PHILIPPINE WATER REVOLVING FUND SUPPORT PROGRAM

STRATEGIC BUSINESS PLANNING FOR LOCAL GOVERNMENT-RUN WATER UTILITIES

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Strategic Business Planning for Local Government-Run Water Utilities: Guide and Model for the Preparation of Business Plans

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The PWRF Support Program is a collaborative undertaking of GOP partners, USAID, Japan International Cooperation Agency (JICA), LGU Guarantee Corporation (LGUGC), and private financing institutions (PFIs) through the Bankers Association of the Philippines. The Program's GOP partners are led by the Department of Finance and include the Development Bank of the Philippines and the Municipal Development Fund Office.

The PWRF Support Program aims to establish a co-financing facility that combines ODA/JICA resources with PFI funds for creditworthy water service providers, using a financial structure that allows affordable loan terms without sacrificing the viability of PFIs. PFIs have access to credit risk guarantees provided by LGUGC and USAID's Development Credit Authority.

The PWRF Support Program operates around three main objectives, which are to:
- Establish the co-financing facility and develop a long-term financing strategy and mechanism with broader private sector participation;
- Strengthen water project financing and enable other conditions necessary for optimizing the PWRF Support Program's positive impact on the sector, including corollary regulatory and utility reforms; and
- Assist water districts and local government units in developing a pipeline of bankable water projects.

The PWRF Support Program is implemented by Development Alternatives, Inc. in association with The Community Group International LLC, Resource Mobilization Advisors, and CEST, Inc.

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Guide and Model for the Preparation of Business Plans

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- Water and Sanitation Program of World Bank
- National Water Resources Board
- Water Supply and Sanitation Unit of DILG
- Municipal Development Fund Office

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Acronyms

AIP	Annual Investment Plan
CAPEX	Capital Expenditures
CO	Capital Outlay
DBP	Development Bank of the Philippines
DILG	Department of Interior and Local Government
ELA	Executive-Legislative Agenda
GFI	Government Financing Institution
HH	Household
KPI	Key Performance Indicator
LCE	Local Chief Executive
LDIP	Local Development Investment Plan
LGC	Local Government Code
LGU	Local Government Unit
LIRC	Local Internal Revenue Code
lpcd	Liters per capita per day
LWUA	Local Water Utilities Administration
MOOE	Maintenance And Other Operating Expenses
MS	Microsoft
NBV	Net Book Value
NGAS	New Government Accounting System
NGO	Non-Government Organization
NRW	Non-Revenue Water
NWRB	National Water Resources Board
O&M	Operations and Maintenance
OPEX	Operating Expenditures
PAWD	Philippine Association of Water Districts
PEER	Property and Equipment Entitled to Return
PFI	Public Financing Institution
PGB	Policy governing body
PIP	Performance improvement plan
PNSDW	Philippine National Standards for Drinking Water
PS	Personal services
PWRF	Philippine Water Revolving Fund
PWRFSP	Philippine Water Revolving Fund Support Program
ROI	Return on investment
RWSA	Rural Waterworks System Association
SWOT	Strengths, Weaknesses, Opportunities, and Threats
USAID	United States Agency for International Development
VMO	Vision-Mission-Objective
WD	Water District
WDM	Water demand management
WSP	Water and Sanitation Program
WSPs	Water Service Providers
WSS	Water Supply And Sanitation
WUQ	Water utility questionnaire

1 OVERVIEW OF A LOCAL GOVERNMENT-RUN WATER UTILITY

This section presents an overview of the policy and management structure in a Local Government Unit (LGU)-run water utility. The mandate of an LGU in running a water utility is also discussed, as well as water supply and sanitation as a local economic enterprise.

Unlike corporatized utilities, LGU-run water utilities do not have a prescribed organizational structure; as such each LGU utility is organized differently. Strategic planning works best in a set up where there are clear lines of oversight and executive authority. Hence to successfully carry out the preparation of a strategic business plan, this Guide recommends delineating the roles of the legislative council, local chief executive and utility management for a functional governance structure. The governance structure shall consist of three distinct entities responsible for regulation, policy making, and operations.

1.1 LGU MANDATE FOR WATER SUPPLY AND SANITATION

Republic Act 7160 or the Local Government Code of 1991 (Code) mandates municipal and city governments to provide water supply and sanitation services in the absence of water districts in their areas. Specifically, Section 17 of the Code directs LGUs to address communities' basic needs, such as water supply and sanitation services (WSS), through the establishment of public utilities.

1.2 WATER SUPPLY AND SANITATION AS A LOCAL ECONOMIC ENTERPRISE

The Code grants LGUs the power to create and broaden their own sources of revenues. It encourages LGUs to be self-reliant in exercising their powers and discharging the duties and functions vested upon them. Section 290 of the Code grants LGUs the authority to establish self-liquidating economic enterprises, which are entities created by a local government to undertake commercial activities on its behalf. Such an enterprise must have a distinct legal personality and be established to operate commercially, with its management and operations ring-fenced from the general organization and accounts of the LGU. An LGU-run water utility can be established as an economic enterprise.

Ring-fenced water utility accounts

Ring-fencing or separating the activities, financial accounts, and financial statements of the water utility from the LGU's overall accounts is consistent with the basic requirement of the National Government Accounting System (NGAS) of maintaining special accounts not just with subsidiary ledgers but by setting up separate financial records and reports.

With ring-fencing, the LGU-run water utility will maintain its own accounting and financial reporting system, thus generating accurate financial information on the performance of the utility, enabling better monitoring, and providing a solid basis for tariff setting and planning more targeted utility reforms.

1.3 LINES OF AUTHORITY FOR AN LGU-RUN WATER UTILITY

Within the ambit of the Code, this Guide presents an ideal structure for an LGU-run water utility, delineating roles and responsibilities that foster good governance. Since there is no standard organization structure for LGU-run utilities, the establishment of functional subdivisions, primarily as regards regulatory, policy-setting and management roles, is essential.

Regulator

The Code vests economic regulation (i.e., tariff approval and setting of key performance indicators) on local Sanggunian bodies. The Code gives the local Sanggunian authority to grant franchises and perform oversight functions over the development of the water supply system (Book 3, Title II, Chapter 3, Article 3). It is also within the authority of the local Sanggunian to convert an LGU-run utility into a water district, which is a separate and distinct government-owned corporation.

Independence is a key precept of effective regulation. As such, Sanggunian members should not be involved in any of the activities or decisions related to service provision.

The LGU-run water utility may choose the National Water Resource Board (NWRB) as its regulator under a consensual agreement. As a national government agency instituted as a "water resource regulator," the NWRB is tasked to regulate and control the utilization, exploitation, development, conservation and protection of all water resources. The NWRB also regulates water tariffs of private water service providers.

Policy governing body

It is necessary that a policy governing body (PGB) be constituted in a LGU-run water utility that will have similar functions as a board of directors in a corporation. The PGB will be involved in policy setting and decision making on behalf of the owner of the utility, that is, the local government. It will supervise the performance of the water utility management. Since the local government, as owner, is interested not simply in the viability of the enterprise but also in the provision of water supply as a basic public service, the PGB will play a critical balancing role.

The composition of the PGB is the discretion of the local government. It may involve representation from the different sectors of society.

Management

There is no standard organizational structure for LGU water utilities but there should be a water supervisor who performs the role of general manager. The supervisor should manage the utility's operations, direct and supervise staff, and should be accountable to the PGB.

Given that the WSS unit is just one among various LGU units or departments, some administrative/municipal functions may be shared across units. The water supervisor should collaborate with other units or departments that are involved in the operation and provision of water services. He or she should also keep track of how much time shared personnel contribute to the utility's operations.

2 STRATEGIC BUSINESS PLANNING IN WATER UTILITIES

This section presents the importance of strategic planning for LGU-run water utilities, and the attributes of effective planning—necessary in a competitive marketplace. It also serves as a bridge to the business planning process.

2.1 WHY DO STRATEGIC PLANNING?

Strategic Planning is a tool for making decisions for resource allocation among core business functions and investments in expanding or diversifying business functions in a way that increases the value of the utility to customers and other stakeholders.

The concept of value to stakeholders is different for public utilities than for private utilities. In the private arena, value to stakeholders is measured mainly in monetary terms. In public utilities, stakeholders have a wide range of competing priorities. Of prime concern is the provision of safe drinking water, which is affected by environmental, regulatory, political, and economic considerations, as well the community and social agenda. Utilities conduct multiple planning activities that are often disjointed, with no reliable way of measuring contributions toward achieving the utility's fundamental goals.

Strategic planning provides a potential solution to this predicament, as it emphasizes planning of activities under a common framework—linking all planning and budgeting decisions to the utility's fundamental goals.

Increasingly, water utility management has required an entrepreneurial outlook in recent years. More than simply closing competitiveness gaps or reacting to perceived threats, the challenge for water utilities is understanding the spectrum of potential market conditions and developing strategies that:

- Protect their ability to continue delivering reliable, cost-efficient service, and
- Provide opportunities for organizational growth and development.

This entails making decisions on how to invest limited resources to achieve the greatest desired returns within acceptable levels of risk.

2.2 WHAT TO EXPECT FROM STRATEGIC PLANNING: ISSUES, CONCERNS, DIRECTION

Strategic planning is part of the corporate governance process. A well-constructed strategic plan may be reduced to a one-page document,

which can be circulated throughout the organization. The policy governing body will need to give final approval to any strategic plan.

Planning requires identifying projected needs. Management needs to be able to answer the question, "What do we need?" At times answering this question might be a simple matter, other times it might only be possible to say, "I don't know." Such uncertainty is common. Getting the details exactly right is not an easy task, as it is difficult to predict future opportunities or problems, particularly in a dynamic environment. A strategic plan must also outline the sequence and timing of events.

Since the environment is always changing, a strategic plan must be dynamic as well. The best plans are not rigid parameters, but rather working documents that may be adjusted according to varying conditions. Management must keep their goals clearly in sight so they can revise plans when the environment demands, and make decisions that help them attain their stated goals.

Management is commonly faced with the following major issues and concerns related to the development of a strategic plan for a water utility enterprise:

- Strategic planning requires a substantial commitment from executive leadership and its governing body during the planning process and all the way to its potential outcome. In the absence of strong commitment and support from management, a strategic plan may create confusion as regards other planning initiatives and annual budgeting. Strong leadership commitment to participate in the implementation of the process is essential for success.
- The expectations of the policy body and stakeholders about what strategic planning entails must be managed. The management team must be realistic about the organization's ability to implement components of a strategic plan to rein in unreasonable expectations.
- Strategic planning terminology may be daunting to some managers and staff. Some education in strategic planning techniques is recommended for the management team.
- Varying levels of detail and analytical complexity in strategic planning are needed for different circumstances. The level of detail depends on the target audience. Rank and file staff need specific details to direct implementation, while a more general description may be given to management executives.
- In identifying investment options, care must be taken to clarify the difference between core investments (those required to keep the utility in operation) and strategic investments (discretionary investments to enhance the value of services, expand offerings, or generate new revenue sources).
- Utilities need further guidance on prioritizing "soft" (people, knowledge, communication) versus "hard" asset investments.
- A business planning tool or template is needed to support the strategic plan and drive goal attainment down to various planning activities.
- Customers and community groups are different stakeholder groups (existing and potential customers, elected and appointed officials, business organizations, citizen interest organizations, NGOs, and other elements of civil society) and should be considered separately in evaluating investment

options and communicating the strategic planning process.

- Strategic planning must be accompanied by a public relations and communication program largely focused on staff and customers to engender a shift to goals-focused operations.

2.3 WHO TO INVOLVE IN THE STRATEGIC PLANNING PROCESS

Strategizing involves setting institutional goals and finding the best means to reach those goals. It bridges the gap between where an organization is and where it wants to be. A strategic plan provides a blueprint for the entire organization and its stakeholders.

A well-structured strategic plan will call for the involvement of the following stakeholders:

Local chief executive (LCE)
The city or municipal council, headed by the mayor as local chief executive, is the supreme decision-making body in a city or municipal government. Important decisions, including approval of the business plan, require involvement of the LCE.

Policy governing body (PGB)
The involvement of the PGB in the strategic and business planning process, in its role as appointed corporate governing body, is very important. Although it clearly functions in a policy-making and monitoring capacity, the PGB should also be briefed on milestones in the planning process as its opinions and comments on key issues are vital.

Ultimately, it is the PGB that will approve the strategic plan and the five-year business plan for the water utility and endorse it to the LCE. It is important that it has an intimate understanding of the objectives and core elements of the strategic and business plans.

Management team
The management team prepares the strategic plan, presents and finalizes it with the PGB.

Local government(s)
It is advisable for management to hold consultations with LGU officials, including the barangays within the city or municipality, to exchange information on plans and ways to complement each others' services.

Citizen's groups
Water utilities provide services that impact everyone in the community in an essential way. Customers and the community are distinct stakeholder groups and need to be addressed separately in strategic and business planning, particularly in the context of goals and performance metrics. Citizens and other water users all have roles to play in promoting water quality, both passively and actively. Citizens participate in water monitoring programs, water conservation, and serve as advisors to decision makers.

Once strategic and business planning has been completed, the outcomes may be documented for public consumption. It is also advisable that public hearings with citizen groups be organized by the water utility to share with them the planning initiatives while also learning more about stakeholder needs.

2.4 PREPARING A VISION STATEMENT

A vision is an image of a possible and desirable future, an end result. It connotes a standard of excellence, an ideal that can be realized. It suggests an answer to questions like:

- If we could invent the future, what future would we invent for the utility?
- What do we have a burning passion about that we would like to be able to express through our work?
- What could be the distinctive role or contribution of the utility in our municipality?
- What is our collective agenda? What do we want to prove?
- What is our destiny?

Examples of vision statements of LGU-run water utilities:

"A well developed and managed water utility under effective, efficient governance, sustainably providing safe potable water to its citizenry."

Alburquerque Waterworks System
Alburquerque, Bohol

"A demand-driven water service provider to the whole local communities and the nearby municipalities"

Mahayag Local Water System, Mahayag, Zamboanga del Sur

"The Jagna Waterworks System stands to be the sole provider of safe, potable, affordable and sustainable water supply."

Jagna Waterworks System
Jagna, Bohol

3 INTRODUCTION TO BUSINESS PLANNING

3.1 WHAT IS THE PURPOSE OF THE BUSINESS PLANNING MODEL AND GUIDE?

This business planning model and guide aims to provide information and tools necessary to assist the management of LGU-run water supply and wastewater utilities in the Philippines in the development of a five-year business plan.

The primary purpose of this document is to guide water supply and wastewater utilities in the Philippines with a uniform approach for the preparation of business plans that will assure quality services in a cost-effective and transparent manner.

The process of business planning will stimulate the creativity of the utility's management in thinking of ways to improve the utility's overall performance. Business plans are essential tools for making rational and coordinated decisions about levels and types of service provisions where an organization's resources are utilized effectively through clear links to financial planning.

Following a structured model for a business plan, this document will guide the management team through the business planning process.

Information needed for the business plan will be generated by answering questions or filling in templates provided here. Examples are also shown to help the planning team in formulating their thoughts.

It is highly recommended that the guideline be followed step-by-step, as presented here. The business plan model is structured to ensure a standard, consistent and logical structure, especially when in the presentation format. Of course, the substance of the business plans will be unique to the organization that prepares it.

3.2 STRATEGIC PLANNING VS. BUSINESS PLANNING

A utility conducts strategic planning to define its vision, set long-range goals and areas of primary focus, identify key performance indicators, and consider the more generalized actions needed to achieve performance improvement in the long term. The strategic planning process establishes an organization's core priorities and sets guidelines for future managerial decisions in the business planning process.

The strategic planning process is both external and internal, in that the utility seeks to build a broad consensus among its various stakeholders regarding its direction and priorities.

This document prescribes an element of strategic planning—that is, requiring management to develop a vision, expressed in a (new, revised, or affirmed) vision statement, prior to developing the business plan.

Business planning flows from the strategic planning process, in which decisions and actions are set that will, over time, fulfill the vision of the strategic plan. The business planning process deals with quantified strategic goals, which are supported by detailed performance improvement plans.

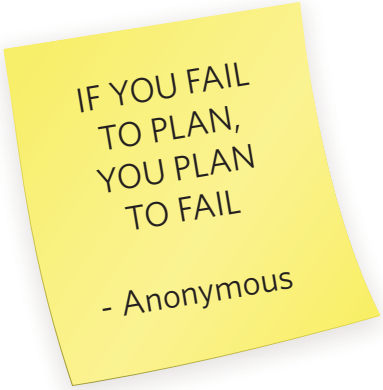
The business plan is the first step in addressing the overall performance objectives of the utility, including becoming operationally and financially self-sustaining. Corollary to this objective is the generation of sufficient revenues to fund capital repair and replacements needed to maintain efficiency of system assets—cost-wise and reliability-wise.

3.3 WHY SHOULD A UTILITY DO BUSINESS PLANNING?

Business planning helps water utilities plan technical operations, determine their operational financing needs, quantify and schedule the capital investments for the utility in a sustainable and affordable way. No commercial company can function successfully without a clearly stated and understood business plan.

Business planning is decision making:

- What is going to happen?
- When will it happen?
- How much will it cost?



Business planning helps:

- Reduce uncertainty
- Provide a basis for monitoring/controlling work
- Improve the utility's efficiency

A business plan provides the means to share information with employees, customers, political leaders, and potential investors, so that there is agreement on the utility's plans for sustainable operations, quality service, maintenance effectiveness, and financial security.

3.4 WHO SHOULD BE INVOLVED IN PREPARING/COMMENTING ON THE BUSINESS PLAN?

A business plan is a practical plan for the entire utility and its relevant stakeholders. It brings together plans to improve and extend the service being provided, and how this service can be financially sustained. As a minimum requirement, a comprehensive business planning process will call for the involvement of the following stakeholders:

Management team

The most common approach to the preparation of a business plan is to convene the management team composed of the water supervisor and members representing key sections of the utility (e.g., operations and maintenance, customer accounts management, and general administration and finance).

This approach is most effective when there is a positive history of interdepartmental cooperation and a good working relationship among the key sections' personnel.

Policy governing body

The involvement of the PGB in the business planning process is very important. The

PGB should be briefed at milestones in the business planning process to seek its opinion and comments on key issues. It is the PGB that will approve the final business plan; therefore it is important that it has an intimate understanding of the business plan's objectives and elements.

3.5 BUSINESS PLAN TIMEFRAME AND UPDATING THE BUSINESS PLAN

The common practice in the water supply and wastewater utility sector is to develop a business plan with a five-year horizon. However, business planning is not a one-time activity but a continual process, with the plan reviewed and updated annually. A water supply and wastewater utility must constantly plan, finance and implement new projects as it repairs, replaces, upgrades and expands its systems to improve services.

Most performance improvement programs in a utility are implemented over several years, and with such a short planning period (e.g., one to three years), management decisions will not capture the entire action plans involved. Business plan horizons greater than five years are interesting to consider, but the predictability of future events diminishes greatly with time. It is for this reason that the business planning model, and these guidelines for the water supply and wastewater utility sector, is structured around a five-year business plan timeframe.

This does not mean however, that all planning at the utility should be limited to a five-year timeframe. This is particularly true for master plans of the systems, which commonly have planning timeframes of 25-30 years, and water resource plans, which typically have planning timeframes of up to 50 years.
The water utility should schedule an annual update of the business plan. It is recommended that this update be conducted during the first month of the fourth quarter of the calendar year or every October, using data for the preceding four quarters (e.g., the last quarter of the preceding year and the first three quarters of the current year).

Every element of the business planning model should be reconsidered. Of particular value is a comparison of the performance indicators from year to year, as well as with stated strategic goals. It is very important that the management team be totally objective in evaluating the performance of the prior year, and in considering any changes in the action plans to assure the achievement of strategic goals.

The water supervisor will facilitate the business plan updating process. The water supervisor will set the schedule of the planning process and generate the historical reports needed to compare past performance against the business plan. However, it is important that the update does not focus merely on financial details, but also look keenly at progress in technical operations and customer services as well. Thus, the water supervisor and the local accountant will have to be involved.
From experience, the technical operations and customer service departments of the utility have the greatest impact on overall utility performance and customer satisfaction.

The issues of business plan updating and monitoring of performance are discussed in greater detail in Sections 17 and 18 of this guide.

4 BUSINESS PLAN MODEL

This section presents and describes the business plan model for water supply and/or sewerage utilities in the Philippines in the preparation of a five-year business plan.

4.1 STRUCTURE OF THE BUSINESS PLAN MODEL

The business plan model follows a defined outline that has been successfully applied in a number of utilities around the world, and conforms to many generally accepted business planning formats. This model was developed so that the business plan will be understandable and useful not only to the utility's management and staff, but also to its PGB, local government officials, donors and lenders, and other interested stakeholders.

The model progresses in a building block fashion, culminating in an assessment of annual "Total Revenue Need" for the forecasted five years of the business plan, a corresponding "average tariff per cubic meter" forecast to be sold in each of the five years, as well as a "Tariff Policy and Strategy."

To do this, the model will consider the following: the utility's strategic goals, specific action plans for achieving these goals, capital investments and expenditures necessary for implementing action plans, and the total expense budget for each of the forecasted years of the business plan.

4.2 DESCRIPTION OF KEY ELEMENTS OF THE BUSINESS PLAN MODEL

The business plan model consists of the following key elements:

General description of the utility
Under this element, the utilities will be guided in the data collection process that will provide the requisite quantitative information and the basis for key performance indicators. This section also includes background utility information so that someone not familiar with the utility will have specific information needed to put the Business Plan in perspective.

Mission statement
Defining a mission statement is the first step in the business plan development process. An organization will find it hard to define strategic goals and identify action plans until its mission is clearly stated.

PGB overview
Once the business plan is completed, the PGB

should take the opportunity to examine major issues affecting performance of the utility and the actions that have been identified to bring about improved performance. In addition, this is a good time to identify the monitoring and reporting procedures the PGB will establish and implement to ensure that any significant departure from business plan targets and milestones are detected early and corrections are made to the action plans.

Assessment of current conditions and priority issues

Before starting into the formal process of developing a business plan, notice must be taken of current internal and external conditions affecting the utility's performance. This is also intended to help bring focus and consensus on priority issues that need to be addressed in the business plan.

Strategic goals

Identifying strategic goals is critical to the business planning process since these help in setting quantifiable targets for improving the utility's performance. Strategic goals should be specific, measurable, achievable, realistic, and time bound.

Water demand management analysis and water sales forecast

Water demand management (WDM) aims to optimize production and conserve total water usage by controlling demand. WDM analysis is useful in assessing water demand and is critical in addressing future water demand projected from historical records and expected water usage rates by customer category.

Conducting an annual water balance is important and greatly benefits the utility. It can also address issues related to the identification and reduction of non-revenue water (NRW), which is a critical concern as water utilities seek to reduce energy costs and maximize sales of water produced. The utility must place a major emphasis on the need to quantify and account for produced water, regarding it as a product that must be sold, not produced and lost.

Organizational structure and staffing

People are key to achieving performance improvements, so organizational structure and staffing levels are key components of a business plan. The review of the organization and staffing requirements of the business plan will highlight the impact of labor cost on the overall budget. It will also show that overstaffing constrains the utility from providing higher benefits or incentives to staff.

Management must be prepared to break away from old organizational structures and staffing policies that have been traditionally used by LGU-run water utilities, and be prepared to restructure the organization with productivity and overall performance as main considerations.

Performance improvement program

Once the utility has identified and stated its strategic goals and has prepared a sound water demand management analysis, it then needs to prepare a performance improvement program. The utility's approach to implementing the change process is critical to achieving long-term, lasting improvements. This will include specific performance improvement plans that are fairly detailed, with clear implementation schedules and interim milestones.

Capital investment program

This section of the Guide addresses the issue of planned capital investments and capital expenditures and their impact on the operational and financial performance of the utility.

In considering planned capital investments and expenditures, the utility management will be guided by the need for new capital investments/expenditures as well as for capital renewal and capital repair and replacement, and their impact on tariffs.

Likewise, a capital investment program will emphasize the need to identify the sources of capital investments. Simply planning capital investments is insufficient for sound utility management. The business plan should be able to identify a source of investment funds, the terms by which those funds may be offered, and project the timing for availability of such funds. This way, their beneficial use and their impact on performance improvement can be realistically reflected in the business plan.

Operations and maintenance budget forecast
Forecasting operations and maintenance expenses is an effective tool for controlling and comparing actual against planned (budgeted) needs and performance. Particularly critical to the budget is the impact of management decisions on expenses for labor, power, chemicals and spare parts. These four items drive the budget of most water utilities.

Before starting the budget forecasting process, the utility will be directed on how to consider and evaluate past and present financial and technical data to help identify factors that will impact the projection of budget line item expenditure.

Revenue needs
This element of the business plan guide will help management determine the utility's total revenue needs. The objective of the business planning process for LGU-run water utilities is to help ensure financial self-sustainability for the utility.

Sustainability not only refers to routine operations and maintenance expenses, but also considers the impact of calculated revenue needs for capital expenditures, capital renewal and capital repair and replacement, as well as debt service and repayments on loans.

Tariff policy and pricing strategy
The business planning process ends with a series of tariff analysis iterations that may lead management to reconsider its operations, maintenance and capital expenditures budgets. Once a realistic mean tariff has been calculated, a pricing strategy can be developed to reflect any differentiations among classes of customers, and to ensure that needed revenues will be generated so the utility is financially and commercially viable. This condition must be met, whether the utility is operated publicly or under a contract with a private entity.

4.3 BUSINESS PLAN MODEL SPREADSHEET WORKBOOK

The business plan model is supported by a Business Plan Model Spreadsheet Workbook, a template created on Microsoft Excel. The Workbook allows the utility to record and calculate results based on data and assumptions entered.

The Workbook is made up of eight interrelated worksheets, as follows:

a. Staff list
b. Staff analysis and forecast
c. Water demand analysis and forecasted water sales
d. Capital investment program
e. Operations and maintenance budget forecast
f. Debt service
g. Revenue needs
h. Pricing strategy

To use the Workbook, start by making a copy of the Workbook provided with the guide, and saving a copy of the workbook under a new filename. This way, the Workbook Model, in its original form, will always be available as a template for future use. Later sections will discuss how to use the different worksheets. Sample worksheets are attached as Appendix C for reference.

BUSINESS PLAN MODEL OUTLINE

I. Strategic Direction and Vision Statement of the Utility
1. Strategic Issues, Concerns, and Direction
2. Vision Statement

II. General Description of the Utility
1. Brief History of the Utility
2. Franchise Area Profile Information
3. Key Statistical Performance Information
4. Corporate Governance Structure

III. Mission Statement of the Utility

IV. Senior Management Overview of the Business Plan
1. Priority Issues for the Utility
2. Major Challenges Facing Utility in Implementing Business Plan
3. Monitoring, Reporting, and Corrective Actions

V. Assessment of Current Conditions and Priority Issues

VI. Strategic Goals
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2. Strategic Goal Two
3. Strategic Goal Three
4. Strategic Goal Four
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VII. Water Demand Management Analysis and Water Sales Forecast
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2. Non-Revenue Water
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IX. Performance Improvement Program to Achieve Strategic Goals
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2. Performance Improvement Plan Two
3. Performance Improvement Plan Three
4. Performance Improvement Plan Four
5. Performance Improvement Plan Five

X. Five-Year Cost Budget Forecast
1. Salaries
2. Other Personnel Costs
3. Contracted Services
4. Consumable Expenditures

XI. Five-Year Capital Expenditure and Investment Forecast
1. Capital Renewal (Underground Assets)
2. Capital Repair and Replacement (Above Ground Assets)
3. New Capital Investments
4. Building the Capital Investment/Expenditure Plan

XII. Revenue Needs
1. Debt Service
2. Capital Reserves
3. Basis for Revenue Needs

XIII Tariff Policy and Strategy
1. Average Tariff per Cubic Meter

Appendices

5 GENERAL DESCRIPTION OF THE UTILITY

5.1 BRIEF HISTORY AND BACKGROUND INFORMATION

In this section of the business plan, management should provide a short description of the history of the utility, as well as background information on the organization. To prepare this brief history and background, management should consider the following points, as a minimum:

- Nature of services provided by the utility (e.g., water supply only, water supply and sewerage services, bulk water supply to other utilities/systems, etc.)
- Date of the utility's establishment and relative age of the infrastructure
- Current legal status of the utility and when that status was established
- Types of licenses/permits held by the utility
- Type, location and safe yield of water sources in active use
- Nature of the water supply system (e.g., pumped, gravity-fed, and/or combination, level/s of service)
- Specify seasonal restrictions on water use
- State whether water supply system is used for other community requirements, such as fire protection
- Describe the nature of water treatment used, the frequency of water quality testing, and the type of testing parameters
- State the total number of waterworks and sewerage staff, as well as the staff structure (i.e., number of technical, administrative staff)

5.2 ADMINISTRATIVE AREA, COVERAGE AND CONSUMER PROFILE INFORMATION

An LGU's administrative area is the entire territory of the local government, but LGU-run water utilities rarely cover the entire administrative area. There are usually areas within the administrative area where other water service providers operate, like water service cooperatives, Barangay Water and Sanitation Associations (BWSA), and/or private water service providers. There may also be parts of the administrative area not covered by any service provider.

