

**VOLUME TWO:**

**GUIDELINES FOR PREPARING  
A BUSINESS PLAN**

**Originally prepared for the**

**Ministry of Water Resources**

**Federal Democratic Republic of Ethiopia**

**March 2004**

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## FOREWORD

*Water supply organisations in towns face significant challenges to undertake the investments in expanding water services to people currently lacking access to safe drinking water. A large part of the failure of town water supply utilities to provide widespread quality access has been due to the financial failure of town systems. Much of this failure has been due to inappropriate institutional frameworks which stifle local decision-making, responsibility and participation of the community. In addition, towns have faced problems with inappropriate designs, investment without regard for willingness or ability to pay for tariff to support this investment and over-sized systems (paid for with large loans) have led to cash deficits and bankrupt utilities unable to properly maintain and operate systems.*

*The use of the tools and techniques of business planning provide water utilities with an opportunity to improve governance and planning at the town level. When established as a participatory process, business planning provides a means for the newly established Water Boards in Ethiopia to communicate with their customers and to understand their expectations and needs; also to forge a sense of partnership with the community and for all stakeholders to achieve shared objectives.*

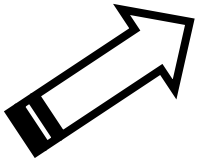
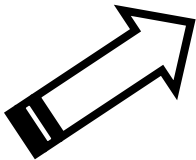
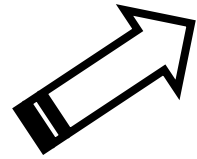
*Planning for the expansion of water services (and sanitation services) is a key priority of the Ethiopian government. Our policy of providing greater autonomy to Water Boards, and the introduction of incentives to improve professional management, financial sustainability and responsibility at local level, are important parts of this strategy. Although we are aiming for town Water Boards to achieve cost recovery in the long term, we recognise that this will only be done with some short-term support. This support needs to be provided in an effective way and to those towns that have established Water Boards with an approach to investments and operations that will deliver sustainable systems for their customers. Doing a business plan and using a participatory approach with customers are essential ingredients to the establishment and operation of a successfully sustainable water supply system. They become central to the rationale for Government to support and provide further technical assistance, based on the approach illustrated overleaf.*

*The Business Planning Toolkit, together with the Guidelines document will provide Water Boards with a useful starting point for thinking about business planning, and for making a start in preparing a business plan. The Toolkit and supporting documents will be improved in a continuous way, based upon your experience and comments. I recommend that you read it, learn from the exercises and adapt it to the needs of your Water Board.*

*Ministry of Water Resources  
Addis Ababa*

**Implementing arrangements between, regional, local and Town levels.**

**Stepped approach to the upgrade of existing water supply systems**



**STEP 1**  
**Technical Assistance to establish Town Water Board and Prepare Application:**

Technical Assistance to urban water utilities to prepare applications for immediate repair, design, sustainability assessment and preparation of business plan

**STEP 2**  
**Capacity building and immediate service improvements:**

Technical Assistance to urban water utilities to train Board members and operators, implement financial systems, implement immediate service improvements, prepare business plan and preliminary rehabilitation and expansion designs

**STEP 3**  
**Rehabilitation or Initial Investment:**

Technical Assistance to urban water utilities to implement business plans and rehabilitate and expand facilities in towns that have not previously received grant financing for rehabilitation and expansion

- Main Criteria to Qualify for Step 2:**
- Application filed with basic information on existing water supply and sanitation and needs
  - Creation of autonomous Town Water Board and appointment of Board members
  - Demonstrate willingness to pay

- Main Criteria to Qualify for Step 3:**
- Project proposal accepted
  - Business plan accepted
  - Immediate service improvements completed
  - Revenue covers current O&M costs + allowance for renewal and replacement of short life assets
  - Technical and administrative staff trained at basic level
  - Utility operating autonomously with accountability in place

- Main Criteria to Qualify for Step 4 (expansion):**
- Step 3 major works completed
  - Billing and revenue collection systems in place and efficient
  - Revenue covers running costs, provision for renewal and replacement and expansion
  - Technical and administrative staff adequately trained; performance agreement and incentive policy in place
  - Good command of procurement procedures
  - Accountability and transparency
  - Initiatives in long-term management of water resources
  - Initiatives in sanitation management

Guidelines for preparing a business plan

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## **INTRODUCTION**

The Introduction to the Framework for Business Planning (Volume One) provided you with the background and theory behind how, when, where and why business plans are used. It is now time to formulate a business plan for your own water utility.

There are no rules that business plans must follow, which is why the concepts are described somewhat broadly. The appearance, structure, and contents truly depend on;

- your target audience,
- how you plan to use the document,
- who was involved in preparing it,
- and effort or skill devoted to the project.

The objective of this Guidance Document is to help you to structure your approach to writing your business plan and to stimulate your creativity for bringing solutions to management problems onto paper as commitments for improvement within your organisation. Most significantly, it assists you in demonstrating;

- how management efforts will effect financial results,
- what support is required from municipalities or other government bodies to remain financially viable over a longer period.

