projected cash flow to ascertain financial capacity throughout the projected period. The project analysis is most critical for the economic valuation to ensure that the project is economically justified and that it surpasses the opportunity cost of capital of the government.
- **Return on Investment (ROI).** Measures the overall profitability of the utility and whether the utility is generating an adequate rate of return on capital invested. WSS providers that have received substantial external donor assistance grants may be financially healthy with ROI ratios well below what may be generally accepted. However, the cost of grant contributions from national or local government should be benchmarked at the opportunity cost of capital of those entities.
- **Security Instruments.** Loans can be secured and unsecured. Secured loans carry less risk because they are backed up by a real asset such as property and equipment that can be held as collateral for the loan. Unsecured loans are riskier to lenders because they are based solely on the borrower's creditworthiness (i.e., its ability to cover all the debt service obligations). Typically, WSPs have few assets that can be collateralized for loans given that most of their fixed assets are in the form of civil works or pipes underground. However, there are some techniques that can be utilized to collateralize loans by: (i) pledging the WSP's revenues through a collection account; (ii) creating an intercept mechanism from national transfers to the local municipality where the utility operates; or (iii) by the local government itself pledging its tax revenues. Third-party guarantees can also minimize the risk of unsecured loans by commercial banks.
- **Self-Financing Ratio (SFR).** Measures the ability of the WSP to fund new investments from internally generated funds. Lenders review this indicator closely to determine not only the available free cash flow of the utility but also its capacity to contribute to the financing plan for a proposed investment program. This is a prospective ratio that would allow the analyst to determine whether

the entity has the capacity to contribute a portion of their planned CAPEX program from internally generated financing, typically at least 20% to 30% of the total new investment requirement.

- **Senior vs. Subordinated Debt.** Senior debt has first claims on repayment in the event of default and as such it is less risky than subordinated debt. Senior debt is usually collateralized but can also be secured against the earnings of the WSP. Subordinated debt ranks below senior debt with regard to claims on a WSP's assets or earnings and is more risky than senior debt.
- **Subsidiary Loan Agreement.** This is generally separate and additional to the main loan agreement between international financial institutions or donors and the government, which specifies different terms and conditions to be offered to the beneficiary. The mix of loans and grants, tenors, grace periods, and interest rates offered to the beneficiary could be changed considerably to suit the objectives of a given investment project.
- **Tariff Adequacy Analysis.** The analysis of whether the tariff is truly cost reflective needs to determine whether consumers are substantially overcharged for performance-related issues of the WSP. The tariff adequacy analysis attempts to do this by recasting the operation results under more acceptable performance standards, including adding back forgone maintenance that should have taken place. The analysis is important because it then determines what are justifiable tariff levels versus other items that should be corrected through capital infusions for performance improvements.
- **Underutilized System.** Refers to an entire network or just part of the network running at less than desired capacity. During the investment planning process, it is important to size new investments such that the related debt service can be handled effectively. If the system is significantly underutilized or the investment has been oversized, the revenue to cost ratio will be low and hence the utility may have difficulty in servicing the related debt it assumes to finance the CAPEX program. From an economic perspective, an underutilized system would also be considered inefficient.
- **Viable vs. Bankable.** Financial viability addresses the ability of the WSP to fully meet its financial obligations, or in other words, it can pay its debts and earn an acceptable rate of return on its assets. Bankability on the other hand deals with the WSP being able to source a commercial loan or another form of commercial finance. The two are not the same as it is very possible that a viable utility contemplating a capital investment may not be able to qualify for a loan either because: (i) the payback period is greater than the maximum tenor of the loan that can be offered; (ii) the utility cannot meet the lending requirements for collateral and other loan security; or (iii) the commercial lender is not familiar with lending to the sector and considers involvement to be too risky.

Note

1. Source: World Bank. 2017. "Crowding-In Private Finance in World Bank Water and Sanitation Operations - A How-To-Guide for World Bank TTLs." World Bank, Washington, DC.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