The coverage of water service is the expanse or reach of its distribution system in terms of population. Its covered population should include even those not connected to the system because service is available to them. The coverage of a water service provider should be expressed as a

percentage of the total city/municipal population. The LGU-run water utility should clearly define its coverage and that of other water service providers in its business plan.

Population figures used by management should be reasonably accurate. The number of consumer connections by consumer category (household, commercial, industrial, institutional, etc.) should also be presented.

5.3 KEY PERFORMANCE INDICATORS

Key performance indicators (KPIs) provide information on the utility's performance. As a minimum, this should include performance measures that are in the business plan's targeted areas for improvement. These KPIs may be presented in table form.

To get an accurate indication of the water utility's performance, its financial records and reports must be ring-fenced. These ring-fenced data will be the basis for the computation of KPIs.

Table 5-1 shows commonly used performance indicators.

Table 5-1. Key Performance Indicators

Key performance Indicator	Value
Service coverage (% of total population):	
Water supply	
Sewerage	
Septage management	
Population served (% of total population):	
Water supply	
Sewerage	
Septage management	
Average water consumption (m3/day/connection):	
Residential (also in lpcd)	
Level 3	
Level 2	
Commercial	
Industrial	
Institutional	

Key performance Indicator	Value
Metering:	
Customer metering (% of total connections)	
Production metering (% of total water sources)	
Non-revenue water (% of total water production)	
Average hours of water supply per day	
Water quality compliance (% negative tests):	
Physical and chemical	
Bacteriological	
Average tariff (PhP/m3)	
Average cost (PhP/m3)	
Working ratio	
Collection period	
Collection efficiency (%)	
Staffing ratio (Employees/1,000 water+sewer connections)	
Debt service coverage ratio	
Debt equity ratio	
Net profit margin	
Operating margin	

The following section, mostly modified from the Performance Improvement Toolkit for Small Water Utilities developed by the SWIF Project of World Bank's Water and Sanitation Program, discusses the measurements and definitions of the indicators mentioned above. The discussion covers the normal values and significance of each indicator in business planning.

Service coverage

Water service coverage

This shows the percentage of population in the administrative area that is covered by the LGU-run water utility. This is derived by mapping households and the layout of the water distribution system. As stated earlier, the service area population is the number of people living in areas where water service is available.

Formula

$$\text{Water service coverage (\%)} = \frac{\text{Population reached by distribution pipelines}}{\text{Total city/municipal population}} \times 100$$

Significance

- Water service coverage provides insights into the extent of infrastructure provided by the water utility.
- A study of the unserved areas will help the water utility assess what has to be improved in its water service coverage.

Sewerage service coverage

This shows the percentage of population in the administrative area covered by the LGU-run water and wastewater utility. This is derived by mapping households and the layout of the sewerage system.

Formula

$$\text{Sewerage service coverage (\%)} = \frac{\text{Population reached by sewer lines}}{\text{Total city/municipal population}} \times 100$$

Significance:

- Similarly, sewerage service coverage reflects the extent of the infrastructure provided by the LGU water and wastewater utility.
- Identification of unserved areas will help the utility assess what has to be improved in its sewerage service coverage.

Septage collection service coverage

This shows the percentage of population in service area where septage collection services are available from the utility.

Formula

$$\text{Septage collection service coverage (\%)} = \frac{\text{Population within septage collection area}}{\text{Total city/municipal population}} \times 100$$

Significance:

- Septage service coverage shows the availability of the service based on the septage management program of the utility.
- Future targets can be easily programmed by the utility.

Population served

Population served by water service.

This shows the percentage of population in the administrative area that is getting water from the LGU-run water utility, either through a direct service connection or as part of the community sharing a public tap.

Formulas

$$\text{Population served by water service (\%)} = \frac{\text{No. of household connections x Persons per household} + \text{No. of public taps x Households per tap x Persons per household}}{\text{Total city/municipal population}} \times 100$$

$$\text{Willingness to connect (\%)} = \frac{\text{No. of household connections x Persons per household}}{\text{Population reached by distribution pipelines}} \times 100$$

Significance:

- The indicator will show how many households are actually availing of the water service.
- The common threshold for willingness to connect to most water utilities is 60% within the coverage area of the water service.
- This will also show the extent of population having alternative water sources.
- This may also give an indication of the level of dissatisfaction with the service provided by the water utility.

Population served by sewerage service

This shows the percentage of population in administrative area that is connected to the sewerage system of the LGU-run water utility.

Formula

$$\text{Population served by sewerage service (\%)} = \frac{\text{No. of household sewer connections x Persons per household}}{\text{Total city/municipal population}} \times 100$$

Significance

- The indicator will show how many households are actually availing of sewerage services.
- This will also indicate how many in the area have other disposal methods.

Population served by septage collection service

This shows percentage of population in administrative area that is covered by the septage desludging service and septage treatment but limited to those with accessible septic tanks only.

Formula

$$\text{Population served by septage collection service (\%)} = \frac{\text{No. of accessible septic tanks within septage collection area x Persons per household}}{\text{Total city/municipal population}} \times 100$$

Average water consumption

Average residential water consumption

This shows how much water is used by each residential connection or by the individual.

Formulas

$$\text{Average Level 3 residential water consumption (m3/day)} = \frac{\text{Total annual volume billed for Level 3 residential connections} \div 365 \text{ days/year}}{\text{Total no. of residential connections}}$$

This can also be expressed in terms of per capita consumption:

$$\text{Average Level 3 residential water consumption (lpcd)} = \frac{\text{Average Level 3 residential water consumption (m3/day)}}{\text{No. of persons per household}} \times 1000$$

This can be similarly performed for metered Level 2 service:

$$\text{Average Level 2 residential water consumption (m3/day)} = \frac{\text{Total annual volume billed for Level 2 residential connections} \div 365 \text{ days/year}}{\text{Total no. of metered public taps}}$$

$$\text{Average Level 2 residential water consumption (lpcd)} = \frac{\text{Average Level 2 residential water consumption (m3/day)}}{\text{Ave. no. of households per tap x No. of persons per household}} \times 1000$$

Significance

- High consumption shows that the system allows for this level of consumption and that consumers in the area are willing to pay for such services at a given price. In such cases, there may be a need to review the tariff structure so that consumers are encouraged to conserve water.
- Low consumption may indicate that there are alternative sources of water in the area. It may also indicate that the utility is not able to supply as much volume as consumers need or want to use. It may be the result of low pressure or water being available for only a few hours a day, or the utility may be serving more consumers than the system can handle.
- The normal range of Level 3 per capita consumption is 80–200 lpcd. For a household of five, this is equivalent to 0.4-1.0 m^3/day.
- The normal range of Level 2 per capita consumption is 30–80 lpcd. For an average 10 households sharing a public tap and a household size of five, these are equivalent to 1.5–4.0 m3/day per public faucet.

Average commercial water consumption

This shows how much water is used daily by each commercial connection.

Formula

$$\text{Average commercial water consumption } (m^3/\text{day}) = \frac{\text{Total annual volume billed for commercial connections} \div 365 \text{ days/year}}{\text{Total no. of commercial connections}}$$

Average institutional water consumption

This shows how much water is used daily by each institutional connection.

Formula

$$\text{Average institutional water consumption } (m^3/\text{day}) = \frac{\text{Total annual volume billed for institutional connections} \div 365 \text{ days/year}}{\text{Total no. of institutional connections}}$$

Average industrial water consumption

This shows how much water is used daily by each industrial connection.

Formula

$$\text{Average industrial water consumption } (m^3/\text{day}) = \frac{\text{Total annual volume billed for industrial connections} \div 365 \text{ days/year}}{\text{Total no. of industrial connections}}$$

Metering

Customer metering

This shows how many service connections are metered.

Formula

$$\text{Metered connections (\%)} = \frac{\text{No. of metered connections}}{\text{Total no. of connections}} \times 100$$

Significance

- All connections should be metered to fully account for the water consumption of customers.
- Metering helps customers control their water consumption and provides utilities with tools and information to better manage the system.
- It is important for meters to be regularly cleaned, repaired, calibrated, or replaced. Best practices in relation to reducing water losses suggest regular calibration or replacement of meters should be done every five to seven years.

Production metering

This shows how much of water sources are being measured. This is usually the most neglected part of a waterworks system.

Formula

$$\text{Metered/measured water sources (\%)} = \frac{\text{No. of metered/measured water sources}}{\text{Total no. of water sources}} \times 100$$

Significance

- Accurate measurement of the volume of flow of all water sources is important to fully account for water production.
- The difference between the resulting production figure and the amount of water consumed by customers will reveal the level of non-revenue water in the system.

Non-revenue water (NRW)

This shows the volume of water produced that does not generate income.

Formula

$$\text{Non-revenue water (\%)} = \frac{\text{Volume produced - Volume billed}}{\text{Volume produced}} \times 100$$

Significance

For new water systems, the normal design allowance for NRW is 20% but this can go as low as 5% for very efficient systems. For old systems or a combination of new and old facilities, NRW is normally more than 30%. Higher values of NRW should prompt the planner to consider system improvements that can turn wasted water into revenues. The cost of improvements should always be outweighed by revenues generated.

- Reducing water losses could mean savings. If losses are reduced or controlled, less water will need to be produced and less expenses required for pumping and treatment. It could also mean additional revenues. A substantial reduction in water losses means more water is available to be sold and more consumers can be served.
- Water losses can be reduced by appropriate technical and organizational solutions. These include 100% metering of production and consumption, repair of visible leaks, elimination of illegal connections, identification and repair of invisible leaks, and repair and replacement of meters.

Average hours of water supply per day

This shows the availability of water supply during a day.

Significance:

- All water utilities should aspire for 24-hour water supply. If this is not attained, especially by those with extremely low operating hours, planners should look into issues or problems—like inadequacy of supply and other possible deficiencies—and recommend appropriate solutions.
- An operation that needs to keep turning water supply on and off is prone to water quality problems.

Water quality compliance

Physical and chemical tests

All water sources should pass the requirements of the Philippine National Standards for Drinking Water (PNSDW).

Formula

$$\text{Physical/chemical test compliance (\%)} = \frac{\text{No. of samples passing test}}{\text{Total no. of samples}} \times 100$$

Significance

The indicator should be at 100%. Appropriate water treatment should be employed for parameters exceeding allowable limits as prescribed by PNSDW.

Bacteriological tests

All samples taken from various points of the system should pass bacteriological tests.

Formula

$$\text{Bacteriological test compliance (\%)} = \frac{\text{No. of samples passing test}}{\text{Total no. of samples}} \times 100$$

Significance

The indicator should be at 100%. If not, the source of contamination should be identified and appropriate water treatment be employed.

Average water tariff

This is the average price of water per cubic meter that is being charged by the water utility.

Formula

$$\text{Average water tariff (PhP/m}^3\text{)} = \frac{\text{Total water revenues}}{\text{Total water volume billed}}$$

Significance:

When compared with average production cost (item below), this measure gauges whether tariffs are able to cover the cost of production. The average tariff of water utilities included in the 2004 benchmarking study was PhP13.06 per m^3.

Average production cost

This measures the overall costs (both direct and indirect) incurred per cubic meter of water produced. Operating expenses should exclude sewerage and septage collection/treatment operating costs.

Formula

$$\text{Average water production cost } (\text{PhP}/\text{m}^3) = \frac{\text{Operating expenses}}{\text{Total water volume billed}}$$

Significance:

Unit operational costs provide a "bottom line" assessment of the mix of resources (manpower, fuel, power, chemicals, etc.) used to produce and deliver water.

Working ratio

This measures the proportion of expenses to revenues.

Formula:

$$\text{Working ratio} = \frac{\text{Operating expenses (net of financing charges and non-cash exp.)}}{\text{Operating revenues}}$$

Significance

This indicator answers the question: Do revenues exceed operating costs?
An operating ratio less than 1 means that revenues from tariffs are able to cover operation and maintenance costs, while a ratio above 1 means the utility is operating at a loss.
For small utilities, 85% working ratio is ideal.

Collection period

This measures the number of days/months it takes to collect receivables from customers.

Formula

$$\text{Collection period} = \frac{\text{Account receivable, ending balance}}{\text{Total annual billings} \div 12 \text{ months}}$$

Significance

Long collection periods affect the availability of cash for the utility's operating expenses.
A collection period that is longer than 1.8 months reflects poor collection performance.

Collection efficiency

This measures the proportion of billings collected within the period.

Formula

$$\text{Collection efficiency (\%)} = \frac{\text{Total annual collections}}{\text{Total annual billings}} \times 100$$

Significance

- Revenue collection efficiency is a direct comparison of collections and billings, and measures the intensity (success) of the collection effort.
- Revenue collection efficiency must not be less than 90%. Some utilities may have collection efficiencies higher than 100%, indicating total collections for the period included payment of bills for the previous periods.

Staffing ratio

This suggests whether the utility is overstaffed or understaffed.

Formula

$$\text{Staffing ratio} = \frac{\text{Number of staff}}{\text{Total no. of water + sewer connections}} \times 1000$$

Significance

- Staff costs are traditionally a major component of operating costs in a utility. Understanding correct staffing levels can help management address issues related to overstaffing.
- Low staff ratio among water utilities may reflect an inability to hire staff given that low average tariffs leave little room to cover operating costs, including personnel salaries.
- Normal staffing ratios of water utilities range from 5 to 8 staff per 1,000 connections.

Average total water sales

Significance

This indicator measures overall efficiency of water resource use. Low figures may reflect a shortage of water resources linked to inadequate investments.

Debt service coverage ratio

Formula

$$\text{Debt service coverage ratio} = \frac{\text{Net income before interests and taxes}}{\text{Fixed interest charges}}$$

Significance

This ratio shows the fixed debt repayment levels as a proportion of total utility revenue.

Debt-equity ratio

Formula

$$\text{Debt-equity ratio} = \frac{\text{Liabilities}}{\text{Government equity}}$$

Significance

- It indicates what proportion of equity and debt the company is using to finance its assets.
- It is determined to ascertain soundness of the utility's long-term financial policies.

Net profit margin

Formula

$$\text{Net profit margin (\%)} = \frac{\text{Net income}}{\text{Total revenues}} \times 100$$

Significance:

- This indicator is used to measure overall profitability and hence very useful to decision-makers. If net profit is not sufficient, the utility will not be able to achieve a satisfactory return on its investment.
- Obviously, a higher ratio means better profitability. But note that the performance of profits should also be seen in relation to the utility's investments or capital and not only to sales.

Operating margin

Formula

$$\text{Operating margin (\%)} = \frac{\text{Net income before income tax, depreciation, amortization}}{\text{Operating revenues}} \times 100$$

Significance:

This indicator is used to measure how much out of every peso in sales the utility actually keeps in earnings.

5.4 INVESTMENT/FUNDING INFORMATION

The performance of the utility is affected by the amount and efficiency of investments made in capital infrastructure. In general, physical investments in infrastructure will start to yield performance benefits after two to three years.

Under this section, management should provide information on all investments made over the past five years (Table 5-2), including both grants and loans, and whether they are from the National Government budget, bilateral grants/loans, international financing institutions, commercial lenders, or internally generated funds.

Management should also indicate if any outstanding loan obligations have repayments that will occur within the five-year period of the business plan.

Table 5-2. Investments classified by funding source

Asset description	Year acquired	Amount	Funding source			
			Internally generated funds	Donations/ grants	Loans	Other sources

6 MISSION STATEMENT OF THE UTILITY

6.1 WHAT IS A MISSION STATEMENT?

The first step in the business planning process is the preparation of a mission statement based on the utility's vision. The vision suggests a future orientation—the organization's shared aspiration for its future. The mission statement is a short, clear statement describing the utility's purpose and values. It should be a succinct representation of the utility's reason for being. It should incorporate socially relevant and measurable criteria addressing concepts such as its moral/ethical position, public image, services provided, target market, geographic domain and expectations of growth. Ultimately, this serves as the guiding principle for all goals and plans of the utility.

The central focus of a utility's decisions and operations should be its mission, which is the basic and unique purpose that sets it apart from other organizations and determines the scope of its operations. The mission statement is an enduring statement of the organization's intent and describes areas of emphasis for the organization in a manner that reflects the philosophy and values of management and other stakeholders.

6.2 IMPORTANCE OF THE MISSION STATEMENT

The mission statement helps the utility determine and prioritize strategic goals, and guides the execution of its chosen strategies. It provides the structure and framework for an organization to build upon. Without a mission statement, an organization will be unable to integrate different goals and strategies into a comprehensive and meaningful framework for action and growth.

The mission statement also allows management to define the business down to the most basic level. Once in place, an organization's goals and plans must be closely aligned with its mission statement.

Mission statements are intended to motivate and inspire, set a common direction, promote accountability, and provide insight on the organization's character, attitude, and beliefs.

6.3 WHAT SHOULD BE CONSIDERED WHEN DEVELOPING A MISSION STATEMENT?

A mission statement should be a clear set of principles that is understood, accepted, and adopted by the utility's employees as goals or standards to aspire for. Generally, a mission statement includes the:

- Purpose of the utility in terms of the scope of its operations
- Priorities for the utility's future performance
- Values of the utility in the provision of its services

In developing a mission statement, the management team should consider the following questions:

- What do we do as a utility?
- Why does the utility exist?
- What is the ultimate result of our work?
- What are our priorities?
- What do we value?
- What is the utility's vision?
- Should we include a standard of performance?
- Should we include a customer statement?
- What kind of internal work environment do we want for our employees?

In addition to serving as a guidepost for organizational goals and plans, a mission statement contributes to a positive perception of the utility both externally and internally. The local community, customers, and suppliers will appreciate the utility's commitment to principles and goals declared in its mission statement. Internally, a strong mission statement impacts employees by raising their dedication to the organization because they can identify with its overall purpose and reason for existence.

Example of LGU-run water utility mission statements:

Jagna Waterworks System
Jagna, Bohol
Mission Statement

Guided by our vision, we commit ourselves to:

- Provide sufficient potable water;
- Deliver quality services through competent and committed personnel and endeavor to continually enhance systems and technology;
- Ensure sustainable water resources by being proactive in the preservation of the environment; and
- Become a financially viable and self-sustaining water utility.

Mahayag Local Water System
Mahayag, Zamboanga del Sur
Mission Statement

To provide, potable, safe, and sufficient water supply in improving the economic, health, and living conditions of the people.

Alburquerque Waterworks System
Alburquerque, Bohol
Mission Statement

The Municipal Waterworks System of Alburquerque guarantees to provide sufficient supply of safe potable water to its constituents by improving the utility, safeguarding the environment and sustaining the working relationship of stakeholders.

When describing the scope of its operations, many utilities often include a standard for performance in the statement. Some mission statements also convey the utility's attitude toward employees and customers.

WRITING THE MISSION STATEMENT

7 MANAGEMENT OVERVIEW OF BUSINESS PLAN

The management overview section of the business plan allows management to address major concerns affecting performance of the utility. It may also contain a discussion of the general nature of the actions that need to be taken to bring about improved performance.

In addition, this section describes the monitoring and reporting procedures to be implemented to ensure that any serious departure from business plan targets and milestones are detected early and corrected immediately.

7.1 MAJOR CHALLENGES IN BUSINESS PLAN IMPLEMENTATION

Management should use this section of the business plan to identify major challenges the utility is likely to face during the plan's implementation. The ability to address some major challenges may not always be within the control of management; this should be clearly stated in this section.

Water and sanitation services in the Philippines have not expanded in terms of coverage; poorer households tend to be underserved by existing facilities. A typical example is the need for large capital investments for extending water supply coverage to unserved areas, as well as repair and replacement of existing systems. Such capital can only be obtained by applying for loans from the Municipal Development Fund Office, government financial institutions, and private financial institutions.

Not all improvements need capital investment, however, management must be objective in identifying these challenges as well. It is essential that strategic goals set by management are responsive to all nature of perceived challenges.

A major milestone for the Philippine water sector would be the achievement of the Millennium Development Goal of increasing formal access to water supply to 90% by 2010. Under this section of the business plan, management should list the most important challenges for the utility. The following is a list of possible challenges that a typical utility may face:

- Increased water supply coverage for the administrative area
- Secure water supply in sufficient quantity and proper quality
- Reduce non-revenue water
- Increase sanitation/sewerage coverage by implementing a capital investment program to reach unserved areas

- Provide quality septage/sewage collection, treatment and disposal services in compliance with environmental standards
- Operate the utility in a commercial manner, i.e., financially self-sustaining based on the tariff structure
- Build staff capacity by implementing a comprehensive staff training program

The business plan must include at least one or more approaches addressing each of the challenges identified by management.

7.2 MONITORING, REPORTING, AND CORRECTIVE ACTIONS

After approval by the PGB and once implemented, the business plan will need to be updated from time to time. These measures are essential to the successful implementation of the business plan, and make it a living document.

Monitoring

Monitoring requires an observation of progress made in the achievement of the utility's stated strategic goals by measuring their status at defined points in time.

Under the "Monitoring" section, management must determine the method of measuring progress against the goals set by the business plan, specifying the following:

- Functional areas to be monitored
- Performance indicators to be applied for each functional area
- Frequency of monitoring or measuring results against performance indicators
- Persons designated to be responsible for monitoring
- Schedule of meetings to discuss progress and issues in implementation

Reporting

Management must specify the reporting requirements of all sections of the utility. Reports form the basis of decisions on troubleshooting and therefore must be accurate and timely. Under the "Reporting" section, management must specify reporting requirements for each section, to include as a minimum:

- Type of reports and data to be provided
- Frequency of reporting
- Number of copies to be filed and flow of reporting
- Designation of person in each section who shall be responsible for reporting

Upon review and analysis of monitoring reports, management will be able to apply corrective measures to address problems or issues arising during implementation.

Corrective measures

Management must first identify new challenges or issues that have been overlooked during the preparation of the business plan document, and provide for appropriate solutions.

Applying corrective measures is not intended as a modification of the utility's strategic goals. Rather, they merely improve the means by which these goals are sought to be achieved.

8 ASSESSMENT OF CURRENT CONDITIONS AND PRIORITY ISSUES

Before developing a business plan, the management team must come to a consensus on current conditions of the utility, the external factors affecting the utility, and the priority issues that need to be addressed in the business plan.

There are two grounding environments: external and internal. The external environment is the area, industry or sector affecting or being affected by the utility, while the internal environment is the utility itself. The internal environment is composed of the resources, manpower, systems, processes, capabilities and constraints of the utility.

Priority issues for the utility can be best identified through a simple exercise conducted among the management team, which will be discussed later in this section.

8.1 CURRENT/EXPECTED INTERNAL CONDITIONS

Management must do its best to make an honest and objective assessment of existing internal conditions and set realistic targets from there.

Performance indicators and trends

A number of key performance indicators were already suggested in Section 5 of the Guide, as a way to help describe the utility. The management team will need to consider these indicators, among others, to form an objective conclusion as to how the utility is performing. The management team will also need to examine the quality of its programs for monitoring and measuring performance. It is important to keep the following four statements in mind:

- If you are not measuring it, you cannot monitor and manage it.
- If you do measure it, be sure it is being measured correctly and consistently.
- Inaccurate data produces inaccurate indicators.
- Inaccurate indicators result in bad management decisions.

Nature of work force and skills

The success of a utility relies ultimately on its people and their ability to perform their duties. To meet the future demands of the utility, management must assess its work force in terms of skills and training needs. In the short term, it is reasonable to expect reductions in the work force. Likewise, there will be a need for increased training in the operation and maintenance of new technologies.

Capital investment program

In the coming years, many utilities in the Philippines will be engaged in capital investment programs to upgrade and expand system coverage and improve service levels. Major capital investment programs have a profound impact on a utility. Management must anticipate changes and allow for them in their business plan. Among these may be new customers, the need for new worker skills, and added operational costs.

Resource optimization

The section on resource optimization endeavors to determine if the utility's resources have been efficiently, economically, and effectively utilized.

Management process

These are the systems and procedures, both formal and informal, which the utility employs to achieve its goals. Among these are the following: planning, programming, budgeting, organizing, staffing, implementing, evaluating, controlling, coordinating, monitoring, leading, directing, relating, compensating and rewarding.

Physical assets, environmental conditions

This requires analyzing the state, condition, and competitiveness of the utility's physical assets and working conditions, including the working environment, infrastructure and logistics support, utilities and other physical factors affecting the cost of doing business and cost of producing products or services.

Organizational affiliations

This involves evaluating the utility's affiliations, alliances and linkages, including supplier and marketing networks, industry associations, etc. The costs and benefits of such tie-ups must be evaluated.

8.2 CURRENT/EXPECTED EXTERNAL CONDITIONS

One must consider the impact of national events and policies on the utility's ability to perform its activities and services. Some of these events will be considered again in later sections of the business planning process, but are raised below as examples of things that need to be considered and discussed by the management team.

Changes in sector legislation and regulations

The water supply and wastewater utility sector is greatly driven by legislation and regulations. Even a small change in the water quality standard requirement can have a significant impact on capital investment needs and operating costs.

As stated in the World Bank Report "Meeting Infrastructure Challenges," a robust regulatory framework is critical for sector development as it provides for a credible and effective tariff adjustment mechanism insulated from short-term political intrusion. A regulatory framework is also crucial to make service providers accountable to consumers. However, such a framework is still not in place.

Trends in power service continuity and price

Business planning must be performed with the best estimate of power supply continuity and price. Since power costs have a major impact on the operations and maintenance budget, management must carefully review the recent history of electricity price increases and factor this in the PS & MOOE budget forecast.

Trends in chemical supply and price

Treatment chemicals are playing an expanding role in the operations of water utilities in Philippines, especially for the treatment of

surface water sources, disinfection of drinking water prior, and treatment of wastewater. Establishing a reliable supply of quality chemicals at affordable prices will be an increasing challenge for a growing number of utilities.

Changes in economic conditions affecting customers

The economic well-being of customers can have a direct impact on the utility. Customers who have been laid off due to an economic downturn can end up paying their utility bills late or not at all. Conversely, a growing economy with a strong job market can mean an increase in consumption per capita per day, as well as an increase in the utility's overall customer base.

Changes in labor laws affecting employment and wages

It is reasonable to expect that labor laws in the Philippines will continue to evolve, especially as far as minimum wage standards are concerned. As a major employer, the utility must allow for the impact of such changes on its operations.

8.3 SWOT MATRIX

Summarizing the previous observations, the management team should be able to develop a SWOT analysis which displays four possible combinations that can be used to generate strategic options. These are:

Strengths-Opportunities (S-O) Strategic Options – This matrix asks the question: How can strengths be used to take advantage of opportunities?

Strengths-Threats (S-T) Strategic Options – This matrix asks the question: How can strengths be used to counteract threats that tend to hinder the attainment of objectives (VMO) and the exploitation of opportunities?

Weaknesses-Opportunities (W-O) Strategic Options – This matrix asks the question: How can weaknesses be overcome to take advantage of or exploit opportunities?

Weaknesses-Threats (W-T) Strategic Options – This matrix asks the question: How can weaknesses be overcome to counteract threats that tend to hinder the attainment of objectives (VMO) and exploitation of opportunities?

Figure 8-1 SWOT Matrix

Internal Environment Assessment / External Environment Assessment	Strengths (S)	Weaknesses (W)
Opportunities (O)	S-O	W-O
Threats (T)	S-T	W-T

8.4 PRIORITY ISSUES

The first step toward defining its strategic goals is the identification of priority issues that will affect the utility.

Problems or issues that affect the performance of the utility should be considered in a structured way as they relate to different parts of the organization. The following points are provided to assist the management team in considering probable problems/ issues.