The document is intended to guide you through the writing work following a typical contents of a business plan as described in the Introduction document. The approach is to follow each step of the business plan to generate the information needed for your business plan by answering specific questions provided, choosing from suggested topics or filling in formats provided as blank forms. Where possible, examples are provided to assist you in formulating your own thoughts.

Use the concepts introduced in the “Introduction” document to assist you in understanding the theory behind the business planning process.

You will certainly find it easier preparing your first business plan if you follow the guidelines step by step to give you a “skeleton” structure with the basic information needed. There will be issues particular to your utility which you may wish to stress or include that other utilities do not consider. This may be considered the substance of your plan which gives it the true usefulness as a communication tool.



## **BACKGROUND TO GUIDELINES AND THE BUSINESS PLANNING TOOLKIT**

Volume One – An Introduction to the Framework of Business Planning, provides a lot of background information that is relevant to the use of this Guideline document. In particular it explains the reason for change and provide some straightforward exercises to help reinforce some of the important aspects of business planning preparation.

Business planning supports the process of transition from financial dependency on government to financial autonomy. It supports the process of improving short-term financial management of the utility and of managing long-term financial planning to achieve financial sustainability. Good "business planning" helps good management and good management practices help to reduce long-term financial risks in planning for the future expansion and improvement of water supply and sanitation systems. This can enhance the opportunity for the utility to benefit from commercial financing, and from the private sector if that is regarded as the best way forward to improve service performance.

Business planning also provides utilities and other stakeholders with the opportunity to set tariffs in an objective and rational way. This is particularly important in the context of aims to implement full cost recovery over time.

For most water utilities in Ethiopia, it is the issue of planning supply expansion to new customers that will be at the centre of the business plan.

Full cost recovery tariffs are defined as tariffs sufficient to provide for financing of investments as well as operating and maintenance expenses. Most often it is taken to mean that tariffs should cover operating and maintenance expenses plus depreciation expenses. However, customers of small town water utilities may not be able to afford to implement full cost tariffs immediately. Therefore it is recommended to define full cost recovery on a *cash generation going forward* basis, which means that tariffs should be set so that sufficient revenues are generated to cover operating and maintenance expenses plus renewal and replacement of existing assets and allow for expansion of the system as needed *and to allow for phase in*.

*Cathy Revels – Financing options for Town Water Supply and Sanitation Strategy*

The "Business Planning Toolkit" has been developed by WRc (Water Research Centre) as part of the World Bank's Town Water Supply and Sanitation Initiative. The Town WSS Initiative promotes options for improved water supply services in towns, including autonomous, financially sustainable town water utilities.

This toolkit is a disc with a Pro-forma in WORD document and an Excel workbook with guidance notes that can be used to create a financial model of the water supply utility. It is user friendly and provides guidance, explanation and examples to help you. It can be downloaded on to your computer.

The results from the Toolkit will show how your costs for investment and operations match with your income from customers and therefore whether your utility will remain financially viable.

The Toolkit and pro-forma for business planning are provided with this Guideline document.

### **Why prepare a Business Plan?**

Business planning helps town water utilities to plan operations, investments and finance in a sustainable and affordable way:

- It provides a means to share information with employees, customers, political leaders and potential investors, so that there is agreement on the utility's plans;
- It makes sure that investment decisions take account of what consumers want and are prepared to pay for;
- It ensures that revenues are sufficient for "full cost recovery", i.e. the utility is financially sustainable;
- It helps the utility to monitor financial and technical performance;
- It supports performance-based contracts with employees or a Private Operator, by helping to identify and agree on performance targets;
- It helps to support activities needed for performance improvements, such as water quality monitoring, benchmarking, and external audits.

The use of business planning by a town water utility can also support the introduction of best practice in other areas of the utility's operation as it seeks to improve its efficiency in service provision.

As you plan to make investments for improvements in your system, business planning provides a way for you to see what the financial implications are. This then allows you to make decisions which are best for the utility to operate and improve its performance in a financially sustainable way, and at the same time meet the expectations of your consumers. Thus, by communicating the utility's challenges, objectives and priorities to its customers and employees, they may assist in defining the most practical and efficient way for you to put solutions into practice.

### **What is a business plan?**

All organisations, public and private, need to be managed well. This includes water and sanitation services because they have a big responsibility to deliver safe water to high standards, to plan and implement major long term investment projects and to operate and maintain systems efficiently so that they work all the time.

A business plan is a practical plan for your organisation. It brings together your plans to improve and extend the service that you provide, and how they can be paid for.

As well as being important to managers and directors of the organisation it will also be of interest to people outside such as;

- Municipal and regional political leaders who can support investment project plans and help to ensure tariffs are set in a proper way
- People and organisations who are the organisation's customers
- Those who may lend or grant funds to the organisation

Doing a business plan is **not** difficult and it does **not** need to be a long document. The plan should be one that is appropriate for the size of your organisation and should contain the important information that will allow you to make decisions on investment, efficiency, the standards of service to existing and new customers AND the price they will need to pay. It will also help you to get the support of other people and organisations, from whom you will need support, such as customers, employees and local leaders in government and the community.