Management performance

- Lack of internal regulation
- Lack of routine performance improvement programs
- Lack of performance monitoring and reporting practice

- Difficult relations with local government officials within the administrative area of the utility
- Excessive political pressure and influence

Financial performance
- Lack of internal audits
- Lack of compliance with accounting standards
- High total labor cost due to overstaffing
- Insufficient revenues and collections to cover operations costs
- No financial reserves for new capital investment
- Insufficient tariff levels to meet debt interest and repayment requirements

Operations performance
- Significant water quality problems at sources
- Delays in capital investment program
- Insufficient water supply sources
- Low water supply coverage
- Extremely low access to sewerage network

Maintenance performance
- Technical losses from visible leakage
- Lack of spare parts to make timely repairs
- No preventive maintenance system in place
- Severe, repeated equipment damage due to voltage fluctuations
- Lack of wastewater treatment and disposal

Human resources performance
- Overstaffing
- Poor quality of staff due to low salaries
- Aging staff with no qualified replacements
- Political interference in hiring practices

Customer service
- Fragmented customer service activities
- Lack of computerized billing and accounting system
- Low billing and/or collection efficiency rate
- High percentage of non-revenue water
- Serious problem with illegal connections
- Lack of public relations/customer communications plan

After having considered the problems/issues listed above, management should conduct the exercise at the end of this section as a process to identify the utility's priority problems and issues.

Sample format for identifying priorities

Directions: Consider and document the major problems and issues that the utility is confronting.

1. The management team should work collectively in documenting all the significant problems and issues they can identify under each section, trying to be as specific as possible.

2. After listing the problems and issues under each section, return to each section to rank them based on urgency of the problem, relative to all other problems in that section, by checking the appropriate box.

3. Once this has been completed, proceed to the last table and transfer all problems ranked "Very urgent" to that last table, and then rank them in order of priority.

MANAGEMENT	Not Urgent	Urgent	Very Urgent
1			
2			
3			
4			
5			

FINANCE	Not Urgent	Urgent	Very Urgent
1			
2			
3			
4			
5			

OPERATIONS	Not Urgent	Urgent	Very Urgent
1			
2			
3			
4			
5			

MAINTENANCE	Not Urgent	Urgent	Very Urgent
1			
2			
3			
4			
5			

HUMAN RESOURCES	Not Urgent	Urgent	Very Urgent
1			
2			
3			
4			
5			

CUSTOMER SERVICE	Not Urgent	Urgent	Very Urgent
1			
2			
3			
4			
5			

Very Urgent Issues/Problems	Not Urgent	Urgent	Very Urgent
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Although the table of "Very urgent issues/ problems" has allowed for 15 entries, and although more than 15 problems may be identified, the management should carefully consider which of the ones ranked "Very urgent" are significant enough, and can be realistically addressed within the five-year period of the business plan. Experience suggests that only five to seven "very urgent" issues and/or problems can be practically addressed.

9 STRATEGIC GOALS

9.1 WHAT IS A STRATEGIC GOAL?

Strategic goals are identified to help accomplish the organization's mission statement. Strategic goals pertain to the organization as a whole, rather than just a specific section. Goals identify what an organization wants to achieve, preserve, reduce or eliminate. Strategic goals provide an organization, specifically its management, with a sense of direction by stating quantified performance targets.

The strategic goals developed within the business planning process provide a utility with its core priorities and a set of guidelines for virtually all daily managerial decisions. Strategic goals should be written down and management should know what they are at all times. When managers are faced with the prospect of making a decision, they should always refer to the stated strategic goals and act in a way that helps to achieve them.

Strategic goals should direct the operations of the utility in key areas. Such areas may include all the aspects of billing and collection, water demand management, integrated water resource planning and management, environmental issues, water quality, community involvement, customer satisfaction, and others. In addition, aspects such as management of human resources, financial management, and customer service can be addressed specifically by strategic goals.

Strategic goals are critical because they provide the important element of accountability to the strategic planning process. Management is responsible to their PGB, local government, or other governing authority for achievement of measurable objectives. Other members of management should be made fully aware and held accountable for achieving performance relative to objectives in their areas of operational responsibility. In some utilities, compensation and other rewards are tied to the achievement of specific measurable goals stated in the utility's business plan, or the action plan of the particular operating section of the utility.

A utility can have many important goals, but attending to all of them at once can defeat the purpose of strategic and business planning. When determining strategic goals, the key is to prioritize.

Strategic goals should address the major issues being faced by the utility and its management, in carrying out the utility's mission statement, over the next five years. These issues should have been identified and prioritized as described in Section 8 of the Guide.

9.2 CHARACTERISTICS OF STRATEGIC GOALS

When defining a strategic goal, there are certain characteristics that must be considered for it to be effective. Figure 9-1 illustrates the characteristics of a strategic goal and Table 9-1 describes them.

Figure 9-1

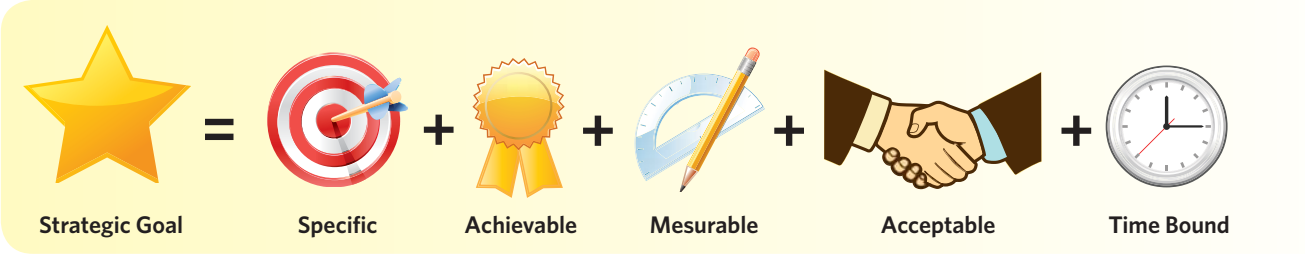


Table 9-1

CHARACTERISTIC	DESCRIPTION
Specific	A strategic goal must be clearly stated in specific terms, so that there is no confusion as to the meaning and purpose of the goal.
Achievable	While a strategic goal should be challenging, it must also be realistically possible to achieve as stated. If a strategic goal is unrealistic, employees may become unmotivated because they will never be able to reach it.
Measurable	A strategic goal must be measurable in quantitative terms so that it can be monitored and assessed objectively, which in turn facilitates evaluating progress toward achieving the goal. For example, saying "the reduction of non-revenue water will be a priority of the utility" Is less effective than making the more specific statement: "Non-revenue water will be reduced to an average level of 30% of water supplied to the system."
Acceptable	If the work force of the utility does not accept a particular strategic goal, achieving it will be difficult. Effective management requires that the work force take ownership of strategic goals and take responsibility for achieving them. If they do not understand why they are being asked to adopt a strategic goal, or its impact on them and the utility once achieved, they will not pursue it with commitment and determination.
Time bound	A strategic goal should be stated such that it is accomplished within a specified time frame, say from one to five years. When stating a longer term for a strategic goal, it is advisable to state interim target goals to be met. For example, if the goal is to increase the bill collection efficiency rate to 95% by the end of Year 4 of the business plan, and if the collection efficiency rate is currently at 25%, then interim goals could be stated as, "The interim bill collection goal for end of Year 1 is 35%, 50% at end of Year 2, and 70% at end of Year 3."

9.3 EXAMPLES OF STRATEGIC GOALS

Table 9-2 presents some examples of how strategic goals should be stated to meet the characteristics described in Figure 9-1 and Table 9-1.

Table 9-2

STRATEGIC GOAL	MEASUREMENT OF PERFORMANCE
Increase billed water production	Increase the amount of produced water that is billed, such that the utility is billing 70% (as measured at the sources) of its water production by the end of 2015, with interim goals of 50% by the end of 2013, and 60% by the end of 2014.
Become financially sustainable	Achieve full cost recovery, to include annual interest and capital repayments on current loans, and a defined annual contribution to a capital repair and replacement reserve by the end of 2015.
Assure water quality	Achieve water quality relative to the presence of E-coli bacteria by not exceeding the E-coli standard in more than 3% of samples taken and tested by the Department of Health by 2014.
Build staff capacity	Implement a staff-training program that will result in each staff member receiving a minimum of 24 hours training per year by the end of 2015, with this goal being met in increments of 8 hours per year by the end of 2013 and 16 hours per year by the end of 2014.
Improve collection efforts	Increase collection efficiency from 60% to 90% by 2015, with interim goals of 70% by 2013, and 80% by 2014. Shorten the collection period from 6 months to 1 month by end of 2015, with partial targets of 4 months by the end of 2013, and 2 months by the end of 2014.

10 ANALYZING WATER DEMAND AND FORECASTING WATER SALES

This section provides the user with guidance on assessment of water demand as well as future water demand, based on historical records, future growth, and expected water usage rates by category of customer. Also discussed is the importance of conducting an annual water balance and its benefits to the utility. Lastly, the section discusses issues related to the identification and reduction of non-revenue water, which is increasingly a priority issue for water utilities throughout the world.

10.1 WHY IS WATER DEMAND ANALYSIS CRITICAL IN BUSINESS PLANNING?

By developing an accurate assessment of water demand, the utility is able to form a basis for nearly all planning studies, including a business plan. Water demand management (WDM) has always been a priority issue in the management of a water utility, whether the water supply system is based on gravity flow or mechanical pumping.

A standard output of a WDM program is a water demand analysis/forecast. A sound water demand forecast, together with an evaluation of existing sources of supply, provides valuable insight in determining if and when new sources of water supply must be developed.

Managing water supply and water demand is a function of efficient pricing, effective regulation, and appropriate public education and awareness. At the utility level, it is a process that combines technical, administrative, and financial measures. A critical element of a WDM program is the implementation of a comprehensive, reliable metering program for bulk supply, supply zone, and consumers.

Efficient water supply and water demand management is important for a utility in its efforts to reduce the volume of water losses (cost savings) and increase the volume of water sold (revenues).

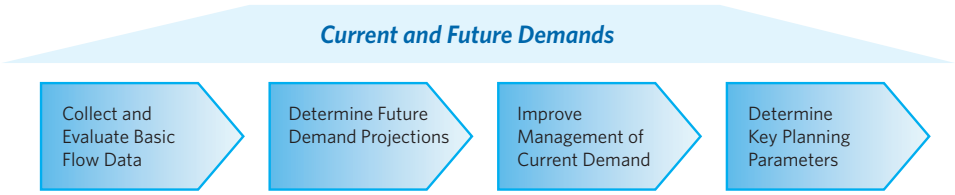
The determination of realistic future water demand should be based on:

- Historical water supply and water sales records

- Current system performance and customer use patterns
- Assumed changes in future water use patterns
- Assumed effectiveness of efforts to reduce non-revenue water
- Unserved demand

A simple graphic, presented in Figure 10-1, describes what is included in preparing a water demand analysis.

Figure 10 - 1



The assumptions used in determining water demand have a permanent effect on planning outcomes and subsequent planning decisions. Without a thorough analysis of water demand, premature or excessive investment in capital works may result. This in turn may cause additional financial strain on the utility, and therefore on its customers. Conversely, inadequate water demand management and infrastructure investment may lead to decreased quality of service, increased customer service complaints, or negative environmental impact.

10.2 IMPORTANCE OF A WATER BALANCE AUDIT

Conducting a water balance audit is the first step to a comprehensive water demand management program. A water balance audit quantitatively accounts for all the water input to the system and identifies how much water is lost and what that loss costs the utility.

The overall objective of a water balance audit is to help the utility select and implement programs to reduce water losses (non-revenue water) throughout the system. Ultimately, either a reduction in the volume of water being produced (cost reduction), or an increase in the volume of water being sold (revenue increase) should be aspired for.

Water balance audits should be performed annually to help managers monitor progress and identify new areas of system losses, as well as adjust priorities and establish new maintenance goals. Once a comprehensive water balance audit has been implemented, it is usually less expensive to conduct the annual updates.

The cost of a water balance audit depends on the size of the administrative area to be audited, and the completeness, currency and accuracy of the utility's records, including those on meter testing programs. The most expensive task in a water balance audit is the testing of large water meters for accuracy.

The benefits of water balance audits to a utility are:

- Reduced non-revenue water
- Financial performance improvement
- Increased knowledge of the distribution system
- More efficient use of existing supplies
- Safeguarding public health and property
- Improved public relations
- Reduced legal liability

- Reduced service disruption to customers
- Resource conservation

Metering of supply sources is an essential first step for water balance calculations. Whenever actual metering is not possible, every effort should be made to carefully estimate each component of water usage to determine realistic quantities for the water balance.

The water balance calculation and analysis quantifies the total volume of water that enters the system, the volume of authorized consumption (billed and unbilled, metered and unmetered), as well as the volume of water losses (apparent and real). This water balance calculation can be best understood by referring to Figure 10-2.

Each component of the annual water balance is presented in terms of volume per year.

The user of this guideline should focus on the areas shaded in pink to appreciate the potential negative impacts that water losses, when combined with unbilled authorized consumption, can have on the financial performance of a utility, when and if these volumes are a significant percentage of the total system input.

Because of the wide diversity of formats and definitions used globally for water balance calculations, the International Water Association and its Task Force on Water Losses has produced an international best practice approach for water balance calculations. This approach includes definitions of its components

Figure 10-2 Components of a water balance

<table>
<tr><td rowspan="5">Own Sources</td><td rowspan="10">Total System Input</td><td rowspan="3">Exported Water</td><td rowspan="6">Authorized Consumption</td><td rowspan="3">Billed Authorized Consumption</td><td>Billed Water Exported</td><td rowspan="3">Revenue Water</td></tr>
<tr><td>Billed Metered Consumption</td></tr>
<tr><td>Billed Unmetered Consumption</td></tr>
<tr><td rowspan="7">Supplied Water</td><td rowspan="3">Unbilled Authorized Consumption</td><td>Unbilled Metered Consumption</td><td rowspan="9">Non-Revenue Water</td></tr>
<tr><td rowspan="2">Unbilled Unmetered Consumption</td></tr>
<tr><td rowspan="5">Water Losses</td><td rowspan="3">Apparent Losses</td><td>Unauthorized Consumption</td></tr>
<tr><td>Customer Metering Inaccuracies</td></tr>
<tr><td>Data Handling Error</td></tr>
<tr><td rowspan="5">Imported Water</td><td rowspan="3">Real Losses</td><td>Leakage on Mains</td></tr>
<tr><td>Leakage on Service Lines</td></tr>
<tr><td>Leakage and overflows at Storage</td></tr>
</table>

as a basis for comparing performance between utilities. Figure 10-2 is based on the terminology and standards produced and generally accepted in the water industry for water balances. Brief definitions of these common terminologies are presented in Table 10-1.

Table 10-1 Definitions of water balance terminology

Terminology	Definition
Own sources	Volume of water derived from sources owned by the utility and often referred to as produced water
Imported water	Volume of water purchased from other suppliers
Total system input	Volume of water received into the water supply system
Exported water	Volume of water sold to another utility, as bulk water
Supplied water	Volume of water available to be sold to system users
Authorized consumption	Volume of billed and unbilled water supplied to registered customers of the utility
Water losses	Volume of water calculated as the difference between total volume of system input and the volume of authorized consumption
Billed authorized consumption	All consumption that is authorized and billed by the utility
Unbilled authorized consumption	All consumption that is authorized but still unbilled by the utility
Apparent losses	Volume of water attributed to unauthorized consumption and all types of inaccuracies associated with metering and billing
Real losses	Volume of water losses attributed to technical conditions and events experienced in the system
Revenue water	Volume of water billed to a customer of the utility, whether metered or unmetered
Non-revenue water	Difference between total system input volume and volume of billed consumption

10.3 NON-REVENUE WATER AND ITS IMPACT ON UTILITY COSTS

The reduction in non-revenue water remains one of the major challenges facing water supply and wastewater utilities throughout the world. Reducing NRW can significantly impact the financial performance of the utility in either of two ways.

First, water is costly to produce, particularly considering factors such as the development of extraction facilities, any necessary water treatments which require constructed facilities, chemicals, power and labor, as well as a significant amount of electrical power for pumping. These costs must be recovered through water sales. If the operations are to be sustained and for utilities that have high percentages of NRW, the consumer ends up paying for the inefficiency through increased water tariffs. Therefore, reducing NRW directly reduces costs. In cases of significant electrical energy costs, this reduction can be dramatic.

Secondly, if NRW is the result of non-metered systems or systems with a high percentage of illegal, non-registered connections, then reducing NRW will result in increased sales and therefore, increased revenues for the utility.

The components of NRW can be determined by conducting a water balance audit, as explained in Section 10.2. This is based on the measurement or estimation of water produced, imported, exported, consumed (sold), and lost.

10.4 DETERMINING CURRENT REAL WATER DEMAND OF THE UTILITY

This subsection builds on the two previous subsections, and is intended to provide the user with a common foundation of information for considering water demand and the concerns of all utilities with water losses.

It also presents a methodology for determining the current real water demand of the utility for each of its customer categories.

The workbook accompanying this document contains a specifically designed worksheet to aid management in quantifying current and projected real water demand. All necessary calculations have been pre-programmed into the worksheet, with formulas that are visible to the user. The user of this guideline need only input, in the green highlighted cells, the required data for the base year and the assumptions required for the planning period. The spreadsheet program will then automatically calculate projected water sales, water demand, and non-revenue water.

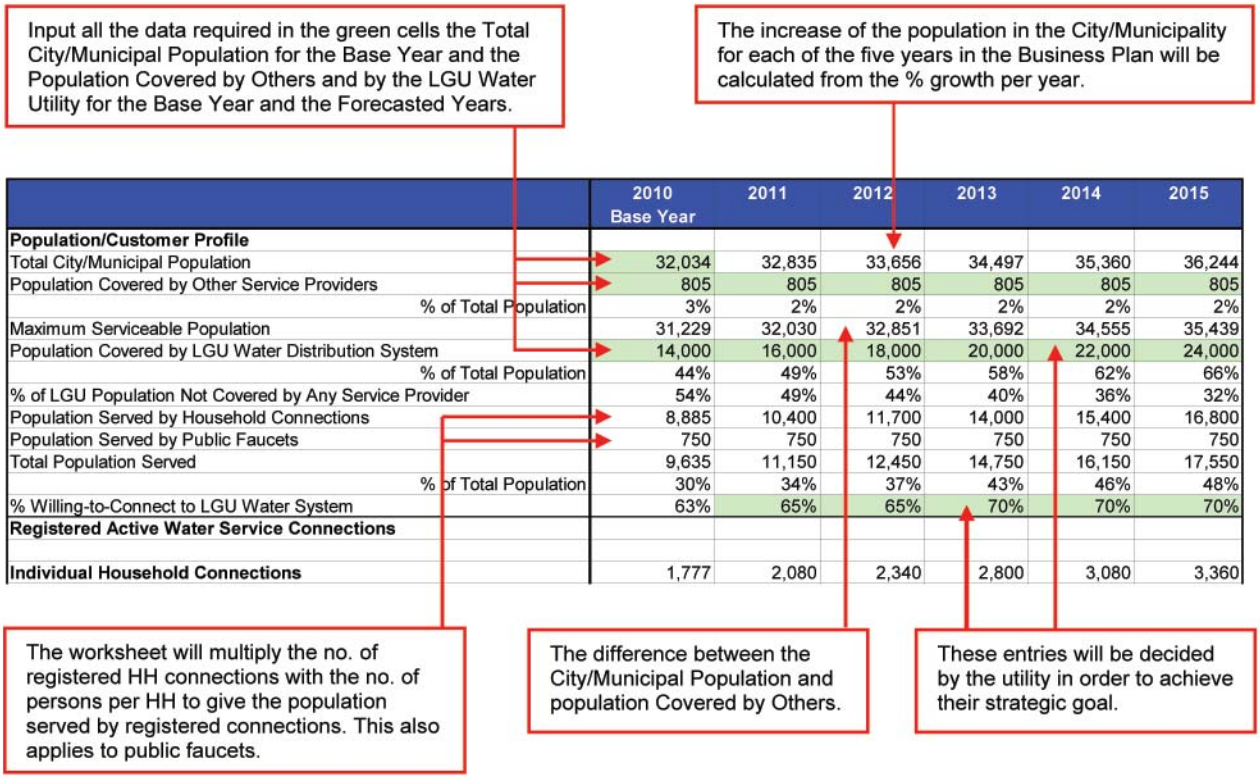
The following subsections will guide the user of the water demand analysis worksheet through the process of considering input values into the worksheet.

Total population, service area population, and served population

In forecasting water demand, it is important to determine first the total population, service area population, and served population.
The total population is the city or municipal population or the population within the LGU's administrative area. The service area population is the measure of extent or coverage of the water distribution system. The served population is the number of people that are actually connected to the water system.

Projected city/municipal population growth rates are usually based on historical trend; various government agencies provide estimates of city/municipal population growth rates.
An increase in service area population may be due to population growth, and an abrupt rise may be due to expansion of distribution lines.
There may be areas within the city/municipality that have other water service providers.
To get the population of the serviceable area of the LGU-run water utility, the service area population covered by these other service providers should be deducted from the total city/municipal population. An increase in served population may be a result of increased willingness to connect due to improved service, improved standard of living, or dissatisfaction with other water sources.

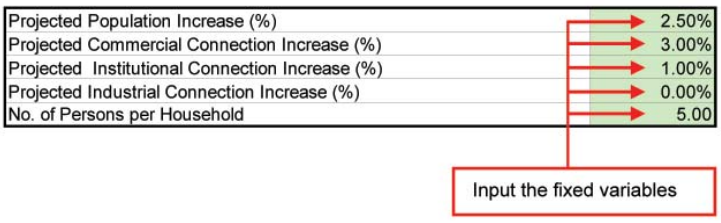
Figure 10-3



	2010 Base Year	2011	2012	2013	2014	2015
Population/Customer Profile						
Total City/Municipal Population	32,034	32,835	33,656	34,497	35,360	36,244
Population Covered by Other Service Providers	805	805	805	805	805	805
% of Total Population	3%	2%	2%	2%	2%	2%
Maximum Serviceable Population	31,229	32,030	32,851	33,692	34,555	35,439
Population Covered by LGU Water Distribution System	14,000	16,000	18,000	20,000	22,000	24,000
% of Total Population	44%	49%	53%	58%	62%	66%
% of LGU Population Not Covered by Any Service Provider	54%	49%	44%	40%	36%	32%
Population Served by Household Connections	8,885	10,400	11,700	14,000	15,400	16,800
Population Served by Public Faucets	750	750	750	750	750	750
Total Population Served	9,635	11,150	12,450	14,750	16,150	17,550
% of Total Population	30%	34%	37%	43%	46%	48%
% Willing-to-Connect to LGU Water System	63%	65%	65%	70%	70%	70%
Registered Active Water Service Connections						
Individual Household Connections	1,777	2,080	2,340	2,800	3,080	3,360

The worksheet is also designed to apply different annual connection increase/decrease percentages for the commercial, institutional and industrial customer categories. An example of the percentage of projected population and connection increase variables is illustrated in Figure 10-4.

Figure 10-4



To estimate the served population, management will have to consider the customer records of the utility. To establish this number for the Base Year, the utility should use the number of registered household connections (metered and non-metered), as officially recorded by the utility. This entry is made for each type (metered and non-metered) in the base year. Unless the utility has a better source of information, it should obtain data on "average household size" and "average number of households per dwelling" from the National Statistics Office. Given the base year willingness-to-connect result, the projected willingness-to-connect factors should be inputted in the annual forecast. Multiplying these by the service area population will give the served population.

Dividing the service area population by the city/municipal population will result in a figure representing service coverage, expressed in Figure 10-3 as a percentage. Dividing served population by city/municipal population yields the population served percentage. The utility may have to, as one of its strategic

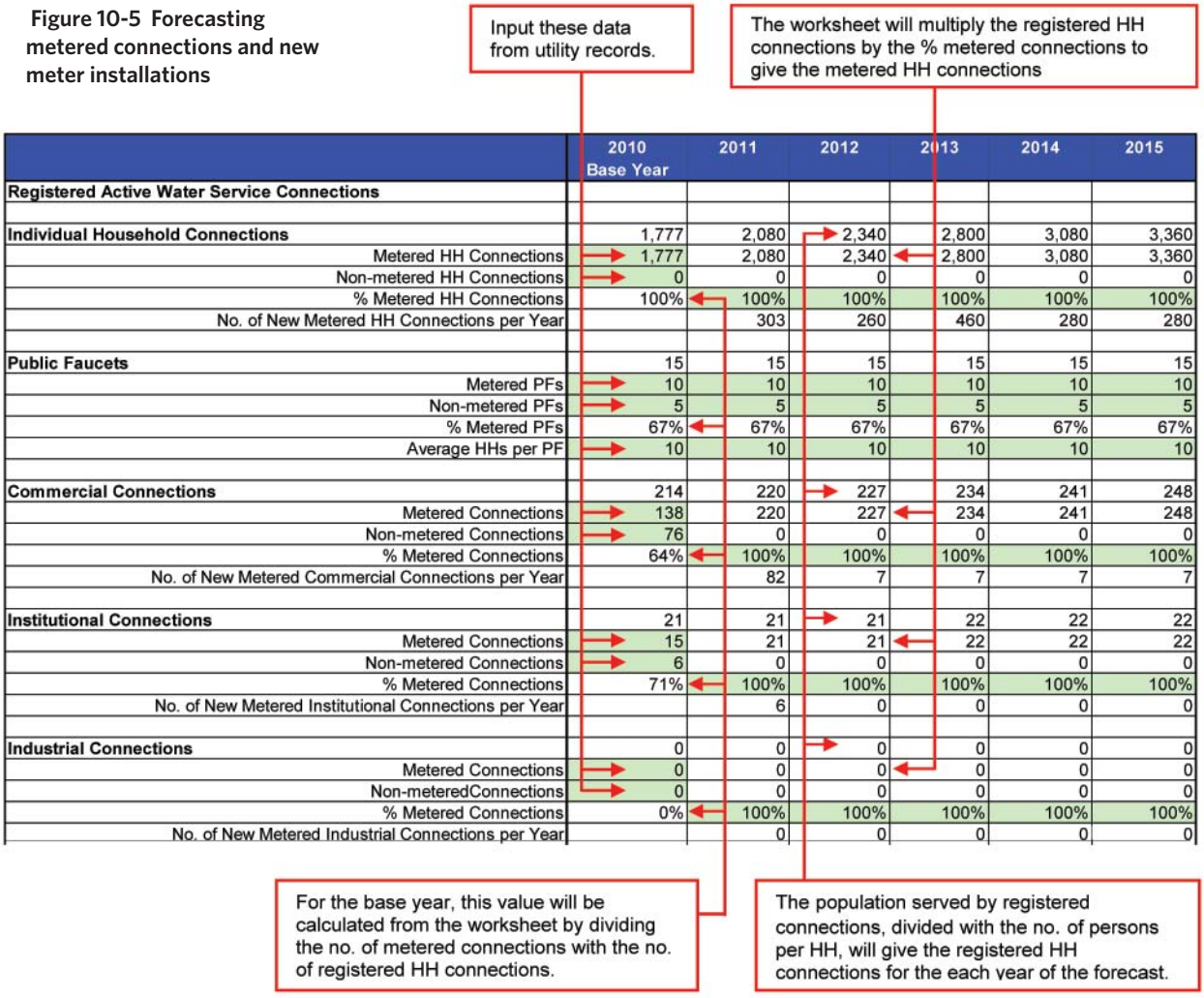
goals, achieve desired service coverage and population served percentages within a stated timeframe.

The utility management is therefore required to take a position regarding service coverage increases and willingness-to-connect factors over the five years of the business plan. It must make an entry in the worksheet for each of the five years. The formula in the worksheet will multiply the willingness-to-connect factor with the service area population in a given forecast year, and automatically indicate the served population for each of five years.

The business plan must be practical and conservative in its served population estimates since this value, along with the assumed per capita water demand value, drives estimated water sales, which then directly impacts the estimated revenues of the utility in its financial forecast.

Another piece of profile information that is valuable in managing water supply systems is the percent of metered connections. Figure 10-5 illustrates how this is considered in the workbook for household (HH) connections.