Having said this to do the planning properly for the long term, it will take time and effort to prepare a business plan. At first it may seem a burden on staff, resources and your time, but in the medium to long term it will become a normal and effective part of a good and strong management process. Your customers, your staff and your community leaders should become aware of the benefits of your increasing knowledge about your system and your management expertise.

The business plan can include:

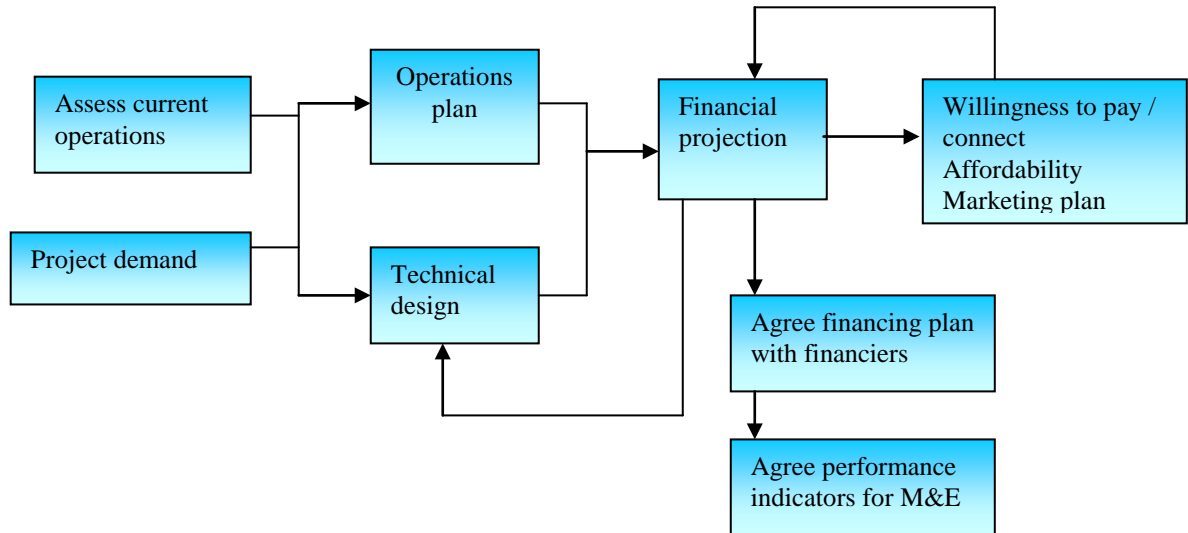
- An investment plan - To ensure that planning is affordable, including appropriate design (matching design with demand, based on willingness to pay surveys) and financial sustainability, and to understand potential future consumers, and plans to expand and upgrade services;
- A financing plan - Including how and from whom the money to pay for the investment plan will be raised;
- An operations plan – Management and staffing arrangements including professional support and training;
- A financial management and reporting plan - To monitor performance and meet regulatory obligations;
- A marketing and communications plan - To offer informed choices to consumers, including the type of connection, and to keep decisions transparent; and
- A procurement strategy – To identify professional support needed, and the type of contract that is appropriate.

### **How to prepare a business plan**

Business planning is best understood as a participatory process. Extensive consultation is required between all stakeholders, in particular between the Management Board of the utility, their consumers and their staff. The

continuous process of consultation leads to development and updating of the business plan, and to a sense of partnership in meeting the objectives.

Business planning is not a one-time activity. It is a continuous process. The utility must constantly plan and finance new projects as it expands and upgrades its services. The process of planning is shown below, and emphasizes the need to keep customers informed.



## BACKGROUND TO THE WATER BOARDS IN ETHIOPIA

The Federal Democratic Government of Ethiopia is working with the World Bank and other international agencies to support improvement of water supply and sanitation in towns throughout Ethiopia. To ensure the sustainability of improvements the programmes aim to:

- Improve the planning process so systems are designed in a cost effective manner taking into consideration technical, economic and financial feasibility with broad stakeholder participation
- Improve institutional arrangements
- Improve physical facilities in order to expand and improve service
- Phase in full cost recovery tariffs in conjunction with service improvements
- Integrate sanitation planning with improvements in water supply

The programme has helped to introduce autonomous Water Boards in some parts of the country and the introduction of business planning methods will assist the managers in these Water Boards run well managed utilities with sound investment and financial planning.

### **Proclamation to Provide for the Establishment of Water Supply and Sewerage Authority/Enterprise**

This proclamation defines the roles and responsibilities of water supply and sanitation authorities.

- the organisation and structure of these authorities
- the membership of the Boards to these authorities
- the powers and duties of the Boards
- the powers and duties of the Zand/Woreda Town/City administrations.

The proclamation indicates that the ownership of water supply utility assets and liabilities should be transferred to water supply authorities when they have been designated as autonomous entities.

### **Implications of Proclamation**

Where the process of decentralisation and increasing autonomy is taking place, choices will be need to be made about the type of utility that will provide the work and sanitation service. In towns this is likely to be a utility-based on local ownership with little external support or investment likely beyond the first few years of operation.

In Ethiopia an initial programme of technical assistance and grants for smaller, short-term investment has been made in supporting the newly established Water Boards (25 Towns Programme). A new programme with additional support from the World Bank and other donors will further support performance improvement in water utilities. In order to qualify for this new programme, water utilities will need to show that they have begun a process of changing the way their utilities are managed. The main mechanism for establishing this management improvement will be through the adoption of the business planning process. Support from the programme will only be forthcoming if utilities can demonstrate that:

- they have been established as autonomous entities with a significant degree of financial transparency covering their operations and investments;
- they have established a business planning process in their organisations which is a participatory one with customers, owners and staff;
- their investment plans can clearly demonstrate a positive financial relationship with willingness to pay demand from their customers, and that plans have been developed, through research and consultation, to encourage and secure increases in revenue (such as workable plans for implementing connection charges).

**AND FINALLY...**

We hope that you find the documents helpful for supporting the development of your business plans. They are meant to be 'living' documents with the opportunity for continuously improving their content and explanations and examples. Please be candid in providing your comments to the author.



## **1 OBJECTIVES OF THE WATER UTILITY**

### **Overall objective**

To provide an approach to defining the objectives of a water utility.

### **Units**

- 1.1 Purpose, vision and objectives
- 1.2 Issues to be considered when creating the organisation's objectives



## 1.1 Purpose, vision, objectives - Concepts and principles

### *Recalling the business planning framework*

Recall the three stages for the management process introduced in the Introduction to Formal Business Planning:

**ANALYSIS**

**PLANNING**

**and**

**IMPLEMENTATION**

### *Analysis*

The analysis stage provides planners a thorough understanding of problems the enterprise is facing, either externally driven or internally, but the need for change should be obvious at this time.

The next stage, planning, is probably more difficult to prepare because it requires a certain amount of insight to what actions will be done in the next few years to resolve some of the organisation's problems.

Not only is this an issue for management to contemplate, but some of the most practical and innovative solutions can be created by enlisting the assistance of less senior employees. In particular, those specialists who are doing the work, creating the expenses and seeing the inefficiencies, should they exist.

If given the time to participate in the business planning process, this wider group may provide better solutions than management alone. Having the opportunity to contribute to the future direction of the utility also builds commitment from these employees to see their suggested improvement come to reality.

Employee participation in business planning increases their willingness to accept responsibility and commitment to the changes identified as being necessary.

### *Planning*

Whether a broader sample of employees participate or the business planning be done by a small team of planners, a structure is needed to organise the creation of information.

Presentation of the information needed at the planning stage may follow this sequence;

1. Clarify the purpose, vision for the future and company objectives.
2. Create a work plan of activities, initiatives for improvement, targets and performance measures.

*Employee participation in business planning increases their willingness to accept responsibility and commitment to the changes identified as being necessary.*

*If objectives are formulated and communicated to employees in a way that is understood, then individuals will be more likely to contribute in moving towards the common objectives.*

3. Forecast revenues, operational and capital investment expenses contained in a budget.

The first item of the sequence is important because all employees need an understanding of what the organisation is trying to do, now and in the future. Otherwise, even with the best of intentions, different initiatives could be working against each other and cancelling out any individual benefits.

If objectives are formulated and communicated to employees in a way that is understood, then individuals will be more likely to contribute in moving towards the common objective.

### ***The Utility's Purpose***

“Defines the intention the collective group of employees are there to achieve. The organisation was formed or has evolved to provide this useful function.”

Normally an organisation defines its purpose only once, often in the formality of a charter. This generally defines;

1. Its customers or market,
2. Services or physical products provided,
3. Whether or not it is a non-profit making, a profit seeking or a charitable organisation.

Changes do occur but normally over longer periods.

### ***Example of a water utility purpose***

“For town N’s households and other users, this water utility supplies potable water treated to high standards without interruption, and collects and treats household and industrial wastewater to Government standards before discharging back to the river system in an efficient manner.”

### ***Enterprise Vision***

“An idea or concept of imaginative insight to the utility’s state of functioning some time in the future.”

Company visions are created sufficiently brief and vague to allow for flexibility over time. It is not common to change visions frequently since a utility’s direction is hopefully not changing that often.

### ***Example of a water utility vision***

**Clean water, clean nature - its our health**

*The vision describes the direction the utility wants to take in the future.*

### ***Utility Objectives***

“Expression for a single activity describing the object of effort or ambition to reach a destination.”

Objectives are tools which help realise concepts, promote the formation of priority activities, assisting to progress toward the enterprise’s vision of the future.