Figure 10-5 Forecasting metered connections and new meter installations



	2010 Base Year	2011	2012	2013	2014	2015
Registered Active Water Service Connections						
Individual Household Connections	1,777	2,080	2,340	2,800	3,080	3,360
Metered HH Connections	1,777	2,080	2,340	2,800	3,080	3,360
Non-metered HH Connections	0	0	0	0	0	0
% Metered HH Connections	100%	100%	100%	100%	100%	100%
No. of New Metered HH Connections per Year		303	260	460	280	280
Public Faucets	15	15	15	15	15	15
Metered PFs	10	10	10	10	10	10
Non-metered PFs	5	5	5	5	5	5
% Metered PFs	67%	67%	67%	67%	67%	67%
Average HHs per PF	10	10	10	10	10	10
Commercial Connections	214	220	227	234	241	248
Metered Connections	138	220	227	234	241	248
Non-metered Connections	76	0	0	0	0	0
% Metered Connections	64%	100%	100%	100%	100%	100%
No. of New Metered Commercial Connections per Year		82	7	7	7	7
Institutional Connections	21	21	21	22	22	22
Metered Connections	15	21	21	22	22	22
Non-metered Connections	6	0	0	0	0	0
% Metered Connections	71%	100%	100%	100%	100%	100%
No. of New Metered Institutional Connections per Year		6	0	0	0	0
Industrial Connections	0	0	0	0	0	0
Metered Connections	0	0	0	0	0	0
Non-meteredConnections	0	0	0	0	0	0
% Metered Connections	0%	100%	100%	100%	100%	100%
No. of New Metered Industrial Connections per Year		0	0	0	0	0

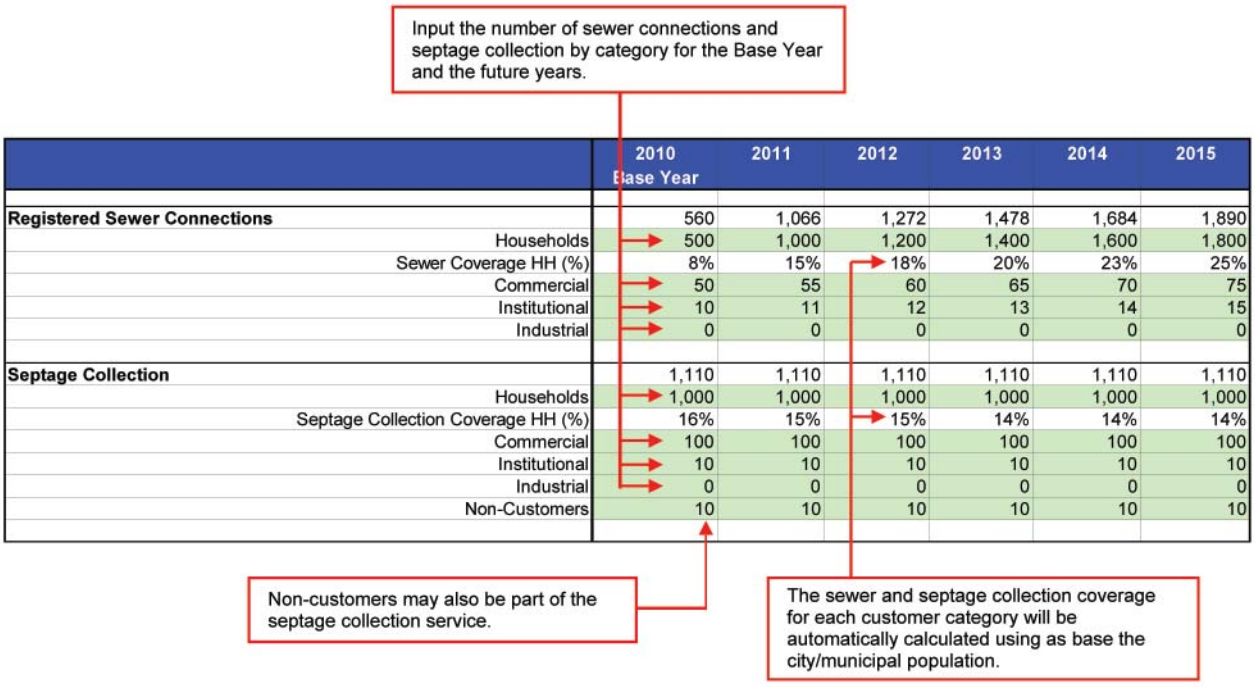
Using the data already entered for metered and unmetered household connections, the program will calculate the percentage of metered household connections for the base year. The utility management must take a position as to any action (investments) that it plans to make to increase the base year percent metered connections during the five-year business-planning period.

With the projected population increase, projected increase in service coverage, and projected increase in metered household connections, the worksheet will automatically calculate the "number of new metered connections" to be made in each of the five years of the business plan. This provides management with input for a decision on the affordability of those connections. If they think they cannot afford that level of expenditure, then they will have to revise the household metered connection percentage.

The issue of metered connections for each of the other customer categories (i.e., commercial, institutional and industrial) will be considered in a similar way. In each case, there are two calculations taking place at the same time. The first is based on assumptions made by management, as illustrated in Figure 10-4, regarding the growth rate of connections in each of the categories, other than household. This is then combined with assumptions made for increased metered connections, which results in the number of new connections needed to be made in each planning year for each category of customer.

After having completed the information for water connections by category, management should describe the current situation for sewer connections and septage collection by category and the future possible changes. This will help automatically calculate the sewer coverage and septage collection coverage. Figure 10-6 presents registered sewer connections and septage collection for all customer categories.

Figure 10-6 Sewer connections and septage collection coverage



	2010 Base Year	2011	2012	2013	2014	2015
Registered Sewer Connections	560	1,066	1,272	1,478	1,684	1,890
Households	500	1,000	1,200	1,400	1,600	1,800
Sewer Coverage HH (%)	8%	15%	18%	20%	23%	25%
Commercial	50	55	60	65	70	75
Institutional	10	11	12	13	14	15
Industrial	0	0	0	0	0	0
Septage Collection	1,110	1,110	1,110	1,110	1,110	1,110
Households	1,000	1,000	1,000	1,000	1,000	1,000
Septage Collection Coverage HH (%)	16%	15%	15%	14%	14%	14%
Commercial	100	100	100	100	100	100
Institutional	10	10	10	10	10	10
Industrial	0	0	0	0	0	0
Non-Customers	10	10	10	10	10	10

Current water demand and demand per capita

To determine the apparent or current water demand per capita, the utility will input the volume of water sales for both metered and non-metered connections for the base year. See highlighted cells in Figure 10-7.

Given the water sales by customer category entered in Figure 10-7, and then using both the served population and population in the administrative area entered in Figure 10-3, the program will calculate apparent daily demand per connection (m^3/day) for each category of customer. For Level 2 and 3 household per capita demand, the program also uses household demand divided by the served household population (lpcd).

The result of these calculations is the unit consumption by category and total as illustrated in Figure 10-8.

Projected water demand - Norm

In the water demand forecast, the utility management will need to decide on a demand per capita norm (liters per capita per day) that will reflect their estimate of water usage by customer category in their administrative area. Therefore, management needs to forecast water demand per capita for each of the five consumer categories (individual household, public faucet, commercial, institutional and industrial), for each year of the business plan.

Management should decide these norms based on calculated per capita demands in the base year, illustrated in Figure 10-8, and water demand norms that are applicable to formal water supply systems in the Philippines.

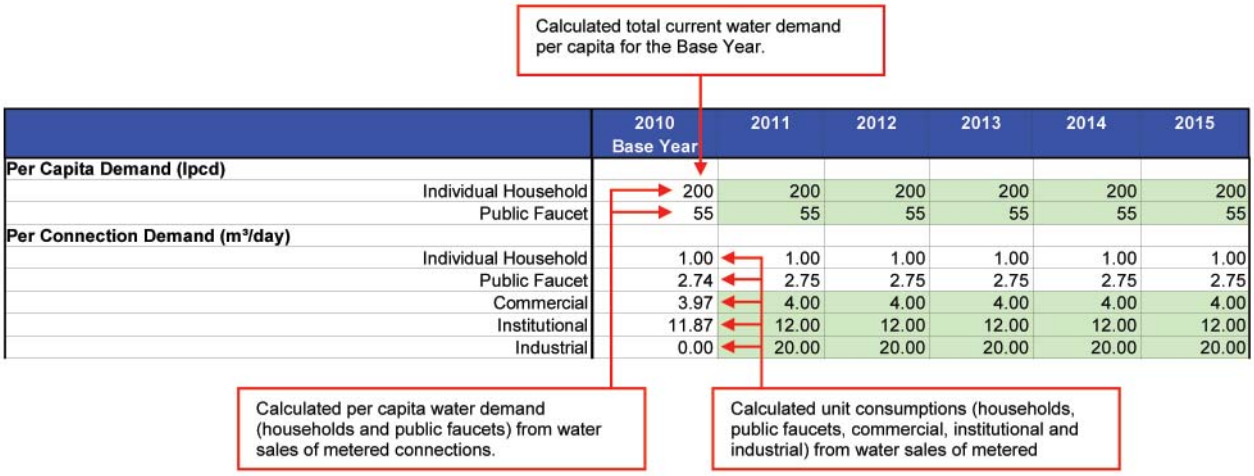
Management should start by defining per capita demands for each customer category in the fifth year of the business plan and then

Figure 10-7 Water demand forecast

	2010 Base Year	2011	2012	2013	2014	2015
Total Water Sales Volume (m^3/year)	923,070	1,188,969	1,294,453	1,473,235	1,586,625	1,700,332
Individual Household Consumption	648,070	759,200	854,100	1,022,000	1,124,200	1,226,400
Metered HH Water Sales	647,870					
Non-metered HH Water Sales	200					
Public Faucets Consumption	10,000	15,056	15,056	15,056	15,056	15,056
Metered PF Water Sales	10,000					
Non-metered PF Water Sales	0					
Commercial Consumption	200,000	321,813	331,468	341,412	351,654	362,204
Metered Water Sales	200,000					
Non-metered Water Sales	0					
Institutional Consumption	65,000	92,900	93,829	94,767	95,715	96,672
Metered Water Sales	65,000					
Non-metered Water Sales	0					
Industrial Consumption	0	0	0	0	0	0
Metered Water Sales	0					
Non-metered Water Sales	0					

Input the volume of water sales for both metered and non-metered connections for each customer category (Household, Public Faucets, Commercial, Institutional and Industrial).

Figure 10-8 Unit consumption by customer category

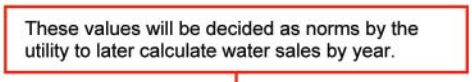


	2010 Base Year	2011	2012	2013	2014	2015
Per Capita Demand (lpcd)						
Individual Household	200	200	200	200	200	200
Public Faucet	55	55	55	55	55	55
Per Connection Demand (m³/day)						
Individual Household	1.00	1.00	1.00	1.00	1.00	1.00
Public Faucet	2.74	2.75	2.75	2.75	2.75	2.75
Commercial	3.97	4.00	4.00	4.00	4.00	4.00
Institutional	11.87	12.00	12.00	12.00	12.00	12.00
Industrial	0.00	20.00	20.00	20.00	20.00	20.00

assume a "trend" of changes over time for each category.

The factors to consider in defining a "trend" include needs to reduce (per capita) demand through pricing (possibly to avoid the need for capital investments in new supply sources), public awareness on water conservation, and public education on water-saving devices. Some factors that may cause an increase in per capita demand are: the development of a new industrial estate, entry of "supermalls," and the designation of a city/town as a regional growth center. Figure 10-9 illustrates how these demand norms have been applied to the worksheet.

Figure 10-9 Projection of unit demand by customer category



	2010 Base Year	2011	2012	2013	2014	2015
Per Capita Demand (lpcd)						
Individual Household	200	200	200	200	200	200
Public Faucet	55	55	55	55	55	55
Per Connection Demand (m³/day)						
Individual Household	1.00	1.00	1.00	1.00	1.00	1.00
Public Faucet	2.74	2.75	2.75	2.75	2.75	2.75
Commercial	3.97	4.00	4.00	4.00	4.00	4.00
Institutional	11.87	12.00	12.00	12.00	12.00	12.00
Industrial	0.00	20.00	20.00	20.00	20.00	20.00

From the unit water demand decided by utility managers for each of the customer categories, the worksheet will calculate the total annual water sales forecast for the next five years for each of the consumer categories, as illustrated in Figure 10-10.

The utility management must settle on the utility's targeted bulk water sales (cubic meters per day) and/or purchased water for each year of the business plan.

Figure 10-10 Forecast of water sales

Unit water demand decided by the utility multiplied by the no. of

	2010 Base Year	2011	2012	2013	2014	2015
Total Water Sales Volume (m^3/year)	923,070	1,188,969	1,294,453	1,473,235	1,586,625	1,700,332
Individual Household Consumption	648,070	759,200	854,100	1,022,000	1,124,200	1,226,400
Metered HH Water Sales	647,870					
Non-metered HH Water Sales	200					
Public Faucets Consumption	10,000	15,056	15,056	15,056	15,056	15,056
Metered PF Water Sales	10,000					
Non-metered PF Water Sales	0					
Commercial Consumption	200,000	321,813	331,468	341,412	351,654	362,204
Metered Water Sales	200,000					
Non-metered Water Sales	0					
Institutional Consumption	65,000	92,900	93,829	94,767	95,715	96,672
Metered Water Sales	65,000					
Non-metered Water Sales	0					
Industrial Consumption	0	0	0	0	0	0
Metered Water Sales	0					
Non-metered Water Sales	0					

Non-revenue water

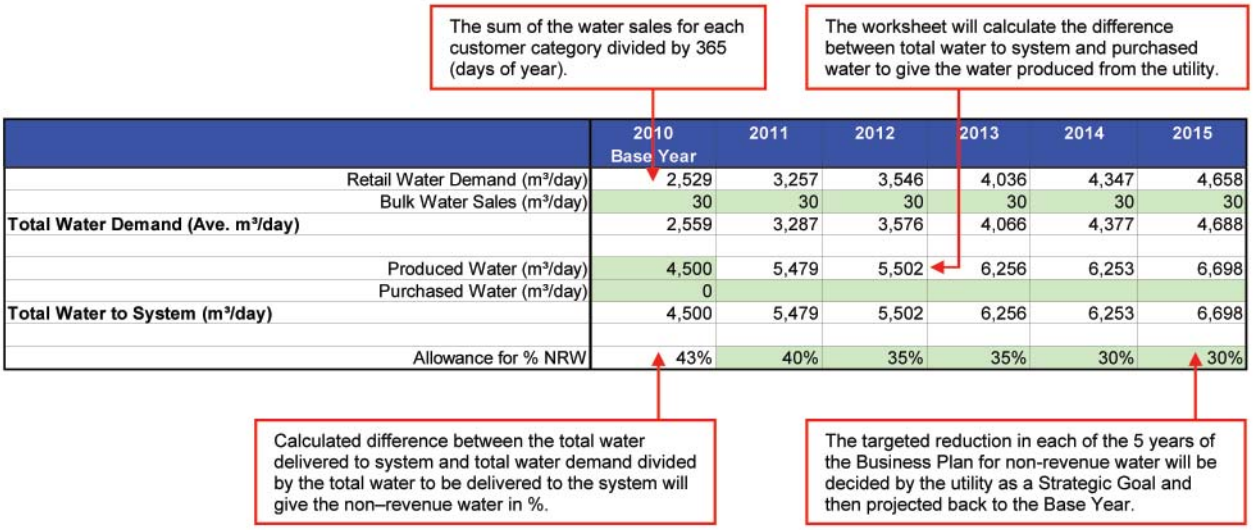
With reference to Figure 10-11, to determine the volume and percentage of non–revenue water, the utility will input base year figures for water produced by the utility from its own sources. Bulk water purchased from other systems and bulk water sold to other systems will be inputted as well. Based on this data, the worksheet will calculate total water demand, total water to system, and the percentage of non-revenue water.

For the five-year forecast, the program will calculate retail water demand based on the same formula that was used in the base year.

Lastly, management will need to set a targeted percentage of non-revenue water in the fifth year of the plan and then scale this target back to the NRW percentage in the base year.

With these input decisions, the program will calculate the change in total water to the system. To the degree that this change (reduction) is achieved in purchased water or produced water, different parts of forecasted operations and expenses will be affected.

Figure 10-11 Forecast of production and non-revenue water



	2010 Base Year	2011	2012	2013	2014	2015
Retail Water Demand (m³/day)	2,529	3,257	3,546	4,036	4,347	4,658
Bulk Water Sales (m³/day)	30	30	30	30	30	30
Total Water Demand (Ave. m³/day)	2,559	3,287	3,576	4,066	4,377	4,688
Produced Water (m³/day)	4,500	5,479	5,502	6,256	6,253	6,698
Purchased Water (m³/day)	0					
Total Water to System (m³/day)	4,500	5,479	5,502	6,256	6,253	6,698
Allowance for % NRW	43%	40%	35%	35%	30%	30%

11 ORGANIZATIONAL STRUCTURE AND STAFFING LEVEL

Organizational structure and staffing levels are both critical elements in helping achieve the utility's strategic goals. Management must be prepared to break away from historical organizational structures and staffing policies and restructure the utility to improve its performance.

11.1 IMPORTANCE OF ORGANIZATIONAL STRUCTURE FOR EFFECTIVE UTILITY PERFORMANCE

A sound, practical organizational structure is vital in enabling the utility to respond to the needs of its customers, and to perform efficiently and effectively. This is increasingly true with smaller utilities or utilities that are overstaffed and are working to reduce the size of their work force.

Organizational structures of utilities will vary based on utility size, technical complexity of systems, the size and nature of its geographic administrative area, and the unique skills of the water supervisor and next-in-line personnel in carrying out their responsibilities. There are some basic principles that every utility must keep in mind when trying to improve its organizational structure so it can better respond to operational, maintenance and customer service needs. These principles are shown graphically in Figure 11-1 and explained below.

Figure 11-1

Chain of command

The chain of command is the line of authority that connects all people in the utility and passes vertically down through various branches of the organization. In the chain of command, it is important that there be unity of command, such that any given person in the chain of command reports to only one manager/supervisor above that person. In this way, each person is clear as to who gives him direction and to whom he must report.

Span of control

Span of control is the number of subordinates that report to a supervisor or manager. It is inefficient, for example, to have a supervisor with just one subordinate. Likewise, it is probably ineffective to have 10 people reporting directly to one supervisor. What is generally accepted, as a realistic span of control, is in the order of three to seven people reporting to a supervisor.

Factors to consider as regards span of control of a manager or supervisor include the following:

- Capabilities of the manager
- Capabilities of subordinates
- Similarities of work activities supervised by manager
- Other responsibilities of the manager
- External pressures on the manager
- External help available to the manager

Line and staff authority

Well-managed utilities have a clear distinction between line and staff functions and authority within the organizational structure of the utility. Generally, it can be stated that line functions execute the mission of the utility. This is illustrated in Figure 11-2 for a utility's typical functions.

On the other hand, staff functions support the execution of the mission of the utility. Figure 11-3 shows the typical functions of a utility.

This distinction between line and staff functions, and the emphasis placed on execution versus support of execution, is not meant to make one more important than the other, but rather to clarify the functions and their purposes.

Delegation of responsibility and authority

Effective, modern utilities actively and aggressively delegate responsibility and authority within the organizational structure. It is important that these two delegations are made in parallel. That is, if a person is made responsible for an action but does not have sufficient authority in relation to that action, it will merely lead to ineffective and inefficient performance.

Too often, management has a tendency to make individuals in the organization responsible for many actions but at the same time concentrates all authority for those actions at the top of the organization. This results in an organization that is not responsive to changing conditions or unforeseen events.

It should be kept in mind that delegation of authority and responsibility takes place along the chain of command. The right to grant or

Figure 11-2

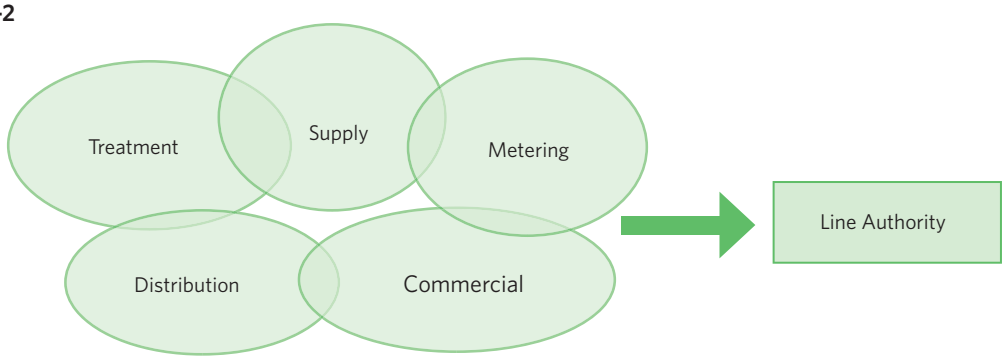
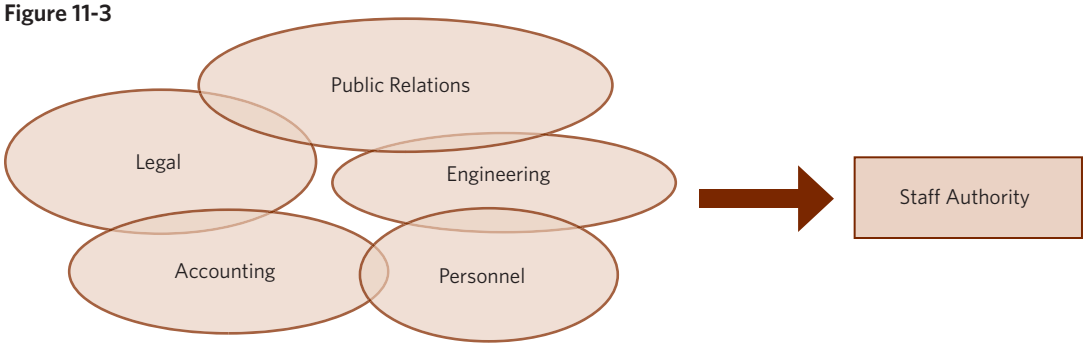


Figure 11-3



delegate authority comes from a person who is above in the chain of command, and who has the authority to grant (delegate) that authority.

Work specialization and cross-training

The work of a water supply and wastewater utility is more than likely the most technically complex work performed in the public sector at the local level. In that regard, it will require a staff that has specialized skills in defined areas of activity. These skills and functions should be documented in individual job descriptions.

At the same time, particularly in smaller utilities, staff cannot be so specialized that they can do only one thing. This means management must invest in cross-training of staff so they have a wider range of competencies and skills. This allows for a smaller, more efficient staff, which has a direct impact on overall operations, maintenance and management costs.

11.2 CURRENT STRUCTURE AND LINES OF REPORTING OF THE UTILITY

It is critical to have an accurate representation of the current organizational structure of the utility. This requires the utility to prepare and maintain a graphic representation of its organizational structure, consistent with the principles discussed above. The graphic representation should make it clear who reports to whom in the chain of command. It should also clearly reflect the span of control at each level in the management structure. Lastly, it should be clear from the graphic representation which elements are considered line and which are staff functions.

Creating a graphic representation of the organizational structure is easily managed with computer software programs, such as MS PowerPoint. The absence of a computer or a supporting program, however, is no excuse for failing to come up with a graphic organizational structure.

11.3 TYPICAL ORGANIZATION STRUCTURE OF AN LGU-RUN WATER UTILITY

For most LGU-run water utilities, the three key sections that compose the whole organization, as presented in Figure 11-4, are:

1. Operation and maintenance
2. Customer account management
3. General administration and finance

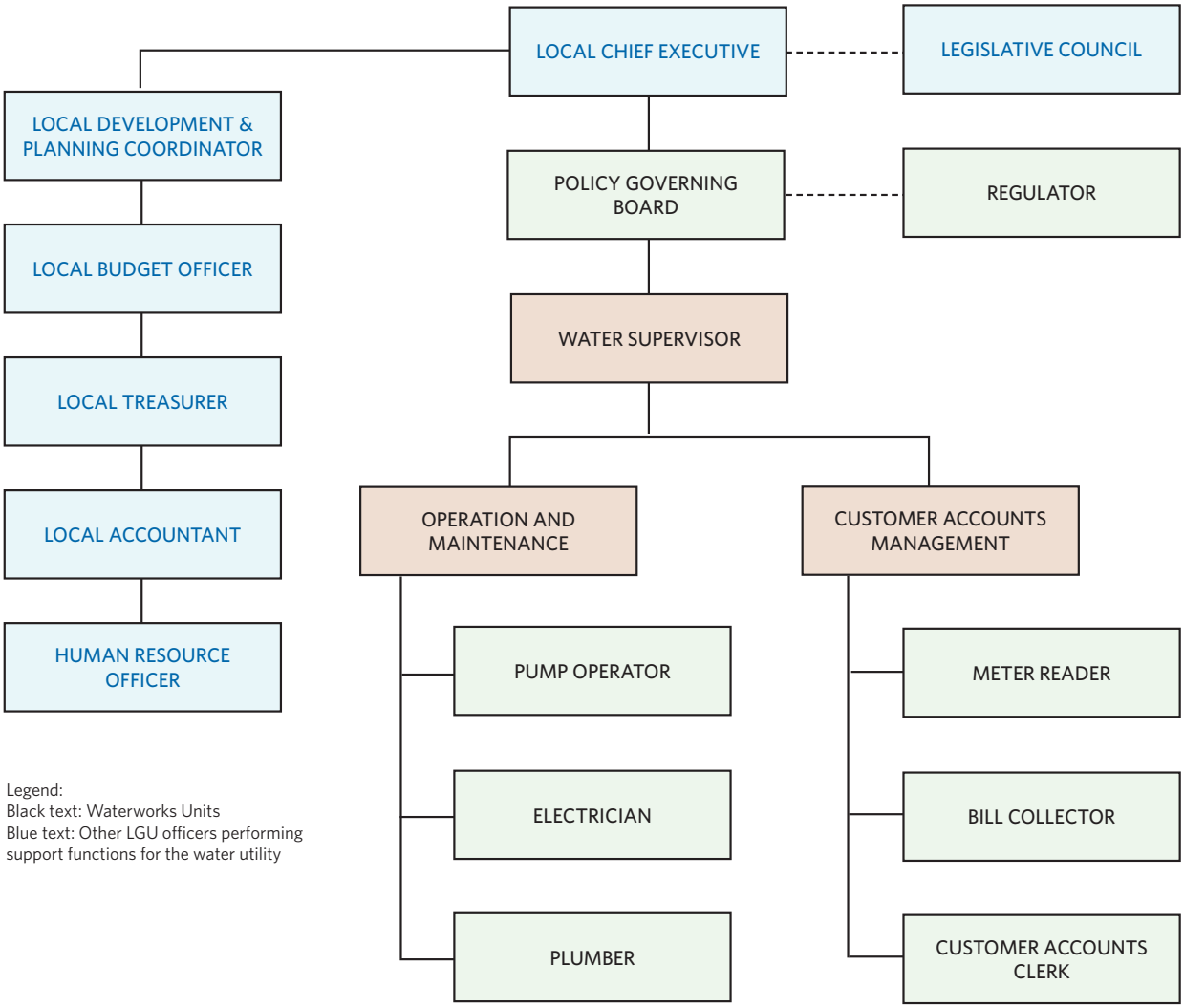
The operation and maintenance section is concerned with the technical aspects of water operations. It implements policies and guidelines and monitors compliance with the same. It is charged with daily maintenance and upkeep of facilities, including major and minor repairs of distribution system and facilities.

It provides general guidance, supervision and planning in the area of operation and maintenance. This may involve the pump operators, electrician, and plumber/pipe fitter.

Customer account management is responsible for handling customer accounts, provides customer support, handles customer enquiries, and prepares quotations, scheduling and maintenance contracts. Billing and collection is its primary concern. This may involve the meter reader, customer account clerk, and bill collector.

The general administration and finance section works mainly with accounting, payments, and general administration. It involves the budget officer, treasurer, and accountant. This is the only section that normally involves shared functions. The persons occupying these positions are considered part of the management team, especially for purposes of business planning.

Figure 11-4 Organizational structure of a typical LGU-run water utility



11.4 WHAT IS AN OPTIMAL STAFFING LEVEL FOR AN LGU-RUN WATER UTILITY?

Staffing costs (including salary and personal benefits) are normally the highest cost component of the budget of a typical, well-run utility. Controlling this cost is essential to a utility's overall financial performance.

The ideal size of a utility's staff will vary, depending on the level of technology to be operated and maintained, the degree of automation installed, the skill level of staff, and the geographic size and distribution of the administrative area.

Notwithstanding these factors, when considering utilities of approximately the same size, there is a commonly accepted performance indicator used in the water supply and wastewater utility industry to monitor what is termed "staffing efficiency." This indicator is defined as the number of staff per 1,000 water supply plus sewer connections served by the utility, where a connection is defined as a billed customer.