### ***Examples of a water utility’s objectives***

- Credibly provide good quality water to the customer.
- Clean waste water that does not harm nature.
- Having realistic expenses and revenues matching the customer’s willingness to pay and service requirements.
- Working diligently in order to reach greater effectiveness.
- To reach the Utility’s independence and customer’s belief in us.

Utility’s purpose, vision and objectives combine to describe the enterprise in different time frames.

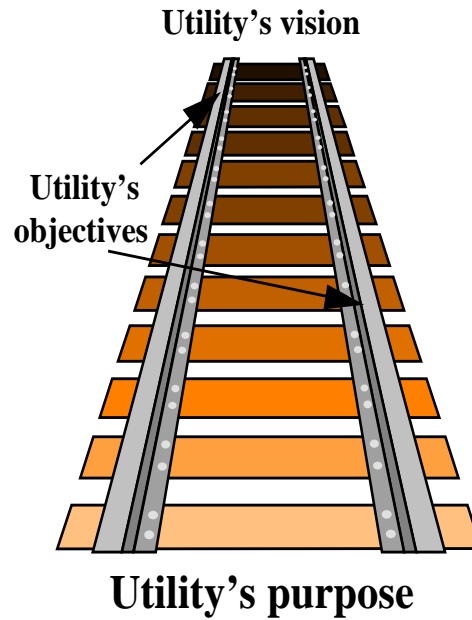
- The purpose reminds us why the utility was created in the past and why it presently exists.
- The vision describes the direction in which the enterprise is to evolve in future.
- The objectives define the intermediate steps we wish to reach to take us from the present toward the future.

The purpose, vision and objectives assist in communication between management and employees by providing a common set of ideas for establishing direction and testing the consistency of actions during the business planning process.

### **Purpose, vision, objectives - Tools and skills**

The relationships between the organisation’s (or utility’s) purpose, vision and objectives may be modelled as below.

*Objectives describe the intermediate steps needed to take it from the present and into the future.*



Consider the purpose as the point of origin or where you are today, the vision as the direction you wish to head to for the future, and the objectives as the guiding rails which take you from the situation you are in today to the future.



**Purpose, vision and objectives - Exercises**

1. How do you plan to organise the preparation of your business plan?  
(state which answer is closest to your thoughts)
  - o A) write it myself
  - o B) create a small group to write
  - o C) involve more employees and lead them with a small group

2. Reflecting on the choice you just made, how long are you prepared to wait for the business plan to be prepared? \_\_\_\_\_

3. In your own words define:

Purpose:

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Vision:

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Objective:

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4. Group work to create a purpose statement

Form into small groups of 5-7 people. Take one half hour to share views, discuss and to formulate some ideas for your group. You do not have to reach consensus but may stimulate each other's thinking. Answer these questions.

WHO is your customer? \_\_\_\_\_  
\_\_\_\_\_

WHAT are your products or services? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

WHY do you produce or sell your products or services to the customer?  
\_\_\_\_\_  
\_\_\_\_\_

WHICH need of the customer do you intend to satisfy?

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- 5 What perception of your utility do you want your customers to have 5 years from now?

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- 6 Try preparing a short statement to summarise this view of the future for your staff. \_\_\_\_\_

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**Purpose, vision, objectives - Key learning points**

- Employee participation in business planning increases their commitment to the changes identified as being necessary.
- If objectives are communicated in a way that employees understand, they can contribute in working towards common and clearly understood objectives.
- The purpose reminds us why the organisation was created in the past and why it presently exists.
- The vision describes the direction in which the organisation is to evolve in future.
- The objectives define the intermediate steps we wish to reach to take us from the present toward the future.
- During the business planning process, purpose, vision and objectives assist in communication between management and employees by providing a common set of ideas for establishing direction and testing consistency of actions.

## 1.2 Issues to consider when creating organisation’s objectives - Concepts and principles

Your Water Utility organisation is not operating in isolation from the rest of society but just the opposite, as a provider of an essential service, it is very dependant on all those who benefit from the water consumed. These various bodies may all be called “stakeholders”.

### *Stakeholders*

The term “stakeholder” describes people or organisations that have an interest in the company. The stakeholders include:

- customers,
- suppliers,
- staff,
- owners, such as the municipal or regional government
- creditors, organisations and people who have lent money to you
- the whole community.

For the water industry, the list of stakeholders also includes:

- regulators, that is the organisations that are responsible for monitoring the utility’s performance and enforcing standards.

Each stakeholder has a different interest in the utility. For example, the customers want a good quality water service at an affordable price and one they are willing to pay, while the owners may have invested money and want the company to be financially sustainable. This is the theory. In the exercises provided you can consider how it needs adapting to your own situation.

The job of the senior managers of the utility is to work out how to satisfy all the different stakeholders, as far as is possible. To communicate how to do this, organisation objectives are created. These may relate to;

- customer needs,
- finance,
- operational efficiency,
- staff development,
- community responsibilities.

*Different groups of people have an interest in the utility - they are called “stakeholders”.*

*Stakeholders may have different interests, they may be difficult to reconcile.*



*Where stakeholders' interests are not satisfied, the enterprise needs to be able to justify its position.*

The wishes of different stakeholders are likely to conflict; for example it may not be possible to pay staff an adequate salary and still provide services at a price that customers can afford. On the other hand, it may be possible to resolve some of these conflicts. Whether or not this is so, it will be important to listen and talk to the different stakeholders, so that at least the company's aims are understood.

### **Matching objectives to customer needs**

#### ***The customer is king***

Given a little encouragement, most people like to do their work well. This is good and important (so long as the work does not become an end in itself), so that what the customer really needs remains the objective. The danger is that we want the best or latest equipment, whether or not it contributes to achieving the organisation objectives.

#### ***Who are the customers?***

A Utility has several types of customer:

- Industrial and commercial
- Public institutions, such as hospitals, schools and government offices
- Domestic customers.

Domestic customers may be billed individually, or in groups through shared facilities such as standpipes.

#### ***New customers***

Developers of new residential areas may ask the utility to provide water services. Existing areas may ask to be connected to water supply or sewage systems. Small towns or outlying villages may ask their local utility to take over their water supply or sewerage system.

#### ***Communicating with customers***

The customers' impression of the service they receive may be derived more from the occasions when they have personal contact with the, than from the supply of water that they receive every day without having to think about it. It is therefore important that on these occasions, customers are treated courteously, and that their questions or complaints are answered promptly.

Keeping a record of contacts with customers is a valuable way of finding out what people think of your company and that may help you define future initiatives.

*The utility's response to customers' queries strongly influences their view of the utility.*

### ***What can the customers afford?***

Enough water for basic needs is a necessity, not a luxury. It is therefore important that basic necessities are provided at a price that customers can afford. Difficult decisions on prices may be required:

- What price level can be afforded by the great majority of your customers?
- Which groups of your customers may not be able to afford to pay?
- What action should you be taking to help these groups?

### **The Municipality or Regional Government's objectives for the Water Utility**

- The Municipality or Regional Government often owns and controls or regulates the water utility. Therefore its objectives for the utility are very important.
- The water utility is only one of many organisations and functions for which the Municipality or Regional Government is responsible. Therefore their staff are under pressure from other sources, and may only be able to give the utility limited time and attention.
- There are basic rules for the relationship between the regulator and the regulated utility, which give the regulator overall control, but allow the utility the freedom to manage its own affairs. These are best defined in a detailed Service and Supply Agreement between the Municipality or Regional Government and the utility.

### **Financial objectives and efficiency**

- In the past, the main financial objective of the utility has been to cover its operating and maintenance costs, whilst investment has often been funded by state grants or funding agency credits.
- The Government and Regional Governments wish the water utilities to become increasingly self-financing, and do not intend to continue indefinitely to provide grants from state budgets.
- If public institutions are not paying for water and sewerage services, utilities are in effect now providing subsidies. Whether this is an appropriate role for a utility is a question to be considered carefully. If it is decided that it is, then the utility should be in a position to argue for recompense for the subsidy that it provides.
- The timing and scope of investment projects may be limited by what customers can afford or be willing to pay for connecting to the service. .

*The quality of the relationship between the municipality and the utility is dependent upon understanding each others perspective.*

*The water utilities are in a difficult position - being expected to move towards full cost recovery at a time of increasing pressure for additional investment*

*As tariffs rise the utility is likely to be asked more searching questions about its efficiency.*

- Improvements in operating efficiency are always possible. When prices rise, the public is likely to press for reduced unit operating costs, to keep price rises to a minimum.

### **Objectives for staff**

- It is a truism that the staff are vital to the running of an organisation. Nothing would happen without them. Yet there are many examples of organisations that have suffered through neglect of their staff, as well as others of companies that have succeeded in difficult circumstances because of their well motivated staff. Sometimes the obvious things are ignored.
- Therefore it is worth investing in initiatives that will improve staff skills and motivation.
- Staff motivation is a big subject, beyond the scope of this manual. However, the better that staff understand and identify with the organisation's objectives, the better motivated they will be to work well.
- Staff are as much worth investment as the utility's other assets.

*Staff skills and attitudes are vital to achieving the utility's objectives. Good managers develop the skills and attitudes required.*

### Issues to consider when creating objectives - Tools and skills

#### *Understanding the stakeholders' interests*

This table indicates some of the interests of the stakeholders in the utility may have. More detailed information is provided in Chapter 2.

Stakeholder	Stakeholder's interests
Customers	Good service at an affordable price
Suppliers	Having customers who pay their bills
Staff	Adequate pay Good working conditions Job security Training
Shareholders	Stable profits and returns year after year
Creditors	Repayment of loan
Grant givers	Financial independence Good use of grant Transparency and good management controls
Local community	Unpolluted environment Conservation of water resources
Regulators Municipality Government Public Health Authority	Good affordable service Limits on the abstraction of water Treated sewage and sludge standards Water quality standards

Here are some examples of statements of objectives including customer contacts and new customers. They have been worded very carefully, to avoid misunderstandings!