For well-performing utilities, this performance indicator is between 2.5 and 4 per 1,000 water connections, for water supply services only, and 3.5 and 5 per 1,000 water and sewer connections, for both water supply and sewerage services. The smaller utilities that perform well tend to be at the higher end of this range, and larger utilities tend to be at the lower end of this range, simply due to their economies of scale. Small utilities like LGU-run water utilities require at least 7 dedicated staff—whose responsibilities are directly related to water service provision—to run the business operations.

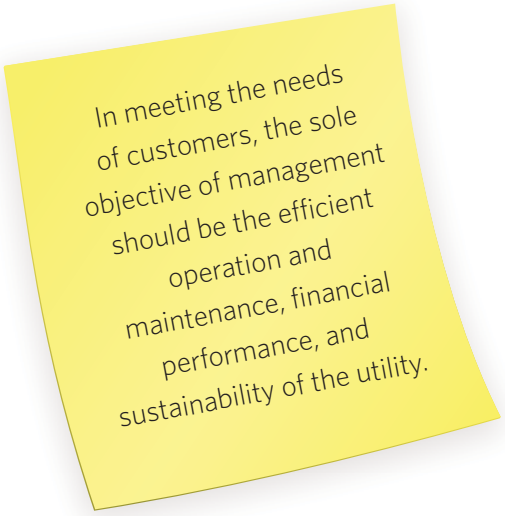
When assessing the current situation in the utility, management needs to calculate this performance indicator for its own utility, and ask what can be done to move the value they have calculated so that it is closer to the ranges presented above. This is an important consideration in the business planning process.

11.5 CHANGING ORGANIZATIONAL STRUCTURE

The business planning process is an opportune time to consider changing the organizational structure of the utility to better address the mission and stated strategic goals that management has developed. Through this process, management may identify areas where the utility is not staffing positions to execute its mission statement or achieve its strategic goals.

11.6 TRANSITIONING TO A NEW STAFFING LEVEL

Once management decides to change its organizational structure and bring its staffing level closer to the norms of well-performing water supply and wastewater utilities, they will have to face some difficult decisions that will impact on specific utility personnel.



Management should start the process of transitioning to a new staffing level by clearly documenting the utility's current staffing situation as illustrated in Figure 11-5.

In all likelihood, the transition to a new staffing level will have to be implemented over an extended period of time, possibly over the five-year business plan horizon. Management will need to consider such factors as normal attrition of staff due to retirement or resignations or retraining of staff for new positions or vacancies as shown in Figure 11-6. If severance or termination of staff is a necessary action, the additional costs of such terminations should be factored in the business plan budget forecast.

Figure 11-5

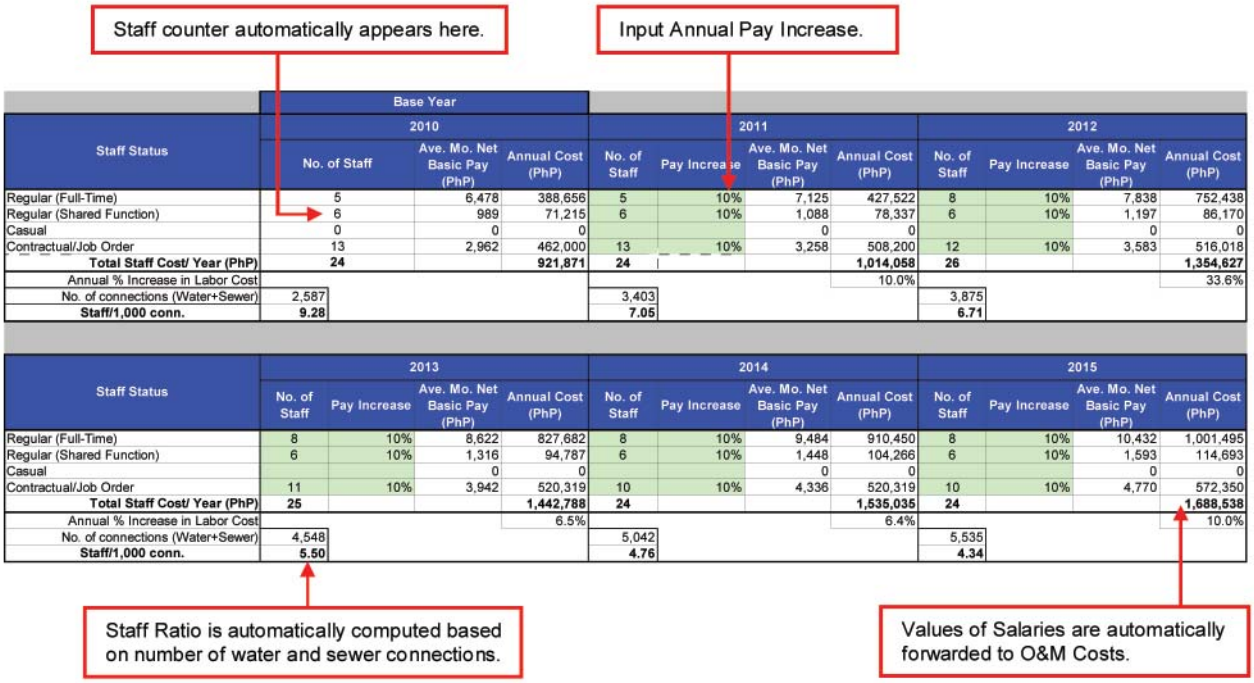
Staff No.	Last Name	First Name	Designation	Monthly Basic Salary (PhP)	% Devoted to WSS		Mo. Net Basic Salary (PhP)	
					Existing	Future	Existing	Future
Regular Staff (Full-Time):								
1	Dela Cruz	Rogelio	Operation Manager	8,128.00	100%	100%	8,128.00	8,128.00
2	Mendoza	Araceli	RCCI	7,714.00	100%	100%	7,714.00	7,714.00
3	Perez	Carlito	Plumber I	5,566.00	100%	100%	5,566.00	5,566.00
4	Santos	Reynaldo	Admin Aide I	5,490.00	100%	100%	5,490.00	5,490.00
5	Aquino	Benedict	Admin Aide I	5,490.00	100%	100%	5,490.00	5,490.00
			Sub-Total =	**32,388.00**	**100%**	**100%**	**32,388.00**	**32,388.00**
Regular Staff (Shared Function):								
1	Gonzalez	Graciano	Municipal Mayor	22,672.00	5%	5%	1,133.60	1,133.60
2	Lopez	Lope	MPDC/Utility Supervisor	20,157.00	5%	5%	1,007.85	1,007.85
3	Luna	Juanito	Municipal Accountant	22,250.00	5%	5%	1,112.50	1,112.50
4	Villa	Noemi	Municipal Budget Officer	25,067.00	5%	5%	1,253.35	1,253.35
5	Custodio	Roberto	Municipal Treasurer	18,635.00	5%	5%	931.75	931.75
6	Roxas	Isabel	Sanitary Inspector I	9,911.00	5%	5%	495.55	495.55
			Sub-Total =	**118,692.00**	**5%**	**5%**	**5,934.60**	**5,934.60**
Contractual/Job Order Staff:								
1	Gomez	Amado	Plumber	3,300.00	100%	100%	3,300.00	3,300.00
2	Torres	Nilo	Billing Clerk/Customer Attendant	3,300.00	100%	100%	3,300.00	3,300.00
3	Abad	Salvador	Meter Reader	3,300.00	100%	100%	3,300.00	3,300.00
4	Balmores	Gerardo	Meter Reader	2,860.00	100%	100%	2,860.00	2,860.00
5	Aguilar	Bernardo	Chlorinator	2,860.00	100%	100%	2,860.00	2,860.00
6	Acebedo	Ruth	Revenue Collector Aide	2,860.00	100%	100%	2,860.00	2,860.00
7	Munoz	Rene	Meter Reader	2,860.00	100%	100%	2,860.00	2,860.00
8	Morales	Anacleto	Meter Reader	2,860.00	100%	100%	2,860.00	2,860.00
9	Villanueva	Benjamin	Meter Reader	2,860.00	100%	100%	2,860.00	2,860.00
10	Olaguer	Orlando	Meter Reader	2,860.00	100%	100%	2,860.00	2,860.00
11	Ravelo	Marciano	Meter Reader	2,860.00	100%	100%	2,860.00	2,860.00
12	Acasio	Rizalino	Meter Reader	2,860.00	100%	100%	2,860.00	2,860.00
13	Mendes	Clarito	Tank Care Taker	2,860.00	100%	100%	2,860.00	2,860.00
			Sub-Total =	**38,500.00**	**100%**	**100%**	**38,500.00**	**38,500.00**
			Total =	**70,888.00**	**100%**	**100%**	**70,888.00**	**70,888.00**

Counter automatically appears when Last Name is supplied.

Input all information for each of the utility personnel in the green highlighted cells, including monthly salary and designation.

After inputting all other information, assign the proper % devoted to water utility operation particularly for staff with shared municipal function. Net salary is reflected automatically.

Figure 11-6



Staff Status	Base Year 2010			2011				2012			
	No. of Staff	Ave. Mo. Net Basic Pay (PhP)	Annual Cost (PhP)	No. of Staff	Pay Increase	Ave. Mo. Net Basic Pay (PhP)	Annual Cost (PhP)	No. of Staff	Pay Increase	Ave. Mo. Net Basic Pay (PhP)	Annual Cost (PhP)
Regular (Full-Time)	5	6,478	388,656	5	10%	7,125	427,522	8	10%	7,838	752,438
Regular (Shared Function)	6	989	71,215	6	10%	1,088	78,337	6	10%	1,197	86,170
Casual	0	0	0			0	0			0	0
Contractual/Job Order	13	2,962	462,000	13	10%	3,258	508,200	12	10%	3,583	516,018
Total Staff Cost/ Year (PhP)	**24**		**921,871**	**24**			**1,014,058**	**26**			**1,354,627**
Annual % Increase in Labor Cost							10.0%				33.6%
No. of connections (Water+Sewer)	2,587			3,403				3,875			
Staff/1,000 conn.	**9.28**			**7.05**				**6.71**			

Staff Status	2013				2014				2015			
	No. of Staff	Pay Increase	Ave. Mo. Net Basic Pay (PhP)	Annual Cost (PhP)	No. of Staff	Pay Increase	Ave. Mo. Net Basic Pay (PhP)	Annual Cost (PhP)	No. of Staff	Pay Increase	Ave. Mo. Net Basic Pay (PhP)	Annual Cost (PhP)
Regular (Full-Time)	8	10%	8,622	827,682	8	10%	9,484	910,450	8	10%	10,432	1,001,495
Regular (Shared Function)	6	10%	1,316	94,787	6	10%	1,448	104,266	6	10%	1,593	114,693
Casual			0	0			0	0			0	0
Contractual/Job Order	11	10%	3,942	520,319	10	10%	4,336	520,319	10	10%	4,770	572,350
Total Staff Cost/ Year (PhP)	**25**			**1,442,788**	**24**			**1,535,035**	**24**			**1,688,538**
Annual % Increase in Labor Cost				6.5%				6.4%				10.0%
No. of connections (Water+Sewer)	4,548				5,042				5,535			
Staff/1,000 conn.	**5.50**				**4.76**				**4.34**			

12 PERFORMANCE IMPROVEMENT PROGRAM

This section describes the need to establish the imperative for change. The utility's approach to implementing the change process is critical to achieving long-term, lasting improvements based on its strategic goals.

This section also provides a structure for a performance improvement program that has to be designed by the management team to translate strategic goals into a set of concrete and measurable actions.

Finally, it is recommended that a system of performance measures be put in place to help document the success of each strategy and provide a comprehensive success measure for the overall performance improvement program.

12.1 MOVING FROM STRATEGIC GOALS TO IMPROVED PERFORMANCE

Performance improvement efforts flow from the utility's mission statement and strategic goals. To accomplish its strategic goals, the utility needs to know where it stands against its articulated aims. This difference between the current situation and desired future condition is known as the "performance gap." This represents an opportunity for the utility to improve its systems and procedures.

The first step in improving performance is establishing clear performance standards. Management must define the skills and performance levels necessary for the achievement of its stated goals. The management team can determine appropriate standards by assessing the following: Services required to satisfy the customer; lessons learned from past experience; the performance of other well-performing utilities; research on trends in the water sector as a whole.

The next step after setting a performance standard is monitoring performance against that standard, so it is essential that standards be expressed quantitatively—be it in terms of deadlines, cost, quality, quantity, or other relevant measures.

A performance standard is a model, criterion, or level of expectation required to achieve a strategic goal. The key to a good performance standard is clarity and a common understanding among management and all staff.

The next step is measuring performance. Once management has identified performance standards, the next question is "how will those standards be achieved?" This requires knowing what, how, and when to measure performance.

First identify the behavior or results to be measured. Based on the performance standard, management may want to measure quantity (how many?), quality (how effective?), schedule (how timely?), or cost (how much?). If performance standards have been carefully developed, it will be relatively easy to identify what needs to be measured.

Once management decides what to measure, it is imperative to determine the method of data collection. Since measuring performance takes time and money, tracking should focus on those key areas that have the most impact on the stated goal. Further, the availability of data and who will be collecting the information must also be considered.

Data should be collected in a consistent manner and at intervals that allow an accurate understanding of common performance trends at the utility. Schedules and procedures will need to be developed to identify when and how the data will be collected.

Once performance standards have been identified and performance has been measured, the next step is to evaluate actual against expected performance. When performance deviates from the standard, managers must interpret the deviation, identify the problem and, if necessary, make adjustments in the current action plan.

Analyzing actual performance against the performance standard produces useful information that indicates where corrective measures should be made. Management must determine what kind of changes are needed and where. Managers may seek a change in the worker's behavior, or in the relevant policy or procedure. The standards and plans themselves may have to be modified.

The important thing is for corrective action to become part of daily work. The long process of setting standards, measuring and evaluating performance will go to waste if corrective actions do not take place. Both management and staff must be held accountable for performing at expected levels, and recognize that there are consequences for the entire utility if these standards are not met.

12.2 PERFORMANCE IMPROVEMENT PROGRAMS

Once the utility has articulated its strategic goals and developed a capital investment program and organizational and staffing structure, it needs to prepare a performance improvement program to achieve its stated goals. This will include specific performance improvement plans (PIPs) that are fairly detailed to provide clear direction to management and staff on what must be done to achieve stated goals, with implementation schedules and interim milestones. More detailed work plans can be prepared on a weekly or monthly basis, with direction stemming from the PIPs.

A suggested performance improvement plan is included at the end of this section.

The format and content of a performance improvement plan is fairly straightforward and contains the following elements:

Statement of specific action - Briefly describes the specific action intended to support the strategic goal addressed.

Example:
Increase amount of billed water as percentage of total water produced.

Strategic goal addressed - A quantified expression of the strategic goal being addressed.

Example:
Increase the amount of billed water such that the utility is billing 70% of its water production, as measured at sources, by the end of 2015, with interim goals of 40% by the end of 2013, and 55% by the end of 2014.

Responsible person - Identifies the person responsible for implementing the primary actions described below.

Description of Primary Actions - Describes the primary actions that will be undertaken to achieve the stated strategic goal.

Example:

- Install production meters at all sources of supply
- Install zone meters to record the volume of water entering each of the water supply pressure zones in the system
- Install meters at all customer connections throughout the system
- Identify and eliminate all illegal and unregistered connections, based on inventory findings and routine field investigations

Schedule of tasks and key milestones - Shows the utility's action schedule for achieving stated objectives. (See Fig 12-1 Schedule of tasks and key milestones)

Application of investment capital - Details the capital cost estimate for capital investments to be made by the utility to implement the stated PIP, and when those investments will be made during the planning period (see Figure 12-2 Application of investment capital).

Measurable improvement in performance – Lists interim milestones related to the strategic goal set to be achieved within the period covered by the business plan. These interim milestones provide the basis for monitoring progress during the years of implementation.

Fig 12-1 Schedule of tasks and key milestones

Task	2011	2012	2013	2014	2015
Install production meters					
Install zone meters					
Install meters at household connections					
Identify illegal or unbilled connections					

Fig 12-2 Application of investment capital

Item	Quantity	Unit cost (PhP)	Total cost (PhP million)	2011	2012	2013	2014	2015
New customer meters								
Household (install only)	5,000	7,400	37.0		18.5	18.5		
Additional households	2,300	18,500	42.6			14.2	14.2	14.2
Total by utility			79.6		18.5	32.7	14.2	14.2

Example:

a. Bill 40% of water production by the end of 2013.
b. Bill 55% of water production by the end of 2014.
c. Bill 70% of water production by the end of 2015.
d. PGB approval of performance improvement program

12.3 PGB APPROVAL OF PERFORMANCE IMPROVEMENT PROGRAM

If the PGB of the utility is not directly involved in the business plan preparation process, the performance improvement program must be reviewed by the PGB before the business plan is finalized. This may be done through a detailed briefing with all concerned management staff, who may respond to the PGB's concerns and comments. Management must show that the performance improvement program for bridging the performance gap is sound, practical and timely.

If the PGB is not entirely satisfied with a performance improvement plan, management and relevant staff must consider their feedback and identify revisions or alternative approaches in response to these concerns. Such a process helps create buy-in from all levels and improves the chances of successful implementation.

Sample format of performance improvement plan

NAME OF UTILITY	
PERFORMANCE IMPROVEMENT PLAN	**TITLE OF STRATEGIC GOAL**
Statement of Strategic Goal Addressed	
Department (s) and Key Manager (s) Responsible:	
Description of Actions to be Taken:	

Schedule of Tasks, Key Milestones, Performance Indicator:

Action Item	Year 1		Year 2		Year 3		Year 4		Year 5	

Use of Capital, Amount and Timing:

Capital Expenditure (in PHP millions)	Year 1	Year 2	Year 3	Year 4	Year 5
Total					

Measurable Improvement in Performance:

13 CAPITAL EXPENDITURE AND INVESTMENT FORECAST

This section will address the issue of planned capital outlay (capital expenditures and capital investments) and their impact on the operational and financial performance of the utility.

When management considers the utility's capital expenditure and capital investment needs, it should clearly distinguish between capital expenditures meant to preserve the operational integrity and capacity of existing systems (renewal, repair, and replacement) versus capital expenditures made to upgrade technology or services, or increase the served population within the administrative area (new capital investment). Each of these types of capital expenditures, and how they should be considered by management, will be discussed in greater detail below.

This section will also emphasize the need to identify the sources of capital investments. To simply plan for capital investment is insufficient for sound utility management. The management team should realistically identify sources of investment funds, the fund terms, and the timing or when those funds might become available, so their beneficial use and impact on performance can be reflected in the business plan.

With historical under-investment in capital maintenance apparent even in the water and wastewater utility sectors around the world, the issue of capital renewal and capital repair and replacement (capital maintenance) is a significant area of concern for the industry.

In considering this situation during the business planning process, management should look at its existing assets as two separate groups: underground assets, which need to be considered when planning capital renewal expenditures, and above-ground assets, which need to be considered when budgeting capital repair and replacement reserves.

13.1 CAPITAL RENEWAL (UNDERGROUND ASSETS)

Although all assets are amortized based on national standards of accounting, such amortization may not reflect practical realities for a utility. The fact is that, particularly for underground assets (transmission lines and networks), their useful life is somewhat indeterminate. Some pipelines may fail at any time due to conditions both inside and outside the pipeline, whereas others may be fully functional for periods well beyond their declared useful life.

In light of this, management needs to consider capital renewal expenditures for underground assets on an expense basis. Management must determine a defined level of expenditure per year for capital renewal based on their knowledge of the condition of these assets.

13.2 CAPITAL REPAIR AND REPLACEMENT (ABOVE-GROUND ASSETS)

When considering operating equipment and structures (above-ground assets), management will need to look at individual amortization rates for each piece or groups of equipment or structures, and determine an aggregate average contribution per year that will be made a part of revenue needs and reflected in the final tariff. These contributions will go to a capital repair and replacement reserve for above-ground assets and will be used as needed.

In a utility that is operating normally, capital renewal and capital repair and replacement expenditures are largely funded from the cash flow of the utility's tariff structure, not from the creation of debt. This may not be a practical reality in LGU-run water utilities in the Philippines, especially if there is a backlog of underinvestment in capital maintenance. However, management should strive to adopt this approach over the longer term.

13.3 NEW CAPITAL INVESTMENTS

New capital investments are made to permanently enhance service levels—to achieve 24-hour pressurized water supply service, comply with higher standards for water or wastewater treatment; make more water available for sale, improve metering of flows, etc.—or to extend the system to reach unserved areas of the population within the administrative area.

Such capital expenditures are commonly funded through grants or loans from the national government or its agencies, foreign financing institutions, or commercial sources. For debts, repayment becomes an annual budget item for the term of the repayment period.

However, the utility may also choose to budget an annual expenditure under its budgeted capital outlay, or budget an item in the 20% development fund's annual investment plan (AIP) to allow for a new capital investment reserve to be created for the purpose of making new capital investments without having to take on new debts.

In the various individual performance improvement plans (discussed in Section 12), management will have identified specific capital investments which need to be funded from various sources of capital, and then made a part of a debt repayment schedule when taken as a loan. Management needs to summarize these capital investments so they can decide on possible sources of capital and accompanying debt service requirements. This summary and list of sources should be part of the section on capital investments in the business plan.

13.4 BUILDING THE CAPITAL INVESTMENT/EXPENDITURE PLAN

A simple worksheet has been provided in the business planning workbook to help management record a summary of each of the capital investments identified in the individual performance improvement plans.

Figure 13-1 illustrates how the Capital Investment Program Worksheet addresses

capital expenditures. Management is first asked to determine the level of annual capital expenditure under the renewals budget that it can or must spend for underground assets. These expenditures can start out rather small and increase to the ideal level over time.

The worksheet then asks management to determine the level of annual contribution that may be applied to the capital repair and replacement reserve for above-ground assets. Again, this contribution can start out small and increase to a higher level over time.

Next, the spreadsheet asks for the annual amounts for future new capital investments. After determining these amounts, management must select the financing sources for its new capital investment needs. This will be a combination of capital from the new capital investment reserve, as well as capital to be raised from grants or loans. Initially, and for some time, this expense could be left at zero, with management relying on grants and/or loans to meet all of its new capital investment needs.

Figure 13-1 Capital investment program

Item	Qty.	Unit Cost	Total Cost	2010 Base Year	2011	2012	2013	2014	2015
				(PhP '000)					
Capital Renewal									
Source Facilities	1	LS	125	25	25	25	25	25	25
Treatment Facilities	1	LS	250	50	50	50	50	50	50
Main Transmission	1	LS	500	100	100	100	100	100	100
Distribution Network	1	LS	500	100	100	100	100	100	100
Valves	1	LS	125	25	25	25	25	25	25
			0						
			0						
			0						
Total Capital Renewal Expenditures			1,500	300	300	300	300	300	300
Capital Repair and Replacement									
Fixed Operating Equipments	1	LS	150	30	30	30	30	30	30
Movable Operating Equipments	1	LS	150	30	30	30	30	30	30
Office and Laboratory Equipments	1	LS	250	50	50	50	50	50	50
Buildings	1	LS	250	50	50	50	50	50	50
Structures (tanks)	1	LS	500	100	100	100	100	100	100
			0						
			0						
Reserve			1,300	260	260	260	260	260	260
New Capital Investments									
New Project No. 1	1	LS	10,000	2,000	2,000	2,000	2,000	2,000	2,000
New Project No. 2	1	LS	5,000	1,000	1,000	1,000	1,000	1,000	1,000
			0						
			0						
			0						
			0						
Total New Capital Investments			15,000	3,000	3,000	3,000	3,000	3,000	3,000
Reserve	100%	LS	15,000		3,000	3,000	3,000	3,000	3,000
New Capital Investment Loans	0%	LS	0		0	0	0	0	0
Flow			17,800	560	3,560	3,560	3,560	3,560	3,560
Capital Investments from Grants									
			0						
			0						
			0						
			0						
Total Capital Investments from Grants			0	0	0	0	0	0	0

Input the percentage of the new capital investments to be charged to internal funds and/or to be loaned

Inputs of the values should originate and reconcile with CapEx stated in Performance Improvement Plans (PIPs)

(The capital amounts inserted in the table above should take in consideration an inflation rate, if necessary.)

As the business planning process continues into the revenue needs stage in Section 15, where the totals for capital renewal expenditure, capital repair and replacement reserve, and new capital investment reserve are automatically reflected, management will likely need to revisit this capital investment/expenditure plan as part of the Executive Legislative Agenda, Local Development Investment Plan and Annual Investment Plans, and make modifications to better fit the financial considerations of the overall business plan.

13.5 IDENTIFYING SOURCES OF CAPITAL INVESTMENT

As stated previously, the management of the utility is responsible not only for developing a capital investment plan, but also for identifying sources of investment capital from internal funds, grants and loans. This will require extensive discussions between the utility management and its PGB, its local officials (executive and legislative), and financing institutions.

Capital outlays

With a ring-fencing system in place, the utility is able to maintain a separate bank account with funds at its own disposal. One way to secure reserved funds for major programs and projects is to accumulate annual savings. Savings can come from excess actual collections from the annual budget requirements for the water utility's operation and maintenance. The savings shall be forwarded as additional capital outlay for the current year by enacting a supplemental budget. The water supervisor shall support the appropriation with a program of works. The reserved amount in the form of capital outlay may or may not be used or obligated within the year and may increase over subsequent years through repeated appropriation every year until such time that the total accumulated amount is enough to fund the capital investment program, whether for capital renewal, repair and replacement, or new capital investment.

Borrowings

Government-financing institutions such as the Municipal Development Fund Office, Development Bank of the Philippines, and Land Bank of the Philippines have opened lending windows catering to water projects under a new financing policy. Private commercial banks have also become aware of investment opportunities in the water sector, and are now an option for LGU-run water utilities, especially those with robust cash flow and who can afford shorter tenors. Public-private co-financing schemes are now also being promoted by government, as it allows leveraging of public with private resources (e.g., the Philippine Water Revolving Fund in DBP).

Timing of fund availability must also be practically determined. The water supervisor should work closely with the budget officer, accountant and treasurer on this matter, primarily on the capital outlay annual appropriation.

The Business Planning Workbook has been designed to include an extra worksheet for debt service obligations. In this worksheet, management needs to incorporate the terms and conditions of loans, identifying their duration, allowable grace period, and applicable interest rate. The Debt Service Worksheet asks management to aggregate line items by interest payment and principal repayment for existing Loans, new capital investment loans, and other loans. Total interest payment and principal repayment amounts for debt services will then be automatically reflected in the

Revenue Needs Workbook presented in Section 15. Figure 13-2 illustrates how the Debt Service Worksheet summarizes interest payments and principal repayments.

Figure 13-2 Debt service

Description	2010 Base Year (PhP)	2011 (PhP)	2012 (PhP)	2013 (PhP)	2014 (PhP)	2015 (PhP)
DEBT SERVICE						
Existing Loans						
Interest Payments						
Principal Repayments						
Total Payments Loan #1	**0**	**0**	**0**	**0**	**0**	**0**
New Capital Investments Loans						
Interest Payments	300,000	300,000	300,000	300,000	300,000	300,000
Principal Repayments					1,000,000	1,000,000
Total Payments Loan #2	**300,000**	**300,000**	**300,000**	**300,000**	**1,300,000**	**1,300,000**
Other Loans						
Interest Payments						
Principal Repayments						
Total Payments Loan #3	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL LOANS						
Total Interest Payments	300,000	300,000	300,000	300,000	300,000	300,000
Total Principal Repayments	0	0	0	0	1,000,000	1,000,000
Total Loan Payments	**300,000**	**300,000**	**300,000**	**300,000**	**1,300,000**	**1,300,000**

Input values based on data from loan agreements or loan amortization schedules for any existing loan/s related to water utility operations and infrastructures

Estimate the amount of interest and principal repayments for the projected new loans to finance utility's new capital investments

14 OPERATIONS AND MAINTENANCE BUDGET FORECAST

This section addresses operations and maintenance budget forecasting as an effective control tool for comparing actual performance needs with planned (budgeted) performance. The operations and maintenance budget is the detailed expenditure plan for labor, material, energy and other expenses needed, for during a specified future time, to produce and sell water and to collect, treat and dispose of wastewater. Before starting the budget forecasting process, the utility should consult and evaluate past and present financial and technical data to identify factors that will affect future expenditures.

14.1 DOCUMENTATION OF RECENT FINANCIAL PERFORMANCE

To forecast a budget effectively, management needs to understand how expenditures have been made over the last several years, the current and future needs of the utility, and how these needs should be prioritized. Historical cost data gathered from the operations and financial/accounting areas of the utility form the basis for developing the forecast for the operations and maintenance budget. The water supervisor should gather all information necessary for a complete analysis of past performance and future possibilities. The people best suited to provide input on estimated costs and quantities of materials, supplies, and labor required are the staff and section heads who are actually involved in carrying out this work. They can also determine what maintenance will be required to keep the system operating reliably. Although engineers and technicians will have a fair idea of these costs, they will need to work with accounting and finance staff to help determine the exact figures.

The accounting records of the organization contain a wealth of valuable financial data. Past and present ring-fenced accounting records track the expenditures of the utility and can provide management with a thorough understanding of what will constitute the utility's base year figures. The management team should analyze budgets and accounting reports for the last three years at least, and consider trends by noting where previous expenditures were over or under the established budgets, and by how much. After evaluating expenditure trends, they may project expected costs for each of the five years covered by the business plan, starting from the base year.

14.2 FACTORS IMPACTING FUTURE EXPENDITURES

In forecasting the operations and maintenance budget, it is important to note past trends as well base projections on current management policy and external factors that may have an

impact on future costs. To simply accept the historical rate of increase for a particular line item in the budget, and project it into the future, can result in a major mistake in planning and forecasting.

To help the management team make a budget forecast for the five-year period covered by the business plan, this Guide has defined some specific line items that should appear in the operations and maintenance budget of a typical water supply and wastewater utility in the Philippines. An illustration of how to work and forecast in the Operations and Maintenance Budget Worksheet is shown in Figures 14-1, 14-2, 14-3 and 14-4.

Figure 14-1

Expenses	2010 Base Year (PhP)	2011 (PhP)	2012 (PhP)	2013 (PhP)	2014 (PhP)	2015 (PhP)
Personal Services						
Salaries and Wages						
Regular Staff (Full-Time)	388,656	427,522	752,438	827,682	910,450	1,001,495
Regular Staff (Shared Function)	71,215	78,337	86,170	94,787	104,266	114,693
Casual Staff	0	0			0	0
Contractual/Job Order Staff	462,000	508,200			520,319	572,350
Allowances						
Personnel Economic Relief Allowance (PERA)	15,080	17,239	23,029	24,527	26,096	28,705
Additional Compensation (ADCOM)	45,360	50,703	67,731	72,139	76,752	84,427
Representation Allowance	23,501	26,366	35,220	37,512	39,911	43,902
Traveling Allowance	23,500	26,366	35,220	37,512	39,911	43,902
Clothing/Uniform Allowance	8,000	9,127	12,192	12,985	13,815	15,197
Bonuses						
13th Month Pay	17,063	19,267	25,738	27,413	29,166	32,082
Cash Gift	12,600	14,197	18,965	20,199	21,490	23,640
Productivity Incentive Bonus	7,020	8,112	10,837	11,542	12,280	13,508
Contributions						
Life and Retirement Insurance Contributions	57,457	63,886	85,341	90,896	96,707	106,378
PAG-IBIG Contributions	3,024	3,549	4,741	5,050	5,373	5,910
PHILHEALTH Contributions	3,354	3,955	5,283	5,627	5,987	6,585
ECC Contributions	2,204	2,535	3,387	3,607	3,838	4,221
Other Personnel Benefits	77,000	85,181	113,789	121,194	128,943	141,837
Sub Total	***1,217,034***	***1,344,***				***2,238,833***
Maintenance and Other Operating Expenses						
Travel Expenses						
Travel - Local	5,770	6,				10,975
Gasoline, Oil and Lubricants	20,627	23,				38,836
Training	3,090	4,				6,754
Materials and Supplies						
Office Supplies	21,517	24,337	32,511	34,627	36,841	40,525
Accountable Forms Expenses	40,076	44,619	59,604	63,483	67,542	74,296
Other Supplies	49,955	55,773	74,504	79,353	84,427	92,870
Treatment Chemicals	20,000	39,997	40,166	45,667	45,645	48,894
Electricity						
Waterworks Operation	137,070	199,987	200,831	228,336	228,225	244,469
Office	11,371	13,183	17,610	18,756	19,955	21,951
Communications						
Telephone - Landline	6,985	8,112	10,837	11,542	12,280	13,508
Telephone - Mobile	5,998	7,098	9,482	10,100	10,745	11,820
Internet	1,199	1,521	2,032	2,164	2,303	2,533
General Services	12,800	14,197	18,965	20,199	21,490	23,640
Repair and Maintenance						
Office Buildings	5,132	19,999	20,083	22,834	22,822	24,447
Electro-Mechanical		0	0	0	0	0
Civil Works	200,000	399,973	401,662	456,672	456,450	488,938
Purchased Water	0	0	0	0	0	0
Other Maintenance and Operating Expenses	213,569	299,980	301,247	342,504	342,337	366,703
O&M Contingency	84,986					
Sub Total	***840,144***	***1,162,747***	***1,234,915***	***1,384,571***	***1,402,487***	***1,511,158***
Total Operation and Maintenance	**2,057,178**	**2,507,287**	**3,031,015**	**3,297,564**	**3,437,790**	**3,749,991**

Automatically calculated from Staff Analysis Worksheet.

Input values for each of the green highlighted cells, based on the ring-fenced financial reports, to establish the total annual Expenditures for the Base Year and to automatically calculate starting norms in the Table of Norms situated below the O&M Table.

Figure 14-2

Norms	2010	2011	2012	2013	2014	2015
Personal Services (% on Base Salary)						
Allowances						
Personnel Economic Relief Allowance (PERA)	1.64%	1.70%	1.70%	1.70%	1.70%	1.70%
Additional Compensation (ADCOM)	4.92%	5.00%	5.00%	5.00%	5.00%	5.00%
Representation Allowance	2.55%	2.60%	2.60%	2.60%	2.60%	2.60%
Traveling Allowance	2.55%	2.60%	2.60%	2.60%	2.60%	2.60%
Clothing/Uniform Allowance	0.87%	0.90%	0.90%	0.90%	0.90%	0.90%
Bonuses						
13th Month Pay	1.85%	1.90%	1.90%	1.90%	1.90%	1.90%
Cash Gift	1.37%	1.40%	1.40%	1.40%	1.40%	1.40%
Productivity Incentive Bonus	0.76%	0.80%	0.80%	0.80%	0.80%	0.80%
Contributions						
Life and Retirement Insurance Contributions	6.23%	6.30%	6.30%	6.30%	6.30%	6.30%
PAG-IBIG Contributions	0.33%	0.35%	0.35%	0.35%	0.35%	0.35%
PHILHEALTH Contributions	0.36%	0.39%	0.39%	0.39%	0.39%	0.39%
ECC Contributions	0.24%	0.25%	0.25%	0.25%	0.25%	0.25%
Other Personnel Benefits	8.35%	8.40%	8.40%	8.40%	8.40%	8.40%
Maintenance and Other Operating Expenses (% on Base Salary)						
Travel Expenses						
Travel - Local	0.63%	0.65				0.65%
Gasoline, Oil and Lubricants	2.24%	2.30				2.30%
Training	0.34%	0.40%	0.40%	0.40%	0.40%	0.40%
Materials and Supplies						
Office Supplies	2.33%	2.40%	2.40%	2.40%	2.40%	2.40%
Accountable Forms Expenses	4.35%	4.40%	4.40%	4.40%	4.40%	4.40%
Other Supplies	5.42%	5.50%	5.50%	5.50%	5.50%	5.50%
Electricity - Office	1.23%	1.30%	1.30%	1.30%	1.30%	1.30%
Communications						
Telephone - Landline	0.76%	0.80%	0.80%	0.80%	0.80%	0.80%
Telephone - Mobile	0.65%	0.70%	0.70%	0.70%	0.70%	0.70%
Internet	0.13%	0.15%	0.15%	0.15%	0.15%	0.15%
General Services	1.39%	1.40%	1.40%	1.40%	1.40%	1.40%
Maintenance and Other Operating Expenses (PhP/m^3 water produced)						
Treatment Chemicals	0.01	0.02	0.02	0.02	0.02	0.02
Electricity - Waterworks Operation	0.08	0.10	0.10	0.10	0.10	0.10
Repair and Maintenance						
Office Buildings	0.00	0.01	0.01	0.01	0.01	0.01
Electro-Mechanical	0.00	0.00	0.00	0.00	0.00	0.00
Civil Works	0.12	0.20	0.20	0.20	0.20	0.20
Purchased Water						
Other Maintenance and Operating Expenses	0.13	0.15	0.15	0.15	0.15	0.15

The calculated Norms shown on the left for the Base Year are each calculated on the basis shown in the parenthesis for each

The Operations and Maintenance Budget Forecast format consists of an initial column for base year data and five columns for forecasted budgeted costs. This table is one of the worksheets (O&M Budget) in the workbook. When using the O&M Budget Worksheet, the user will input data only in the green highlighted cells. Formulas have been designed to calculate all forecasts based on assumptions made by the user.

A utility may wish to have an even more detailed budget, but these details should appear under one of the line items shown in the sample format and discussed in more detail below. The following describes the budget line items to be included in the operations and maintenance budget of a utility, with an explanation of factors to be considered in making a forecast for each of the five years of the business planning period.

Figure 14-3

Norms	2010	2011	2012	2013	2014	2015
Personal Services (% on Base Salary)						
Allowances						
Personnel Economic Relief Allowance (PERA)	1.64%	1.70%	1.70%	1.70%	1.70%	1.70%
Additional Compensation (ADCOM)	4.92%	5.00%	5.00%	5.00%	5.00%	5.00%
Representation Allowance	2.55%	2.60%	2.60%	2.60%	2.60%	2.60%
Traveling Allowance	2.55%	2.60%	2.60%	2.60%	2.60%	2.60%
Clothing/Uniform Allowance	0.87%	0.90%	0.90%	0.90%	0.90%	0.90%
Bonuses						
13th Month Pay	1.85%	1.90%	1.90%	1.90%	1.90%	1.90%
Cash Gift	1.37%	1.40%	1.40%	1.40%	1.40%	1.40%
Productivity Incentive Bonus	0.76%	0.80%	0.80%	0.80%	0.80%	0.80%
Contributions						
Life and Retirement Insurance Contributions	6.23%	6.30%	6.30%	6.30%	6.30%	6.30%
PAG-IBIG Contributions	0.33%	0.35%	0.35%	0.35%	0.35%	0.35%
PHILHEALTH Contributions	0.36%	0.39%	0.39%	0.39%	0.39%	0.39%
ECC Contributions	0.24%	0.25%	0.25%	0.25%	0.25%	0.25%
Other Personnel Benefits	8.35%	8.40%	8.40%	8.40%	8.40%	8.40%
Maintenance and Other Operating Expenses (% on Base Salary)						
Travel Expenses						
Travel - Local	0.63%	0.65%	0.6			0.65%
Gasoline, Oil and Lubricants	2.24%	2.30%	2.3			2.30%
Training	0.34%	0.40%	0.4			0.40%
Materials and Supplies						
Office Supplies	2.33%	2.40%	2.40%	2.40%	2.40%	2.40%
Accountable Forms Expenses	4.35%	4.40%	4.40%	4.40%	4.40%	4.40%
Other Supplies	5.42%	5.50%	5.50%	5.50%	5.50%	5.50%
Electricity - Office	1.23%	1.30%	1.30%	1.30%	1.30%	1.30%
Communications						
Telephone - Landline	0.76%	0.80%	0.80%	0.80%	0.80%	0.80%
Telephone - Mobile	0.65%	0.70%	0.70%	0.70%	0.70%	0.70%
Internet	0.13%	0.15%	0.15%	0.15%	0.15%	0.15%
General Services	1.39%	1.40%	1.40%	1.40%	1.40%	1.40%
Maintenance and Other Operating Expenses (PhP/m^3 water produced)						
Treatment Chemicals	0.01	0.02	0.02	0.02	0.02	0.02
Electricity - Waterworks Operation	0.08	0.10	0.10	0.10	0.10	0.10
Repair and Maintenance						
Office Buildings	0.00	0.01	0.01	0.01	0.01	0.01
Electro-Mechanical	0.00	0.00	0.00	0.00	0.00	0.00
Civil Works	0.12	0.20	0.20	0.20	0.20	0.20
Purchased Water						
Other Maintenance and Operating Expenses	0.13	0.15	0.15	0.15	0.15	0.15

Input in the green highlighted cells the forecasted assumption (Norm) for each year of the Business Plan by considering the automatically calculated Norm in the Base Year.

Personal services

The personal services (PS) category includes all the forms of compensation that the utility intends to make, including the following: annual base salary for all regular employees; salary of casual/job order employees; other compensation, allowances, bonuses and incentives; and other personnel benefits. Shared costs on PS should also be considered, i.e., the share of the utility in the salaries and compensation of officers and staff of other LGU units or departments providing support services to the water utility. The computation of shared expenses is based on the ring-fencing allocation system adopted by the LGU. All inputs should be the net ring-fenced amounts for waterworks operations.

Factors that affect costs for PS are planned reductions or increases in overall staffing throughout the five-year planning period; planned annual wage increases of staff per each employment category; planned level of overtime pay as a percent of average annual

Figure 14-4

Expenses	2010 Base Year (PhP)	2011 (PhP)	2012 (PhP)	2013 (PhP)	2014 (PhP)	2015 (PhP)
Personal Services						
Salaries and Wages						
Regular Staff (Full-Time)	388,656	427,522	752,438	827,682	910,450	1,001,495
Regular Staff (Shared Function)	71,215	78,337	86,170	94,787	104,266	114,693
Casual Staff	0	0	0	0	0	0
Contractual/Job Order Staff	462,000	508,200	516,018	520,319	520,319	572,350
Allowances						
Personnel Economic Relief Allowance (PERA)	15,080	17,239	23,029	24,527	26,096	28,705
Additional Compensation (ADCOM)	45,360	50,703	67,731	72,139	76,752	84,427
Representation Allowance	23,501	26,366	35,220	37,512	39,911	43,902
Traveling Allowance	23,500	26,366	35,220	37,512	39,911	43,902
Clothing/Uniform Allowance	8,000	9,127	12,192	12,985	13,815	15,197
Bonuses						
13th Month Pay	17,063	19,267	25,7			2,082
Cash Gift	12,600	14,197	18,9			3,640
Productivity Incentive Bonus	7,020	8,112	10,8			3,508
Contributions						
Life and Retirement Insurance Contributions	57,457	63,886	85,3			6,378
PAG-IBIG Contributions	3,024	3,549	4,7			5,910
PHILHEALTH Contributions	3,354	3,955	5,283	5,627	5,987	6,585
ECC Contributions	2,204	2,535	3,387	3,607	3,838	4,221
Other Personnel Benefits	77,000	85,181	13,789	121,194	128,943	141,837
Sub Total	***1,217,034***	***1,344,540***	***1,796,100***	***1,912,992***	***2,035,303***	***2,238,833***
Maintenance and Other Operating Expenses						
Travel Expenses						
Travel - Local	5,770	6,591	8,805	9,378	9,978	10,975
Gasoline, Oil and Lubricants	20,627	23,323	31,156	33,184	35,306	38,836
Training	3,090	4,056	5,419	5,771	6,140	6,754
Materials and Supplies						
Office Supplies	21,517	24,337	32,511	34,627	36,841	40,525
Accountable Forms Expenses	40,076	44,619	59,604	63,483	67,542	74,296
Other Supplies	49,955	55,773	74,504	79,353	84,427	92,870
Treatment Chemicals	20,000	39,997	40,166	45,667	45,645	48,894
Electricity						
Waterworks Operation	137,070	199,987	200,831	228,336	228,225	244,469
Office	11,371	13,183	17,610	18,756	19,955	21,951
Communications						
Telephone - Landline	6,985	8,112	10,837	11,542	12,280	13,508
Telephone - Mobile	5,998	7,098	9,482	10,100	10,745	11,820
Internet	1,199	1,521	2,032	2,164	2,303	2,533
General Services	12,800	14,197	18,965	20,199	21,490	23,640
Repair and Maintenance						
Office Buildings	5,132	19,999	20,083	22,834	22,822	24,447
Electro-Mechanical		0	0	0	0	0
Civil Works	200,000	399,973	401,662	456,672	456,450	488,938
Purchased Water	0	0	0	0	0	0
Other Maintenance and Operating Expenses	213,569	299,980	301,247	342,504	342,337	366,703
O&M Contingency	84,986					
Sub Total	***840,144***	***1,162,747***	***1,234,915***	***1,384,571***	***1,402,487***	***1,511,158***
Total Operation and Maintenance	**2,057,178**	**2,507,287**	**3,031,015**	**3,297,564**	**3,437,790**	**3,749,991**

Values shown in the white cells are functions of the amounts shown in the Base Year and forecasted assumptions made in the Norms Table for the 5 future years of the Business Plan.

base salary; planned bonus/incentive program for good performance as a percent of average annual base salary; and any annual increase rate of other compensation, benefits and allowances.

The planned reduction or increases in staffing level over the five-year planning period of the business plan will have been determined under Section 10 (Organizational Structure and Staffing Level) of the Guide. The decisions for planned reductions in overall staffing over the five-year planning period will be recorded in the Staff Analysis Worksheet. Annual wage increases, by category and by year, expressed

as a percent of annual increases, will also be entered in same worksheet.

Similarly, the planned level of overtime, as a percent of average annual base salary, as well as the planned level of bonus/incentive as a percent of base salary will be entered in the Norms Table, illustrated in Figure 14-3 as it would appear on the O&M Budget Worksheet.

Personnel costs

Personnel costs, as a sub-category of PS, include costs for GSIS, Philhealth, Pag-Ibig, employee compensation (except for contractual/job order staff), and training costs of both dedicated and shared staff. The GSIS, Philhealth, Pag-Ibig, employee compensation, and training line items will be affected by the GSIS, Philhealth, Pag-Ibig and employee compensation calculation table and the level of expenditures planned for staff training. Each of these expenditures are forecasted based on the automatically calculated norms for the base year, showing the percentage of these expenditures compared with annual base salaries and the commitments made by management for training.

If management believes that, within the period of effectivity of the business plan, legislative changes may take place affecting expenditures for GSIS, Philhealth, Pag-Ibig, and employee compensation, they should adjust the assumed percentages for the said line items in the years they think those changes might occur.

Each of these annual percentages (GSIS, Philhealth, Pag-Ibig and employee compensation) should be reflected in the Norms Table on the O&M Budget Worksheet of the Workbook.

Maintenance and other operating expenses

The maintenance and other operating expenses (MOOE) category includes the various consumables used for operations and maintenance, such as supplies and materials, fuels, lubricants, spare/replacement parts, small tools, chemicals, energy and other utilities, communication, professional services, repairs and maintenance, and other operating expenses.

When forecasting these costs, management should first consider the line items addressing repairs and maintenance, and the quantitative variance that the utility can expect to experience over the next five years. This is a particularly important consideration where materials are concerned.

Since chemicals represent a significant part of water production, they are presented as a separate line item in the budget. When budgeting for chemicals, management should note its quantitative variance (which bears a strong relation to levels of produced water) and its cost per cubic meter produced.

Historically, water supply and wastewater utilities in the Philippines have fallen short in the performance of required routine and preventive maintenance activities. Management would do well to consider more aggressive expenditure increases under these line items to bring the utility closer to a more realistic level of annual expenditures.

Since electrical energy can be a major cost factor for a utility, it is important to budget separately for electrical energy used for equipment operation and that for lighting and office support. In addition, considering the decisions and assumptions made in performing the water balance and water demand analysis under Section 8 of the Guide, management

will need to budget electrical energy costs by considering its quantitative variance and cost per cubic meter produced. This cost is strongly related to any reduction in non-revenue water; therefore any reduction in water production will impact the quantity of electrical energy needed to meet the needs of customers.

The management needs to consider other sub-categories of MOOE, such as supplies and materials expenses (office supplies, accountable forms, fuel, oil and lubricants, etc.), water expenses, communication expenses (postage, telephone, internet, cable and radio, etc.) and professional services (legal, consulting, janitorial, security, etc.).

Management also needs to consider the utility's shared costs, which are those expenses incurred by other LGU units or departments that provide support services to the water utility. The computation of shared expenses is based on the ring-fencing allocation system adopted by the LGU.

The purchased water line item of the budget shows the cost the utility might incur from purchasing bulk water from other suppliers in order to meet the total water demand of the system. This line item is directly related to decisions on purchased water made in Section 9 of the Guide (Analyzing Water Demand). The price per cubic meter of the purchased water should be reflected in the Norms Table on the O&M Budget Worksheet of the Workbook.

Once management has carefully assessed the definable expenditures for the budget forecast, it will need to make an assumption regarding the "other expenditures" line item based on historical experience. Such a line item should be relatively small as a percent of the overall budget.

Management will need to create an allowance for the public relations item. Historically, this line item is not specifically budgeted by water supply and wastewater utilities. However, as the utility's customer service activities become more sophisticated, they have more public outreach activities and frequently communicate with customers and the local public. If a communications program has been developed, the annual cost of implementing that program should be presented under this line item for the base year. If not, management may wish to start by simply setting a targeted expenditure for public relations/customer relations as a set amount per registered customer for the forecasted year. The amount of money planned to be spent for a registered customer in a year should be reflected in the Norms Table on the O&M Budget Worksheet of the Workbook.

The last expenditure item is an allowance for O&M contingency. This line item shows the amount budgeted for any unintended occurrence.

With an established base year of expenditures, management will now have to consider how it anticipates these expenditures to change over the five years covered by the business plan. This is done by incorporating to the Norms any forecasted increase or decrease during the five-year period.

After selecting and approving all norms, the user must reflect them in the Table of Norms located in the O&M Budget Worksheet of the Workbook.

15 REVENUE NEEDS

Business planning supports the process of improving short-term financial management of the utility, as well as longer-term financial planning to achieve financial sustainability. Effective business planning helps the management employ good management practices that reduce long-term financial risks in planning for future service improvement, expansion and upgrade of the water supply and wastewater system. It also opens an opportunity for the utility to benefit from commercial financing and to engage the private sector, if that is regarded as the best way to improve performance and service delivery.

Considerations on financial sustainability revolve around the utility's ability to predictably generate sufficient revenues to meet all of its payment obligations in a timely manner through the course of the year. This quantity of sufficient revenues is what is commonly referred to as revenue needs.

15.1 DIFFERENCE BETWEEN REVENUE NEEDS AND O&M EXPENDITURES

Revenue needs represent a sum greater than the routine operations and maintenance (O&M) expenditures of the utility.

O&M expenditures refer to the expenditures necessary for the utility's daily operation and routine maintenance. Note that these do not qualify as capital expenditures. Included in these routine O&M expenditures are: all compensation and benefits of staff, all consumable supplies and materials (lubricant, fuel, chemicals, small tools, replacement parts, etc.), plus subcontracted services and energy costs. Also included are such items as public and customer relations expenditure, and legal and accounting services.

The revenue needs of a water supply and wastewater utility exceed the amount of operational and maintenance expenditures since revenues must also cover allowances for principal and interest payments on loans, planned capital expenditures for renewal of buried infrastructure, contributions to capital repair and replacement reserves, and contributions to new capital investment reserves.

15.2 DETERMINING REVENUE NEEDS

Every utility must generate enough revenue to support the process of improving short-term financial management and long-term financial planning for financial sustainability. The management team of the utility should consider

the following elements in developing a revenue needs analysis:

- Interest on outstanding or near-term debt
- Principal repayments on outstanding or near-term debt
- Debt repayment reserve
- Allowances for annual planned capital renewals
- Contributions to capital repair and replacement reserve
- Contributions to new capital investment reserve
- Subsidy from national/local governments

A Revenue Needs Worksheet is provided in the workbook to help management calculate and forecast the utility's revenue needs. The revenue needs table shown in this worksheet starts with total operations and maintenance expenditures coming directly from the O&M Budget Worksheet.

The second component affecting revenue needs is debt service, which is composed of the following line items: loan interest payments, principal repayments, and debt repayment reserve. The loan interest and the principal repayment line items show a year-by-year summation of total interest repayments on outstanding and near-term debt, and total principal repayments on outstanding and near-term debt. As described in Section 14, the amounts for interest payment and principal repayment come directly from the Debt Service Worksheet. Management should reflect and insert the Debt Repayment Reserve as an assumed amount for the period of the business plan.

The third component affecting revenue needs is capital expenditures, which is composed of capital renewal expenditures, capital repair and replacement reserve, and new capital investment reserve line items. The Capital renewal expenditures item shows the amount of money to be expensed in the year in order to undertake capital renewals of buried infrastructure.

The capital repair and replacement reserve and new capital investment reserve line items show the annual contributions deposited for each one of these reserves. These reserves are used when an above-ground capital repair or replacement or a new investment must be made. Capital expenditure decisions that affect revenue needs are discussed in greater detail in Section 13 (Capital Investment Forecast) of the Guide. Amounts for capital renewal expenditures, capital repair and replacement reserve, and new capital investment reserve come directly from the Capital Investment Program Worksheet.

The fourth component affecting revenue needs is subsidies (from national or local governments). Subsidies in the calculation of revenue needs are treated like credit, in that, for the period that subsidies are expected to be received, they reduce overall revenue needs for the year.

As mentioned above, revenue needs must generate sufficient funds to cover all the costs of the utility. In order to accumulate all the funds, revenue needs must be adjusted with the annual collection efficiency rate.

The last two lines of the Revenue Needs Worksheet present two reporting lines showing the total debt service reserve (O&M

contingency, debt repayment reserve, capital expenditures) expressed as total amounts and as a percentage of adjusted total revenue needs. These two lines of debt service reserve are designed to make it easier for a water utility, with existing loans, to ensure that obligations are met.

Figure 15-1 illustrates that aspect of the calculation of forecasted revenue needs of the utility. Reference should be made to the Revenue Needs Worksheet of the enclosed Workbook.

Figure 15-1

Input the total annual amounts for Debt Repayment Reserve in the green highlighted cells.

The line items reflecting Interest Payments, Principal Repayment and Capital Expenditures are automatically calculated after completing the Capital Investment Program and Debt Service worksheets.

Description	2010 Base Year (PhP)	2011 (PhP)	2012 (PhP)	2013 (PhP)	2014 (PhP)	2015 (PhP)
Operation and Maintenance Costs						
Personal Services	1,217,034	1,344,540	1,796,100	1,912,992	2,035,303	2,238,833
Maintenance and Other Operating Expenses	840,144	1,162,747	1,234,915	1,384,571	1,402,487	1,511,158
Sub-Total	**2,057,178**	**2,507,287**	**3,031,015**	**3,297,564**	**3,437,790**	**3,749,991**
Debt Service						
Interest Payments from Revenues	300,000	300,000	300,000	300,000	300,000	300,000
Principal Repayment from Revenues	0	0	0	0	1,000,000	1,000,000
Debt Repayment Reserve				1,800,000	1,800,000	1,800,000
Sub-Total	**300,000**	**300,000**	**300,000**	**2,100,000**	**3,100,000**	**3,100,000**
Capital Expenditures						
Capital Renewal Expenditures	300,000	300,000	300,000	300,000	300,000	300,000
Capital Repair and Replacement Reserve	260,000	260,000	260,000	260,000	260,000	260,000
New Capital Investment Reserve	0	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
Sub-Total	**560,000**	**3,560,000**	**3,560,000**	**3,560,000**	**3,560,000**	**3,560,000**
Subsidies						
Subsidies from Central/Local Government	500,000	382,956	478,695	598,369	747,961	934,951
Sub-Total	**500,000**	**382,956**	**478,695**	**598,369**	**747,961**	**934,951**
Total Revenue Needs	**2,417,178**	**5,984,331**	**6,412,320**	**8,359,195**	**9,349,829**	**9,475,040**
Collection Efficiency (% per Year)	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
Adjusted Total Revenue Needs with the Collection Efficiency	**2,544,398**	**6,299,296**	**6,749,810**	**8,799,152**	**9,841,925**	**9,973,726**
Debt Service Reserve						
(O&M Contingency+Debt Repayment Reserve+Capital Expenditures)	644,986	3,560,000	3,560,000	5,360,000	5,360,000	5,360,000
Total Debt Service Reserve (as % on Adjusted Total Revenue Needs)	18.54%	49.98%	46.38%	53.64%	50.17%	47.11%

Input the total annual amounts for anticipated Subsidies.

Input the forecasted annual Collection Efficiency Rate by first setting the Strategic Goal for the fifth year of the Business Plan.