#### *Quality*

“The quality of water for domestic purposes is controlled by Regulations ... They cover the chemical and bacterial quality of the water and also its acceptability - colour, turbidity, smell and taste.

We must supply water that at least complies with the Regulations. We must sample and test the water regularly, and maintain records of these tests for each water supply zone. These records are available for inspection by the public, free of charge, at our district offices.

If you have a complaint about the quality of your drinking water, please contact ... (telephone number given).”

#### *Interruptions*

“While we work to provide a constant supply of water, some events will inevitably interrupt the flow. For example bursts in mains and failures of pumps or their electricity supply. If there is a problem, contact our local district office immediately.

*Utilities need policies which identify its response to customers requests, e.g. making a new connection.*

If our supply fails, we must by law restore it as soon as possible. Our target is to do so in less than 12 hours. If the interruption lasts longer than 24 hours, we must provide you with an emergency supply.

If we plan to interrupt your supply to do planned maintenance work, we must give you reasonable written notice. We aim to tell you 48 hours beforehand...”

***What to do if you have a problem***

“Our aim is to provide a good service, so please get in touch with us as soon as something goes wrong, or if you simply need more information.

- If it is about your bill, please contact our Customer Accounting Centre (telephone number ....)
- For any other operational problems, such as discoloured water or interruptions in supply, contact our district office (telephone number ....)”

***An ideal regulator - regulated company relationship***

<b>The regulator’s roles</b>	<b>The regulated company’s role</b>
Set standards	Provide reliable services both efficiently and to the standards required
Set limits to prices that are fair to customers and the company	
Monitor the company’s performance against the standards	
Provide a stable framework for regulation, that rewards good management	

*The regulator should seek to establish a stable and fair framework. The regulated company seeks to provide an efficient, high quality service.*

The regulator’s task can be as complex as that of the company, and requires a good understanding of the company’s business.

**Issues to consider when creating utility objectives - Exercises**

1. Look at the stakeholders table in “Tools and Skills”. Do you think it represents your utility’s situation adequately? Adapt the table in “tools and skills” above so that it applies to your utility.

Type of stakeholder	Description	Interests

2. What are the most important conflicts of interest between stakeholders? How might they be resolved? What would you say to the people concerned?

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3. Identify the people in your utility who you would like to include in a group to define your objectives.

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4. Contact with customers:

- What record of customer contacts does your utility keep?

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- Who is responsible for receiving calls and replying to customers?

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- What impression of the utility do you think customers receive through these contacts?

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- Generally, what opinions do you think your customers have of your utility?

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6. Briefly describe the area for which your utility provides water service (and sanitation services if relevant). For example, is it a town or region which includes villages in a largely rural area? How large is the area and what is the population density?

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7. How is your utility organised? Is it part of a national or regional government department or does it operate as an independent entity?

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8. Who are the key people in the Municipality that controls your utility? What are their attitudes to your utility? Why?

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9. Draft an agreement on roles and responsibilities between your utility and the Municipality.

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10. How would you persuade the people that you identified in exercise 1 to sign this agreement?

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11. Given your utility's current financial state, what do you think are demanding but achievable financial objectives for the next 3 years?

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12. What are the major items in your utility's annual costs? What scope do you think there is for reducing any of these?

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13. Do you believe that the number of staff could be reduced without affecting the utility's work badly? If you do, how would you feel about doing this in the present economic situation in your country?

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14. How well motivated do you think your utility's staff are? If there are problems, what are the causes? What can be done to improve matters?

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15. How would you describe the way in which your utility is managed? What do you think are the advantages and disadvantages of this style?

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16. Devise a staff training programme for your utility. Who would you ask to organise such a programme?

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17. Write down your proposals for staff related utility objectives.

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### **Issues to consider when creating objectives - Key learning points**

- Different groups of people have an interest in a water utility. They are called stakeholders.
- Each stakeholder has different interests. Some of their interests may be difficult to reconcile.
- The utility's objectives should satisfy the stakeholders as far as possible. Where this is not possible, the utility's position needs to be thought through and explained clearly.
- The utility's response to customers 'phone calls and letters influences their attitude strongly.
- A utility policy in responding to requests from potential new customers is needed.
- The quality of the relationship between the regulators and owners such as regional or municipal government and the regulated utility depends on each understanding its roles.
- The regulator should seek to establish a stable and fair framework. The regulated utility seeks to provide an efficient, high quality service.
- Water utilities are in a difficult situation, being expected to move towards being self-financing but at the same time experiencing falling incomes.
- As their prices rise, water utilities are likely to be asked more searching questions about their efficiency.
- Staff skills and attitudes are vital to the utility's achieving its objectives. They deserve serious attention by management.