16 TARIFF POLICY AND STRATEGY

Once revenue needs (as shown in Section 15) and forecasted water sales (Section 10) have been calculated, management can then determine how tariffs and fees will be structured to ensure that needed revenues will actually be generated and the utility becomes financially and commercially self-sustaining.

16.1 ADDRESSING THE TARIFF POLICY ISSUE

Before proceeding directly to the calculation or determination of a tariff or tariff schedule, it is important to take some time to consider a tariff policy that is supported by the PGB. Depending on the specific conditions within the utility's administrative area, management may formulate different policies for implementation. Table 16-1 illustrates how local conditions influence tariff policy. In considering Table 16-1, the user should first look at the specific conditions in the left column to identify ones that are particularly relevant in the utility's administrative area. There may actually be several that are relevant. The right column states a desired behavior

Once the utility management has selected the policy or combination of policies it wants to implement, it can then proceed to determine the tariff strategy and structure that best meets their policy objective.

Table 16-1

Specific local condition	Corresponding tariff policy
Abundant water supply	Encourage water consumption and sales
Limited water supply	Encourage water conservation
Largely variable seasonal demand	Conserve usage in high season and encourage consumption in low season
High fixed cost element in revenue needs	Consider both fixed and variable elements to price structure
Customer group with low ability to pay	Offset rates to subsidize initial "life-line" quantities
Customer categories have similar usage patterns	Apply a uniform pricing policy

16.2 ADDRESSING THE TARIFF STRATEGY AND STRUCTURE ISSUE

The tariff strategy addresses a variety of issues that need consideration before arriving at a tariff structure consistent with the tariff policy. There are many options for tariff structures, which can be applied in various combinations. These can differ according to the category of the customer, when cross-subsidies between customer categories are used.

Ultimately, the aim of any water supply and wastewater utility that applies commercial principles in its operations is to improve its financial performance for full cost recovery. For LGU-run utilities, it may be necessary to establish interim objectives that ensure a gradual progression to full cost recovery over the years, and as the performance of the utility improves.

In the process of determining the appropriate tariff strategy and structure, management should make a careful assessment of all other conditions affecting the utility, and take into full account all interim performance improvement objectives, so that the tariff structure is consistent with all other assumptions made in the business plan.

In formulating the tariff strategy and structure, the following questions may be helpful to management:

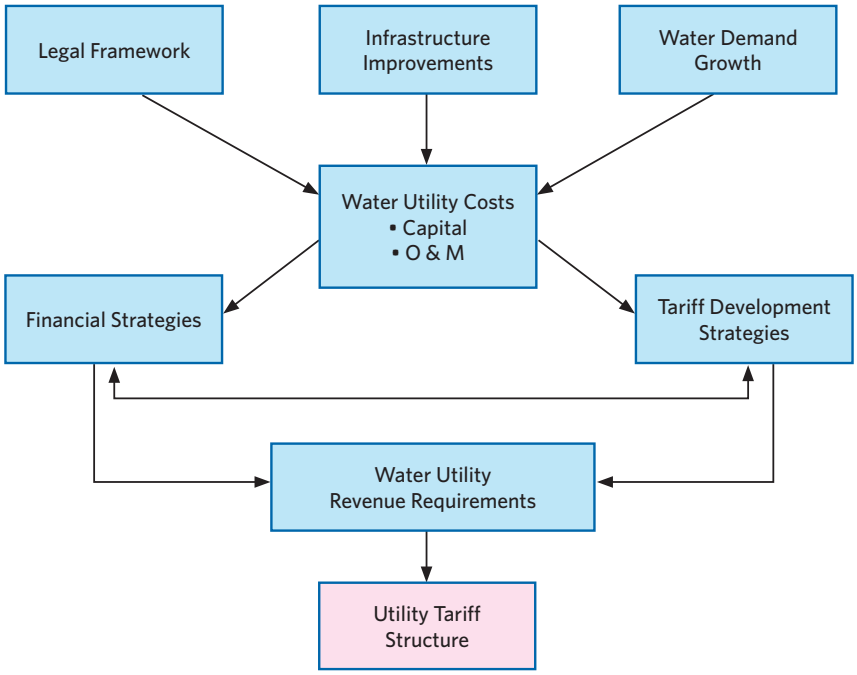
- What is the current tariff structure of the utility?
- Does the utility have a separate tariff for wastewater?
- To what extent do political considerations influence decisions on tariff setting within the administrative area?
- Do existing laws constrain the utility's capacity to reduce its losses, regenerate assets, write off bad debts, and other revenue generation activities?
- What are the established tariff methodologies and how flexible are they in their application?
- How is the tariff approval procedure applied?
- Is the tariff going to cover all costs, or only part of them?
- Will tariffs vary for citizens at different income levels?
- How many and what customer categories will exist in the tariff structure?
- What has been the tariff trend over the past five years, and how does this compare with the cost trend?
- What are the main problems associated with the collection of tariffs?

When diverse and competing objectives are well understood, a water utility is in a better position to establish a tariff structure that will achieve its cost coverage objectives.

16.3 SELECTING THE DESIRED TARIFF STRUCTURE

A tariff structure is the way that a fee, or schedule of fees, will be applied to the sale of water supply and wastewater services to recover the utility's costs. The design of the final tariff structure is the result of many diverse and sometimes competing objectives. Figure 16-1 has been prepared to illustrate some of the key factors that affect the selection of a tariff structure.

Figure 16-1



Generally, the selection process of a tariff structure involves three steps:

1. Defining the goals and objectives of the tariff structure.
2. Evaluating available alternatives in meeting these goals and objectives.
3. Understanding and communicating potential effects to customers.

The tariff setting methodologies in the Philippines are specifically defined by the Local Water Utilities Administration (LWUA) for water districts and by the National Water Regulatory Board (NWRB) for private water utilities. There is no uniform methodology for LGU-run water utilities. They either set their tariff on their own or follow LWUA or NWRB. LGUs that voluntarily submit to NWRB as their regulator will follow the NWRB's five-year tariff methodology (see Appendix A).

It is not the intent of this business planning guide to comment on or suggest anything that deviates from the current regulatory standards, methodologies and procedures in the Philippines for water supply services. However, this Guide, does present concepts that may be considered when addressing the challenging issue of tariff strategy and structure.

To assist the utility management in considering how it might develop its tariff structure, several tariff structures which have broad application, and which can be applied directly or in combination, are presented and briefly described below. The users of this Guide are advised to pursue other information on the subject of tariff structures as issued by LWUA and the NWRB.

Uniform rates

A uniform rate is a constant unit price for all metered volumetric units on water consumed

on a year-round basis. Utilities may consider using a uniform rate structure when:

- Customer groups have similar usage (demand) patterns
- Varying rates are undesirable from an equity or other perspective
- Other rate structures are not justifiable
- Cost and customer usage data are unavailable or costly to develop

Declining block rates

A declining block rate is a rate structure in which the unit price of each succeeding block (volume) of usage is charged at a lower unit rate than the previous block(s). Utilities may consider using a declining block rate structure when:

- Water supplies are plentiful
- Production costs respond favorably to economies of scale
- A single rate structure is used for all customer classes of service
- The system has an array of customers with varying usage and demand requirements

Since the average cost of a unit of supplied water tends to decline with increasing water production (i.e., economies of scale), this type of rate structure can be used as a price incentive to encourage specific, large-volume customers to remain on the system.

Increasing block rates

Increasing block rates charge increasing volumetric rates for increasing consumption. Utilities may consider using an increasing block rate structure when the utility:

- Is able to distinguish separate customer categories for billing
- Has the analytical capability to design block rate structures, including the amount of water sold per block and potential demand responses to differential rate impacts
- Is confronting system capacity constraints or potential system expansion
- Decides to send a stronger price signal

Seasonal rates

A seasonal rate is a type of time-differentiated rate, or a rate that varies by time period. Utilities may consider using a seasonal rate structure when:

- There is substantial variation in water demand across different seasons
- A utility is capacity-constrained as a result of peak-period demands
- Systems experience seasonal fluctuations in the number or types of customers served

Combined fixed and volumetric rates

The tariff structures of water supply and wastewater utilities have changed in recent years. Most urban utilities in western countries use a combination of a monthly minimum charge (fixed rate per billing period) to cover overhead and capital costs (fixed costs), and a commodity charge (volumetric rate based on water consumption) to cover defined operating costs. Utilities may consider using a fixed and volumetric rate structure when:

- Consumption patterns vary greatly through the year and the utility wants to have a more uniform cash flow to meet its average revenue needs
- Certain fixed charges (e.g., service charges or meter charges) are customer and not volume-related

It should be kept in mind that even with this form of tariff structure, the commodity charge (volumetric rate) can also be an increasing block rate, thereby combining a third strategy in the tariff structure.

Non-metered tariffs

For consumers without water meters or with malfunctioning water meters, the utility may establish tariffs based on the number of users (inhabitants) per household, and apply a standard norm of water consumption on a per capita basis (cubic meters per month per inhabitant, for example). This may also be based on the area of living space in the household, with a standard norm of cubic meters per square meter per month.

16.4 CALCULATION OF AVERAGE TARIFF

The calculation of average tariff for a cubic meter of water is important since it functions as a benchmark for present and future consideration in developing the tariff structure, and in assessing the utility's progress in managing or reducing costs.

Based on this Guide, the calculation of the average tariff is a direct function of the forecasted revenue needs, determined under Section 15, being divided by the forecasted annual water sales (cubic meters), which was established under Section 10 (Analyzing Water Demand). The result of this calculation is performed automatically by the Workbook and it appears on the Pricing Worksheet, shown in Figures 16-2 and 16-3.

The calculations applied in the Pricing Worksheet are:

- Annual water revenues from base rate (PhP/conn./month), which are based on the number of connections per category and the monthly minimum charge in each category for use of the first consumption level (first 10m³/month) expressed annually. Annual revenues from base rate will be automatically calculated for the base years and future years after completing the base rate assumptions for the future years.
- The calculation of annual water revenues from unit cost (PhP/m³) is based on the total annual water demand of the customer category, after subtracting the annual volume consumed in the first level (first 10m³/month) from each customer category and billed as fixed. The Pricing Worksheet automatically calculates the average tariff per cubic meter in the base year from current revenues generated by the variable fee (unit cost). In the future years the revenues from variable fee will be automatically calculated after completing the future structure of the variable fee.
- Annual sewer revenues are calculated only for customers with a sewer connection and are based on the total annual water revenues of each customer category, sewer coverage by customer category (number of sewer connections divided by the number of water connections), and the sewer fee (%).The annual sewer revenues are designed to be automatically calculated for the base years and the future years based on the sewer fee. The number of sewer connections does not necessarily equal the number of water service connections. Their ratio is automatically applied to calculate the revenues.
- Annual septage collection/treatment revenues are based on the water volume consumed and the septage collection/treatment tariff (PhP/m³ of water

consumed). Annual septage collection/ treatment revenues are designed to be automatically calculated for the base and future years. The number of households/ establishments served by the septage collection/treatment program does not necessarily equal the number of water service connections. Their ratio is automatically applied to calculate the revenues. Added to this are the revenues from non-customers availing of the service but paying on a fixed per-service basis.

- Annual revenues from bulk water sales are calculated based on the annual bulk water demand and the bulk water tariff (PhP/m³).
- In addition, the Pricing Workbook reflects total revenues from specific fees and charges. Annual revenues from specific fees and charges ("Others") are designed as input cells, for the base and future years of the business plan. Management is directed to reflect these revenues for the base year and make assumptions based on the streamlining of these revenues in the future.

Figure 16-2 presents the planned pricing for water to support the utility's revenue needs. The price strategy inputted is usually higher than the present charging/tariff. This further shows the need to impose tariff rate increases. The water supervisor and the PGB shall keep abreast of changes in the Local Internal Revenue Code (LIRC), which is usually revised every three years, in order to apply water tariff increases based on the approved business plan.

Figure 16-2

Input Price Strategy for each service/ type to support the revenue needs.

Description	2010 Base Year	2011	2012	2013	2014	2015
Price Strategy (PhP)						
Water Service						
Volume for Minimum Charge (m^3/connection/month)	10	10	10	10	10	10
Monthly Minimum Charge per Service Connection						
Individual Households	25.00	40.00	40.00	45.00	45.00	45.00
Commercial	25.00	80.00	80.00	90.00	90.00	90.00
Institutional	25.00	40.00	40.00	45.00	45.00	45.00
Industrial	25.00	80.00	80.00	40.00	40.00	40.00
Commodity Charges (/m³)						
Individual Households	2.68	4.20	4.20	5.00	5.00	5.00
Commercial	5.74	8.40	8.40	10.00	10.00	10.00
Institutional	2.79	4.20	4.20	5.00	5.00	5.00
Industrial	0.00	8.40	8.40	10.00	10.00	10.00
Monthly Flat Rate per Public Faucet	500.00	500.00	500.00	500.00	500.00	500.00
Bulk Water Tariff (/m³)	5.00	5.00	5.00	5.00	5.00	5.00
Sewerage Service (% of Water Bill)	20%	20%	20%	20%	20%	20%
Septage Collection						
Customers (/m^3 of Water Consumed)	0.40	0.40	0.40	0.40	0.40	0.40
Non-Customers (flat rate)	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00

Input the existing tariff for minimum charge, public faucet flat rate and bulk water tariff.

Computed based on revenue divided by the total sales volume less minimum charges.

Figure 16-3

Description	2010 Base Year	2011	2012	2013	2014	2015
Revenues (PhP)						
Water Service						
Households	1,700,000	3,138,720	3,531,060	4,942,000	5,436,200	5,930,400
ublic Faucets	7,500	7,500	7,500	7,500	7,500	7,500
Commercial	1,064,200	2,692,651	2,773,430	3,386,055	3,487,637	3,592,266
Institutional	180,600	389,670	393,567	472,537	477,263	482,035
Industrial	0	0	0	0	0	0
Bulk	54,750	54,750	54,750	54,750	54,750	54,750
Minimum Charge						
Individual Households	533,100	998,400	1,123,200	1,512,000	1,663,200	1,814,400
Commercial	64,200	211,603	217,951	252,551	260,128	267,931
Institutional	6,300	10,181	10,283	11,684	11,800	11,918
Industrial	0	0	0	0	0	0
Commodity Charges						
Individual Households	1,166,900	2,140,320	2,407,860	3,430,000	3,773,000	4,116,000
Commercial	1,000,000	2,481,048	2,555,479	3,133,504	3,227,509	3,324,334
Institutional	174,300	379,489	383,284	460,854	465,462	470,117
Industrial	0	0	0	0	0	0
Sewerage						
Households	100,000	301,800	362,160	494,200	564,800	635,400
Commercial	50,000	134,376	146,592	188,240	202,720	217,200
Institutional	10,000	40,418	44,093	56,784	61,152	65,520
Industrial	0	0	0	0	0	0
Septage Collection						
Households	180,000	192,000	192,000	216,000	216,000	216,000
Commercial	20,000	38,400	38,400	43,200	43,200	43,200
Institutional	1,000	1,920	1,920	2,160	2,160	2,160
Industrial	0	0	0	0	0	0
Non-Customers	30,000	30,000	30,000	30,000	30,000	30,000
Total Revenues by Type of Service						
Water	3,007,050	6,283,291	6,760,307	8,862,842	9,463,349	10,066,951
Sewerage	160,000	476,594	552,845	739,224	828,672	918,120
Septage Collection	231,000	262,320	262,320	291,360	291,360	291,360
Others	80,000	100,000	100,000	100,000	100,000	100,000
Total Revenues (from Price Strategy)	**3,478,050**	**7,122,205**	**7,675,472**	**9,993,426**	**10,683,381**	**11,376,431**
Adjusted Total Revenue Needs with the Collection Rate	**2,544,398**	**6,299,296**	**6,749,810**	**8,799,152**	**9,841,925**	**9,973,726**
Annual Cash Flow Surplus	**933,652**	**822,910**	**925,662**	**1,194,274**	**841,457**	**1,402,705**
Accumulative Cash Flow Surplus	**0**	**822,910**	**1,748,571**	**2,942,845**	**3,784,302**	**5,187,007**

The worksheet automatically computes for the projected revenues upon input of the price strategy.

Input the base year information including the available cash balance and the forecasted other operating revenues.

Positive Surplus means that the pricing covers more than the revenue needs. The price strategy inputted is usually higher than the present charging/tariff. This further shows the need to impose tariff rate increases.

Since the collection efficiency of the utility (percent collection of the value of bills issued) has already been considered and factored into the overall Revenue Needs, the calculation of the average tariff reflects the typically less than 100% collection efficiency and need not be adjusted further.

16.5 SPECIFIC FEES AND CHARGES

The water supply and wastewater utility sector is expected to employ commercial principles in managing its activities, and to progress toward full cost recovery in delivering its services to its registered customers. In this regard, it should act like any other business in charging for all of the services that it performs for its customers.

Utilities in developed countries, along with the tariff for water supplied, will also apply special charges for services (sometimes referred to as user fees) to recover the cost of specific other goods or services that they provide, or for the use of public facilities.

As general water rates increase because of water resource limitations, development costs, new plant requirements, more stringent water quality standards, and general inflation, policymakers and utility management view user fees and charges as a way to slow increases in the overall water tariff. Table 16-2 has been prepared to illustrate a number of typical goods and services that are provided by a utility, for which a separate fee or charge, can be applied by the utility.

Table 16-2

Field service charges	Office service charges	Service application, engineering, and inspection fees	Contract work and merchandise sales
• Turn off/ turn on fees • Field collection charge • Repair of damaged facilities • Special meter readings and final readings • Meter resetting fee • Appointment charge • Meter-testing charge • Backflow-prevention testing • Pressure testing • Fire-flow test • Water audits • Temporary hydrant meters	• New account or transfer charge • Collection-related charges • Account status at property sale • Public documents • Construction plans, drawings and maps • Consulting services	• Main inspection, filing and contract fees • Administrative fee for service connection inspection • Cross-connection inspection • Engineering design fee	• Service line repairs • Leak detection • Service tap installation • Meter installation • Meter size change • Main location services • Main relocation services • Backflow prevention device installation

17 BUSINESS PLAN UPDATE PROCESS

As stated initially in Section 3, business planning is a continuous process, with the business plan being reviewed and updated annually, such that the utility always has a current five-year business plan as a reference. In this regard, the management of the utility must set a date each year to update its business plan.

The updating process allows management to objectively review its accomplishments—relative to the goals and measurable targets in the business plan—over the course of the year, and assess how effective the performance improvement plans were in achieving the targeted goals for that year.

Every element of the business planning model should be reconsidered. Of particular value is a comparison of performance indicators from year-to-year, as well as with the stated strategic goals. It is very important that the management team be totally objective in considering the prior year's performance and any changes in action plans to assure achievement of the plan's stated goals.

17.1 SCHEDULING TO CONDUCT THE BUSINESS PLAN UPDATE

The business plan update is best conducted during the first month of the fourth quarter of the utility's fiscal year. In the Philippines, the fiscal year of water utilities coincides with the calendar year; hence, the business plan update should be conducted in October. Management should target completing the update and securing approval from the PGB by the middle of November.

An indicative schedule for the business plan update is shown in Table 17-1.

Table 17-1

Timing of planning action	Planning action
End of second week of October	General Administration and Finance and Customer Accounts Management sections close financial reports for 3rd quarter and issue reports to management for four preceding quarters
End of second week of October	Operation and Maintenance Section issues operating reports for four preceding quarters
Third week of October	Management team, facilitated by water supervisor, meets to review and comment on performance; and make preliminary modifications to PIPs
Fourth week of October	Management team meets to finalize modifications to PIPs and provide input to General Administration and Finance Section on budget adjustments and forecast assumptions
First week of November	General Administration and Finance Department issues new first year budget forecast, revenue needs and recommendations for tariff and fee adjustments, for agreement by management team
Second week of November	Management presents updated business plan to the PGB with the recommendation for any tariff adjustments

17.2 PREPARING FOR BUSINESS PLAN UPDATING PROCESS

As presented in Table 17-1, the water supervisor of the utility will facilitate the business plan updating process. The water supervisor sets the schedule and generates the historical financial reports needed to assess past performance against the previous business plan. This is done in cooperation with the Operation and Maintenance Section (the source of operating performance data) and the Customer Accounts Management Section (the source of water sales and collection efficiency data).

It is important that the updating process is not seen merely as a financial exercise, since technical operations and customer service will ultimately have the greatest impact on overall utility performance and customer satisfaction.

To get performance data for an entire year, when the updating process begins in the fourth quarter:

- Use data from the preceding four quarters to establish one year (i.e., the last quarter of the preceding year and the first three quarters of the current year)
- Or, as financial management staff and systems become more accustomed to the planning process, use the first three quarters of the calendar year and a forecast of performance in the fourth quarter, which may be developed by the General Administration and Finance Section

Since the management team participates in monthly management meetings, it will have reviewed reports for each preceding month and compared performance improvements to

planned targets. As such, the updating process should not be viewed as a major undertaking, but merely a chance to reassess both the PIPs and the budgets in light of performance.

17.3 CONDUCTING THE BUSINESS PLAN UPDATE PROCESS

The discipline applied by management in preparing the business plan should also be apparent during the updating process. If they are not producing the expected results, management should consider making changes to the performance improvement plans.

Likewise, the Excel-based workbook should also be used to assist management in quantifying the impact of its assumptions and expected results. This includes the water demand analysis and budget forecasting.

It is best to undertake the updating process in large work installments, instead of trying to fit it into small time allocations. Three or four half-day meetings are all that it should take, once the historical data is available. To expedite decision-making on various issues in the planning process, the local chief executive should be present in all of the half-day meetings.

17.4 APPROVAL OF THE POLICY GOVERNING BODY

Once the business plan has been updated for another five-year period, it should be presented to the PGB for its approval. The water supervisor, along with members of the PGB, should meet with the chief executives and other key officials of the local government in the administrative area to communicate the results of the business plan update, share any major operational decisions that would affect them, and state whether the utility will be filing for a tariff adjustment with the regulator based on the outcome of the updating exercise.

18 MONITORING BUSINESS PLAN IMPLEMENTATION

18.1 IMPORTANCE OF A MONITORING PROCESS

Monitoring plays an essential role in implementing a successful business plan and in assessing progress made in improving utility performance. A properly designed monitoring system provides stakeholders with a way to assess the effectiveness of the business plan in achieving its performance objectives.

However, management should recognize that the success of plan depends on the regular monitoring and updating of progress, and in taking corrective action when performance is falling short of agreed goals. To ensure that planned activities and actions are progressing as expected, the management team needs to monitor financial, operational, and customer service data, which should be reflected in formal monthly reports, with the end view of comparing the utility's actual performance with the strategic goals of the business plan.

Monitoring activities must be continuous, disciplined, consistent, and focused. But while it is important to ensure that initiatives and investments are made according to the timetables and budgets set forth in the business plan, management should also use new information gained from the plan's implementation to improve the certainty of assumptions used in the original plan and make other adjustments as necessary.

18.2 WHAT SHOULD BE MONITORED?

Management should monitor accomplishments against interim targets for each of the performance improvement plans. These interim targets are expressed in quantifiable terms, and can be monitored through assessing both data and performance indicators.

There is a limited number of key performance indicators considered as fairly typical for any utility. Although some larger, more sophisticated utilities use more indicators, as a minimum the key performance indicators that should be monitored regularly or routinely by management are those presented in Table 18-1.

Table 18-1 Key performance indicators

1	Service coverage (% of population in administrative area)
	Water supply
	Sewerage
	Septage management
2	Population served (% of population in administrative area)
	Water supply
	Sewerage
	Septage management
3	Metering
	Customer metering (% of total water service connections)
	Production metering (% of total no. of water sources)
4	Non-revenue water (% of total water production)
5	Average of hours of water supply (hours/day)
6	Water quality compliance (% negative tests)
	Physical and chemical
	Bacteriological
7	Average tariff (PhP/m^3)
8	Average cost (PhP/m^3)
9	Working ratio
10	Collection period
11	Collection efficiency (%)
12	Staffing ratio (employees/1,000 water+sewer connections)
13	Debt service coverage ratio
14	Debt equity ratio
15	Net profit margin
16	Operating margin

18.3 REPORTING AND MONITORING PERFORMANCE

The monitoring of the business plan is only a portion of the overall reporting and monitoring that is essential for effective management of a water supply and sewerage utility, as well as for ensuring compliance with Philippine laws and regulations on a utility's operation and output.

It is helpful to learn more about the reporting and monitoring structure and fully appreciate how the elements interact, their roles and interests, and how they need to be addressed by the utility. Figure 18-1 illustrates the key stakeholder interests in the performance of the utility and the nature of the reporting and monitoring required.

Utility

The key monitoring entity is the utility, which concerns itself with routine internal reporting as a part of its standard management procedures, its interactions with customers through communications and notifications, and with its policy governing body, which performs an oversight role.

The utility has a service agreement signed with every customer formally connected to the system. This agreement defines the mutual responsibilities between the utility and its customers for the provision of services. It will also detail when the utility is required to notify its customers of certain conditions that might impact the quality of service, and how the customer should contact the utility with any concerns or complaints about the service being received.

Management reporting/monitoring methodology

Management must provide for regular and continuous monitoring of the implementation process. Monitoring takes place at all management levels, with top management being ultimately responsible for coordination and decision-making. The standard approach and methodology of the monitoring process is based on the following:

- Establishment of reporting scheme from all sections of the utility
- Establishment of reporting standards and formats
- Management review and analysis of reports
- Undertaking of corrective action

The ultimate goal of monitoring is to ensure the faithful implementation of performance improvement plans. In case of difficulty, management must decide on appropriate corrective action.

It is important to distinguish between applying corrective actions and updating the business plan (discussed in Section 17). Corrective actions are not intended to change any of the plan's strategic goals, but merely modify the performance improvement action plans.

Establishment of reporting scheme from all sections of the utility

Establishing a reporting scheme from each section is the first step in gathering information on actual performance. The section's reports should be in written form and prepared monthly. At the beginning of each month, reports on the preceding month's performance are submitted to management.

The reporting process should originate from the rank and file to help cultivate a sense of responsibility and accountability among the staff.

Reports must be reviewed and summarized through meetings conducted within 7-10 days after the end of the month. A sample monthly summary report outline for a utility is provided at the end of this section.

Data recording and reporting standards

The establishment of standards for data recording and reporting is important. Reports will include both numeric data and narrative accounts. The narrative part of the report should be limited to the explanation of any anomaly in the trend of data, which might occur as a result of unusual conditions at the utility.

Management review and analysis of reports

Monthly section reports should also be collected and reviewed by management on a monthly basis. Management should review monthly reports in the context of overall progress, so that reports from different sections tell one coherent story.

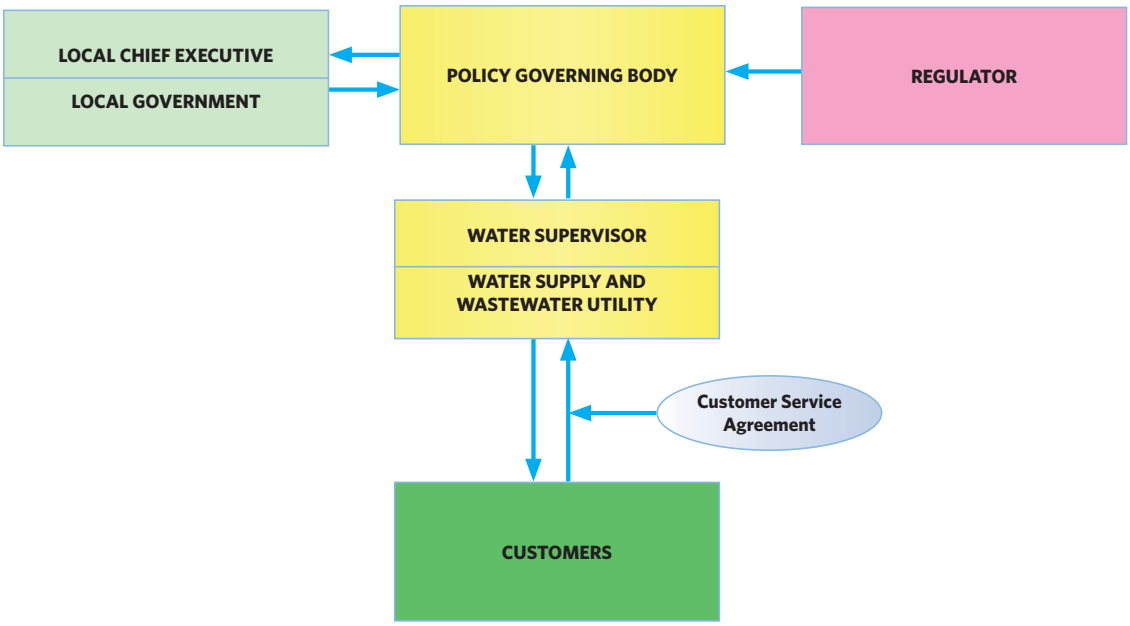
A regular monthly meeting with higher level managers or the LCE may be held where questions or issues may be clarified to deepen the management team's understanding of the status of progress.

Undertaking of corrective actions

After the meeting with the LCE, the water supervisor of the utility will prepare a summary report on the previous month's performance compared with the objectives set by the performance improvement plans. If necessary, he will then determine what corrective actions should be taken to respond to problems and issues.

Upon deciding on changes to the performance improvement plans, the water supervisor will communicate these decisions and instructions in writing to all the sections of the utility.

Figure 18-1



Policy governing body monitoring methodology

The PGB has oversight responsibility for the implementation of the business plan and should be given periodic updates by management.

The PGB need not be involved in deciding on and applying corrective actions based on progress against performance improvement programs as these do not alter the business plan's strategic objectives. It is enough that they are informed of the application of such adjustments and corrections.

The PGB will perform a thorough review of the utility's performance on a monthly, quarterly, semi-annual and annual basis. These reviews shall be supported by appropriate reports prepared by management, containing an analysis of current performance against interim objectives stated in the performance improvement plans. The reports will also explain what corrective measures have been undertaken during the relevant periods, and contain an assessment of the effectiveness of such measures.

Regular review meetings between management and the PGB will take place on a quarterly basis, or as frequent as necessary, as determined by the PGB or the water supervisor.

Local government

The local government group in Figure 18-1 is represented by the local chief executive (mayor or governor). The mayor or governor appoints the members of the policy governing body.

The LCE will report to the local council on all matters related to the delivery of water supply and wastewater services. The PGB then reports to the LCE and the Local Planning and Development Office on all matters related to policy development and financial performance of the utility.

National government

The final group is the National Government, which requires the utility to file reports as necessary. The key national government unit that has a direct interest in the performance and monitoring of LGU-run water utilities is the Department of Interior and Local Government (DILG). The DILG's Program Management Office for Water Supply and Sanitation monitors the establishment, development and performance of LGU-run water utilities. The NWRB is another national government agency that has a direct interest in the performance of LGU-run water utilities under consensual agreements.

REPORT FOR THE MONTH OF _____, 201____

GENERAL MANAGEMENT REPORT (by the General Manager)

- Narrative Summary of Monthly Report
- Progress in Addressing Strategic Goals
  - Increase % of Billed Water
  - Increase % Collection Efficiency of Billed Water
  - Increase Revenues to Cover Costs
  - Others
- Status of Investments

CUSTOMER SERVICE REPORT (by Customer Service Department)

Customer Report

- New Customers by Category
- Terminated Customers by Category
- Total Customers by Category
- Customer Analysis

Water Sales Report

- Water Sales by Category (m3)
- Water Sales by Category (PhP)

Collections Report

- Collection by Category (PhP)
- Collection Efficiency Rate by Category

Customer Complaints Report

Activities under Customer Communications Program

FINANCIAL REPORT (by Finance/Accounting Department)

- Operations and Maintenance Costs for the Month
- Operations and Maintenance Cost Analysis versus Budget
- Cost Coverage Analysis

TECHNICAL REPORT (by Technical Department)

- System Operations Report
  - Hours of Water Supply by Zone
  - Number of Pipe Breaks Needing Repair by Zone
  - Number of Sewerage Blockages by Zone
- Non-Revenue Water Report
  - Total Water Produced
  - Water Supplied to Zones
  - NRW Water by Zone
  - Status of Meter Installation Program
  - Status of Construction Projects
- Progress and Status of Construction Projects

APPENDICES

APPENDIX A. NWRB'S 5-YEAR TARIFF METHODOLOGY

RATIONALE

NWRB adopted the 5-Year Tariff Methodology in 2005 in accordance with Resolution No. 001-0105 dated 14 January 2005. This methodology specifically aims to help WSPs plan their business and attain full cost recovery.

The main features of the tariff methodology are as follows:

1. Computation of tariffs based on agreed levels of service
2. Submission of a 5-year business plan with detailed proposed OPEX and CAPEX
3. Use of Excel-based tariff model
4. Computation of average ROI to reduce price shocks
5. Mechanism for disallowances and upward adjustment in succeeding tariff proposal

Tariff levels should be established in consultation with customers or representatives based on agreed targets, such as average hours of service per day, water quality, non-revenue water, percentage of population served, managed water pressure, and more. Proposals for tariff adjustments should be based on a sound business plan, which is in turn based on performance targets and other assumptions. Moreover, business planning can help the water utility plan operations, investments and finance in a sustainable way.

Full cost recovery is emphasized as the basic principle in tariff setting. This means that, in providing adequate water service to its customers, the WSPs must receive sufficient revenue to ensure proper operation and upkeep, system sustainability, and maintenance of the system's financial integrity.

STEPS IN TARIFF SETTING

The first step in setting utility rates is determining the total annual operating revenue requirements for the period in which the rates are to be effective. This is computed by adding the following amounts: operating expenses, depreciation and maximum allowable net income.

The second step is dividing the total revenue requirement by the volume sold to get the required tariff.

Operating expenses include expenditures on labor (salaries and wages), management fees, power, chemicals, materials, and others. Expenses pertaining to revenues that are not regulated, as well as financing expenses, such as interest on loans, are excluded.

The allowable amounts of depreciation are the annual depreciation expense of property and equipment entitled to return (PEER). These are assets in service that are directly used in the operations of the water system, and funded by the owner's own funds, internal cash generation, or by loan. Assets funded by grants and donations or recovered in other ways aside from water tariffs are not entitled to return.

Maximum allowable net income is computed by multiplying the maximum allowable rate of return of 12% with total invested capital entitled to return. Total invested capital is the total of net book value (NBV) of PEER and working capital good for two months.

EVALUATION OF PROPOSED TARIFF

The system has an added feature in the tariff methodology, the Evaluation Sheet, which is a mechanism to verify the reasonableness of rates. This is a computation sheet that determines the required average tariff for the projected five years, starting with the maximum allowable ROI of 12%. It also allows the water utility to change the ROI rate as needed or desired, as long as this rate does not exceed 12%. The approved tariff rates shall not be increased or decreased from year to year. However, the NWRB may allow the water utility an average ROI of 12%.

The resulting tariff may vary from year to year depending on actual investments made and the number of customers. A final step in setting the average tariff is using the average ROI to help avoid erratic price increases over the five-year period.

The water rate structure consists of two parts: the minimum charge and the commodity charge. The minimum charge, or the service charge or demand charge, should be low enough to enable low-income users to pay for 10 cubic meters of water a month. Water supply service fees should not exceed 5% of the family income of low-income users. On the other hand, the commodity charge, or the amount charged for consumption beyond the minimum charge, may vary according to volume produced and consumer category. The incremental factor may be determined by the water utility, depending on the desired interval between quantity blocks. A sharper increase in a block may be used as a mechanism to discourage more consumption and encourage water conservation. The set of incremental factors for commercial/industrial consumers is fixed at twice that of residential consumers. Should the minimum charge be beyond the low-income group's capacity to pay, these incremental factors can be adjusted until an affordable minimum charge is reached. The evaluation should reveal an acceptable tariff rate.

The tariff proposal (to be approved by the PGB and LCE, and supported by a legislative council resolution) is an integral part of the application for a Certificate of Public Convenience.

Refer to the enclosed CD copy of the Primer on Tariff Setting and Regulation (NWRB, March 2005) for more details. The attachments include the Excel-based worksheet for the tariff methodology.

APPENDIX B. BENCHMARKING FOR SMALL WATER UTILITIES

THE BENCHMARKING OF SMALL TOWNS WATER UTILITIES

Benchmarking is a data collection process made from a group of similar entities for purposes of identifying best practices, setting standards and comparing performance. There has been no defined benchmark for LGU-run water utilities due to the absence of a regulatory body for this sector and anonymity of ring-fencing approach.

In 2004, however, government initiated the Benchmarking of Small Towns Water Supply Study, with support from the World Bank Water and Sanitation Program and executed jointly by the DILG, NWRB, LWUA and PAWD. The study covered 45 water utilities of five types, including LGU-run utilities, and results showed that LGU-managed water systems performed poorly compared with other types of water utilities. While it did not set standards or benchmarks, the study provides a starting point for efforts to improve services and performance, and for setting service targets.

To push the benchmarking process further forward, the Water and Sanitation Program of the World Bank developed a Water Utility Questionnaire for LGU-run water utilities to help in the annual update of organizational and performance profiles of these utilities. The complete questionnaires are submitted to the DILG's Water Supply and Sanitation unit.

WATER UTILITY QUESTIONNAIRE

The Water Utility Questionnaire (WUQ) is designed for all types of water service providers, cooperatives, LGUs, private operators, rural water and sanitation associations (RWSA) and water districts (WD). The questionnaire is Excel-based, with features specifically designed to guide the user in properly supplying the required benchmarking information.
The WUQ has a total of 19 sheets: 3 cover pages, including the table of contents and instructions, 13 input sheets, and 3 output sheets.

Data is entered by typing answers in the yellow cells and by ticking one or more boxes or buttons. The input sheets are as follows:

- Utility profiles 1 and 2 – Sheet 1 requires basic information on the utility (name, address, contact details, brief history and mission statement). Sheet 2 requires information on the type of provider, services offered, its regulatory body, plans and budgets, and the utility's priority needs.
- Coverage area – Information on the utility's area of responsibility, the service area population, and whether other water service providers are present within the area.
- Production – Data on production, treatment plants, and distribution networks.
- Service connection – Information on connections and disconnections, the basis for and frequency of billing water, and payment methods instituted or accepted by the utility.
- Customer service – Information on handling customer care, like ensuring water availability, reporting and repair of leaks, receiving and addressing complaints, and conduct of water quality tests.

- Automation – On the utility's use of information management systems.
- Staff – Information on personnel, skills development and training programs, salaries and benefits.
- Financial information – Data on reports, audits, capital expenditures, debt service payments and performance highlights.
- Balance sheet – Figures based on the annual ring-fenced balance sheet.
- Income statement – Figures based on the annual ring-fenced income statement.
- Tariff structure – Information on the current tariff structure used by the utility.
- Notes – For additional comments/notes to the data provided.

Once the questionnaire is completed, the results are automatically generated to the output sheets, which will contain:

- Indicators summarizing the utility's performance and the relevant data used to calculate them.
- A utility profile, showing all information captured about the utility, including its tariff structure and the priority needs.
- An area profile, which summarizes information particularly on production and consumption, including pie charts on water usage, billings and O&M expenses.

The copy of the WUQ in the enclosed CD is a "read only" file, click "Save As" command from the File menu to make a new copy of the file.

STAFF LIST

Name of Water Utility	Base Year	Input Cells
Waterworks Name	2010	

Staff No.	Last Name	First Name	Designation	Monthly Basic Salary (PhP)	% Devoted to WSS		Mo. Net Basic Salary (PhP)	
					Existing	Future	Existing	Future
Regular Staff (Full-Time):								
			Sub-Total =	**0.00**			**0.00**	**0.00**
Regular Staff (Shared Function):								
			Sub-Total =	**0.00**			**0.00**	**0.00**
Casual Staff:								
			Sub-Total =	**0.00**			**0.00**	**0.00**
Contractual/Job Order Staff:								
			Sub-Total =	**0.00**			**0.00**	**0.00**
			Total =	**0.00**			**0.00**	**0.00**

WATER DEMAND ANALYSIS AND SALES FORECAST

Waterworks Name

	2010 Base Year	2011	2012	2013	2014	2015
Population/Customer Profile						
Total City/Municipal Population		0	0	0	0	0
Population Covered by Other Service Providers						
% of Total Population	0%	0%	0%	0%	0%	0%
Maximum Serviceable Population	0	0	0	0	0	0
Population Covered by LGU Water Distribution System						
% of Total Population	0%	0%	0%	0%	0%	0%
% of LGU Population Not Covered by Any Service Provider	100%	100%	100%	100%	100%	100%
Population Served by Household Connections	0	0	0	0	0	0
Population Served by Public Faucets	0	0	0	0	0	0
Total Population Served	0	0	0	0	0	0
% of Total Population	0%	0%	0%	0%	0%	0%
% Willing-to-Connect to LGU Water System	0%					
Registered Active Water Service Connections	0	0	0	0	0	0
Metered Connections	0	0	0	0	0	0
Non-metered Connections	0	0	0	0	0	0
% Metered Connections	0%	0%	0%	0%	0%	0%
No. of New Metered Connections per Year		0	0	0	0	0
Individual Household Connections	0	0	0	0	0	0
Metered HH Connections		0	0	0	0	0
Non-metered HH Connections		0	0	0	0	0
% Metered HH Connections	0%					
No. of New Metered HH Connections per Year		0	0	0	0	0
Public Faucets	0	0	0	0	0	0
Metered PFs						
Non-metered PFs						
% Metered PFs	0%	0%	0%	0%	0%	0%
Average HHs per PF						
Commercial Connections	0	0	0	0	0	0
Metered Connections		0	0	0	0	0
Non-metered Connections		0	0	0	0	0
% Metered Connections	0%					
No. of New Metered Commercial Connections per Year		0	0	0	0	0
Institutional Connections	0	0	0	0	0	0
Metered Connections		0	0	0	0	0
Non-metered Connections		0	0	0	0	0
% Metered Connections	0%					
No. of New Metered Institutional Connections per Year		0	0	0	0	0
Industrial Connections	0	0	0	0	0	0
Metered Connections		0	0	0	0	0
Non-meteredConnections		0	0	0	0	0
% Metered Connections	0%					
No. of New Metered Industrial Connections per Year		0	0	0	0	0
Registered Sewer Connections	0	0	0	0	0	0
Households						
Sewer Coverage HH (%)	0%	0%	0%	0%	0%	0%
Commercial						
Institutional						
Industrial						

Septage Collection	Customers	0	0	0	0	0	0
	Households						
	Septage Collection Coverage HH (%)	0%	0%	0%	0%	0%	0%
	Commercial						
	Institutional						
	Industrial						
	Non-Customers						
Total Water Sales Volume (m^3/year)		0	0	0	0	0	0
	Metered Water Sales	0	0	0	0	0	0
	Non-metered Water Sales	0	0	0	0	0	0
Individual Household Consumption		0	0	0	0	0	0
	Metered HH Water Sales						
	Non-metered HH Water Sales						
Public Faucets Consumption		0	0	0	0	0	0
	Metered PF Water Sales						
	Non-metered PF Water Sales						
Commercial Consumption		0	0	0	0	0	0
	Metered Water Sales						
	Non-metered Water Sales						
Institutional Consumption		0	0	0	0	0	0
	Metered Water Sales						
	Non-metered Water Sales						
Industrial Consumption		0	0	0	0	0	0
	Metered Water Sales						
	Non-metered Water Sales						
Per Capita Demand (lpcd)							
	Individual Household	0					
	Public Faucet	0					
Per Connection Demand (m^3/day)							
	Individual Household	0.00	0.00	0.00	0.00	0.00	0.00
	Public Faucet	0.00	0.00	0.00	0.00	0.00	0.00
	Commercial	0.00					
	Institutional	0.00					
	Industrial	0.00					
	Retail Water Demand (m^3/day)	0	0	0	0	0	0
	Bulk Water Sales (m^3/day)						
Total Water Demand (Ave. m^3/day)		0	0	0	0	0	0
	Produced Water (m^3/day)		0	0	0	0	0
	Purchased Water (m^3/day)						
Total Water to System (m^3/day)		0	0	0	0	0	0
	Allowance for % NRW	0%					

Projected Population Increase (%)	
Projected Commercial Connection Increase (%)	
Projected Institutional Connection Increase (%)	
Projected Industrial Connection Increase (%)	
No. of Persons per Household	

ANALYSIS AND FORECAST OF PERSONNEL STRUCTURE

Waterworks Name

Staff Status	Base Year 2010			2011				2012			
	No. of Staff	Ave. Mo. Net Basic Pay (PhP)	Annual Cost (PhP)	No. of Staff	Pay Increase	Ave. Mo. Net Basic Pay (PhP)	Annual Cost (PhP)	No. of Staff	Pay Increase	Ave. Mo. Net Basic Pay (PhP)	Annual Cost (PhP)
Regular (Full-Time)	0	0	0			0	0			0	0
Regular (Shared Function)	0	0	0			0	0			0	0
Casual	0	0	0			0	0			0	0
Contractual/Job Order	0	0	0			0	0			0	0
Total Staff Cost/ Year (PhP)	**0**		**0**	**0**			**0**	**0**			**0**
Annual % Increase in Labor Cost							0.0%				0.0%
No. of connections (Water+Sewer)	0			0				0			
Staff/1,000 conn.	**0.00**			**0.00**				**0.00**			

Staff Status	2013				2014				2015			
	No. of Staff	Pay Increase	Ave. Mo. Net Basic Pay (PhP)	Annual Cost (PhP)	No. of Staff	Pay Increase	Ave. Mo. Net Basic Pay (PhP)	Annual Cost (PhP)	No. of Staff	Pay Increase	Ave. Mo. Net Basic Pay (PhP)	Annual Cost (PhP)
Regular (Full-Time)			0	0			0	0			0	0
Regular (Shared Function)			0	0			0	0			0	0
Casual			0	0			0	0			0	0
Contractual/Job Order			0	0			0	0			0	0
Total Staff Cost/ Year (PhP)	**0**			**0**	**0**			**0**	**0**			**0**
Annual % Increase in Labor Cost				0.0%				0.0%				0.0%
No. of connections (Water+Sewer)	0				0				0			
Staff/1,000 conn.	**0.00**				**0.00**				**0.00**			

CAPITAL EXPENDITURES PROGRAM

Waterworks Name

Item	Qty.	Unit Cost	Total Cost	2010 Base Year	2011	2012	2013	2014	2015
			(PhP '000)						
Capital Renewal									
			0						
			0						
			0						
			0						
			0						
			0						
			0						
			0						
			0						
Total Capital Renewal Expenditures			0	0	0	0	0	0	0
Capital Repair and Replacement									
			0						
			0						
			0						
			0						
			0						
			0						
			0						
Total Capital Repair and Replacement Reserve			0	0	0	0	0	0	0
New Capital Investments									
			0						
			0						
			0						
			0						
			0						
			0						
			0						
Total New Capital Investments			0	0	0	0	0	0	0
Contribution to New Capital Investment Reserve		LS	0		0	0	0	0	0
New Capital Investment Loans		LS	0		0	0	0	0	0
Flow			0	0	0	0	0	0	0
Capital Investments from Grants									
			0						
			0						
			0						
			0						
Total Capital Investments from Grants			0	0	0	0	0	0	0

OPERATION AND MAINTENANCE BUDGET FORECAST

Waterworks Name

Expenses	2010 Base Year (PhP)	2011 (PhP)	2012 (PhP)	2013 (PhP)	2014 (PhP)	2015 (PhP)
Personal Services						
Salaries and Wages						
Regular Staff (Full-Time)	0	0	0	0	0	0
Regular Staff (Shared Function)	0	0	0	0	0	0
Casual Staff	0	0	0	0	0	0
Contractual/Job Order Staff	0	0	0	0	0	0
Allowances						
Personnel Economic Relief Allowance (PERA)		0	0	0	0	0
Additional Compensation (ADCOM)		0	0	0	0	0
Representation Allowance		0	0	0	0	0
Traveling Allowance		0	0	0	0	0
Clothing/Uniform Allowance		0	0	0	0	0
Bonuses						
13th Month Pay		0	0	0	0	0
Cash Gift		0	0	0	0	0
Productivity Incentive Bonus		0	0	0	0	0
Contributions						
Life and Retirement Insurance Contributions		0	0	0	0	0
PAG-IBIG Contributions		0	0	0	0	0
PHILHEALTH Contributions		0	0	0	0	0
ECC Contributions		0	0	0	0	0
Other Personnel Benefits		0	0	0	0	0
Sub Total	***0***	***0***	***0***	***0***	***0***	***0***
Maintenance and Other Operating						
Travel Expenses						
Travel - Local		0	0	0	0	0
Gasoline, Oil and Lubricants		0	0	0	0	0
Training		0	0	0	0	0
Materials and Supplies						
Office Supplies		0	0	0	0	0
Accountable Forms Expenses		0	0	0	0	0
Other Supplies		0	0	0	0	0
Treatment Chemicals		0	0	0	0	0
Electricity						
Waterworks Operation		0	0	0	0	0
Office		0	0	0	0	0
Communications						
Telephone - Landline		0	0	0	0	0
Telephone - Mobile		0	0	0	0	0
Internet		0	0	0	0	0
General Services		0	0	0	0	0
Repair and Maintenance						
Office Buildings		0	0	0	0	0
Electro-Mechanical		0	0	0	0	0
Civil Works		0	0	0	0	0
Purchased Water	0	0	0	0	0	0
Other Maintenance and Operating Expenses		0	0	0	0	0
O&M Contingency						
Sub Total	***0***	***0***	***0***	***0***	***0***	***0***
Total Operation and Maintenance	**0**	**0**	**0**	**0**	**0**	**0**

Norms	2010	2011	2012	2013	2014	2015
Personal Services (% on Base Salary)						
Allowances						
Personnel Economic Relief Allowance (PERA)	0.00%					
Additional Compensation (ADCOM)	0.00%					
Representation Allowance	0.00%					
Traveling Allowance	0.00%					
Clothing/Uniform Allowance	0.00%					
Bonuses						
13th Month Pay	0.00%					
Cash Gift	0.00%					
Productivity Incentive Bonus	0.00%					
Contributions						
Life and Retirement Insurance Contributions	0.00%					
PAG-IBIG Contributions	0.00%					
PHILHEALTH Contributions	0.00%					
ECC Contributions	0.00%					
Other Personnel Benefits	0.00%					
Maintenance and Other Operating Expenses (% on Base Salary)						
Travel Expenses						
Travel - Local	0.00%					
Gasoline, Oil and Lubricants	0.00%					
Training	0.00%					
Materials and Supplies						
Office Supplies	0.00%					
Accountable Forms Expenses	0.00%					
Other Supplies	0.00%					
Electricity - Office	0.00%					
Communications						
Telephone - Landline	0.00%					
Telephone - Mobile	0.00%					
Internet	0.00%					
General Services	0.00%					
Maintenance and Other Operating Expenses (PhP/m^3 water produced)						
Treatment Chemicals	0.00					
Electricity - Waterworks Operation	0.00					
Repair and Maintenance						
Office Buildings	0.00					
Electro-Mechanical	0.00					
Civil Works	0.00					
Purchased Water						
Other Maintenance and Operating Expenses	0.00					

DEBT SERVICE

Waterworks Name

Description	2010 Base Year (PhP)	2011 (PhP)	2012 (PhP)	2013 (PhP)	2014 (PhP)	2015 (PhP)
DEBT SERVICE						
Existing Loans						
Interest Payments						
Principal Repayments						
Total Payments Loan #1	**0**	**0**	**0**	**0**	**0**	**0**
New Capital Investments Loans						
Interest Payments						
Principal Repayments						
Total Payments Loan #2	**0**	**0**	**0**	**0**	**0**	**0**
Other Loans						
Interest Payments						
Principal Repayments						
Total Payments Loan #3	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL LOANS						
Total Interest Payments	0	0	0	0	0	0
Total Principal Repayments	0	0	0	0	0	0
Total Loan Payments	**0**	**0**	**0**	**0**	**0**	**0**

REVENUE NEEDS

Waterworks Name

Description	2010 Base Year (PhP)	2011 (PhP)	2012 (PhP)	2013 (PhP)	2014 (PhP)	2015 (PhP)
Operation and Maintenance Costs						
Personal Services	0	0	0	0	0	0
Maintenance and Other Operating Expenses	0	0	0	0	0	0
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**
Debt Service						
Interest Payments from Revenues	0	0	0	0	0	0
Principal Repayment from Revenues	0	0	0	0	0	0
Debt Repayment Reserve						
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**
Capital Expenditures						
Capital Renewal Expenditures	0	0	0	0	0	0
Capital Repair and Replacement Reserve	0	0	0	0	0	0
New Capital Investment Reserve	0	0	0	0	0	0
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**
Subsidies						
Subsidies from Central/Local Government						
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**
Total Revenue Needs	**0**	**0**	**0**	**0**	**0**	**0**
Collection Efficiency (% per Year)						
Adjusted Total Revenue Needs with the Collection Efficiency	**0**	**0**	**0**	**0**	**0**	**0**

Debt Service Reserve						
(O&M Contingency+Debt Repayment Reserve+Capital Expenditures)	0	0	0	0	0	0
Total Debt Service Reserve (as % on Adjusted Total Revenue Needs)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

PRICING STRATEGY

Waterworks Name

Description	2010 Base Year	2011	2012	2013	2014	2015
Water Connections						
Individual Households	0	0	0	0	0	0
Public Faucets	0	0	0	0	0	0
Commercial	0	0	0	0	0	0
Institutional	0	0	0	0	0	0
Industrial	0	0	0	0	0	0
Sewer Connections						
Households	0	0	0	0	0	0
Commercial	0	0	0	0	0	0
Institutional	0	0	0	0	0	0
Industrial	0	0	0	0	0	0
Septage Collection						
Households	0	0	0	0	0	0
Commercial	0	0	0	0	0	0
Institutional	0	0	0	0	0	0
Industrial	0	0	0	0	0	0
Non-Customers	0	0	0	0	0	0
Water Sales (m^3/day)						
Retail	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Unit Consumption						
Per Capita Water Demand (lpcd)						
Individual Households	0	0	0	0	0	0
Public Faucets	0	0	0	0	0	0
Per Connection Water Demand (m^3/day)						
Individual Households	0.00	0.00	0.00	0.00	0.00	0.00
Public Faucets	0.00	0.00	0.00	0.00	0.00	0.00
Commercial	0.00	0.00	0.00	0.00	0.00	0.00
Institutional	0.00	0.00	0.00	0.00	0.00	0.00
Industrial	0.00	0.00	0.00	0.00	0.00	0.00
Price Strategy (PhP)						
Water Service						
Volume for Minimum Charge (m^3/connection/month)		0	0	0	0	0
Monthly Minimum Charge per Service Connection						
Individual Households						
Commercial						
Institutional						
Industrial						
Commodity Charges (/m^3)						
Individual Households	0.00					
Commercial	0.00					
Institutional	0.00					
Industrial	0.00					
Monthly Flat Rate per Public Faucet						
Bulk Water Tariff (/m^3)						
Sewerage Service (% of Water Bill)	0%					
Septage Collection						
Customers (/m^3 of Water Consumed)	0.00					
Non-Customers (flat rate)	0.00					
Revenues (PhP)						
Water Service						
Individual Households		0	0	0	0	0
Public Faucets	0	0	0	0	0	0
Commercial		0	0	0	0	0
Institutional		0	0	0	0	0
Industrial		0	0	0	0	0
Bulk		0	0	0	0	0
Minimum Charge						
Individual Households	0	0	0	0	0	0
Commercial	0	0	0	0	0	0
Institutional	0	0	0	0	0	0
Industrial	0	0	0	0	0	0

Commodity Charges						
Individual Households	0	0	0	0	0	0
Commercial	0	0	0	0	0	0
Institutional	0	0	0	0	0	0
Industrial	0	0	0	0	0	0
Sewerage						
Households		0	0	0	0	0
Commercial		0	0	0	0	0
Institutional		0	0	0	0	0
Industrial		0	0	0	0	0
Septage Collection						
Households		0	0	0	0	0
Commercial		0	0	0	0	0
Institutional		0	0	0	0	0
Industrial		0	0	0	0	0
Non-Customers		0	0	0	0	0
Total Revenues by Type of Service						
Water	0	0	0	0	0	0
Sewerage	0	0	0	0	0	0
Septage Collection	0	0	0	0	0	0
Others						
Total Revenues (from Price Strategy)	**0**	**0**	**0**	**0**	**0**	**0**
Adjusted Total Revenue Needs with the Collection Rat	**0**	**0**	**0**	**0**	**0**	**0**
Annual Cash Flow Surplus	**0**	**0**	**0**	**0**	**0**	**0**
Accumulative Cash Flow Surplus		**0**	**0**	**0**	**0**	**0**