## Setting objectives – thinking about future priorities

<i>Group of people</i>	<i>Possible objective</i>
Households who live in streets where water mains have already been laid	Encourage households to connect to the main (if the water resource is adequate). <sup>1</sup>
Households who live elsewhere in the utility's area of responsibility	Ensure that all are within easy walking distance (to be defined) of an adequate supply of safe and affordable water. <sup>2</sup>
Unofficial (illegal?) settlements	
Financial	Short term (how quickly?) – revenue should cover operating costs Long term (when exactly?) – revenue should cover all costs including interest payments, depreciation...
Sanitation	Keep those responsible for sanitation informed of plans for water supply improvements. <sup>3</sup>
Health education	Does the utility have any responsibility for health education?

Note 1. This will tend to increase income at little cost to the company, unless the utility's water resources are not sufficient.

Note 2. Through public water points, laying mains, or otherwise.

Note 3. Sooner or later improved water supplies will mean that wastewater disposal must also be improved.

### Customers

The households' perspective or view of connecting to a water main needs to be considered carefully. We didn't have time to discuss this at length, but an impression was left that utilities may be relying on opinion and hope, rather than fact and experience.

- What recent experience is there of households connecting to mains? Has experience in different companies been brought together?
- Does this indicate the proportion of households that should be assumed will connect when new mains are laid?
- What experience is there of offering households staged or reduced payments, to encourage connection?
- Given what is known about the people who live in different parts of the town, and their household incomes, could they afford to pay the full cost of a connection all at once?

### Investment

Which is more important?

- a) To ensure that all who live in the town have access to a safe and affordable water supply, or
  - b) To extend private connections to customers who ask for them.
- Perhaps b) should be followed as long as it does not jeopardise a)?

To keep the financial risk to a minimum, utilities could consider:

- encouraging households that are near existing mains, but not yet connected, to connect,
- making a small extension to the system of mains and waiting to see how many households choose to connect.

Guidelines for Preparing a Business Plan  
Section 1 – Objectives of the Water Utility

## **2 EXTERNAL ISSUES IMPACTING THE WATER UTILITY**

### **Overall objective**

To introduce the external issues which may impact on the business planning of water utility organisations.

### **Units**

- 2.1 The National Government
- 2.2 Regional and Municipal Government
- 2.3 Consumers
- 2.4 Suppliers
- 2.5 Health and Environmental Regulators
- 2.6 Media, such as the radio, television, newspapers
- 2.7 Pressure Groups
- 2.8 Financiers

*Pressures on water and wastewater services are complex, inter-dependent and profound*

## **External Pressures Impacting the Water Utility**

The external pressures on a water service utility can be complex, often inter-dependent, and may have profound implications for the organisation's activities. External pressures arise from the activities and aspirations of a wide range of bodies. These may include:

- The National Government;
- Regional and Municipal Government;
- Consumers;
- Suppliers of raw materials and technology
- Health and Environmental Regulators
- Media, such as the radio, television, newspapers
- Pressure groups;
- Financiers.
- Other more informal or traditional social influences, such as religious and community based organisations

The external pressures arising from these bodies and their impact on the water utility may vary considerably with time. They may also vary from one element of a body to another. For example, within the National Government the Ministries of Health, Agriculture, Industry, Economics and the Environment may all exert pressures on the water utility to serve their own, often conflicting, requirements. Similarly, a pressure exerted by one body (the consumer), may be amplified by another (the media) and acted upon by yet another (the National Government). The inter-relationship between the various external bodies is therefore of considerable interest to the water utility.

*Water utilities need to work within a highly political context. Planning must take account of the obvious pressures, but also the informal cultural circumstances*

External influences can often be those that are not directly obvious, such as local political influences from the municipality or regional government. But equally important in many countries and regions are the "informal" influences of organisations such as the religious leaders and group which are likely to have a profound impact on the perceptions and views of the members of the community. In Harar, for example, the Water Board includes two of the most important religious leaders as members. The benefits of this are that these leaders can fully participate in the decisions, direction and future planning of water services, and they are important for the utility in providing a mechanism to enhance communication with the community, particularly say at times of water shortages to mobilise community action to save water and to bring water in for the most vulnerable people in the community.

*Understanding external pressures is not about controlling them, but more about influencing them*

The following sections do not consider these informal mechanisms in detail, but the important issue is that for each town and utility there may be important local community leaders and it is essential that consideration is made on the practical ways in which they can be participate in the future planning of water services.

Although external pressures are often beyond the water utility's immediate control, there are a number of steps that it can take to anticipate and influence future developments. This may include, for example, ensuring that the water utility is consulted on draft legislation that may impact its operations or that consumer concern is identified and addressed before the media identifies it as a 'newsworthy' story.

The key to dealing with the external pressures is the identification of the:

- nature of the relationship between the external body and the water utility.
- the pressure on the water utility that the relationship may give rise to: and
- the response strategy by which the water utility can react to the pressure.

A business plan is the ideal way of formulating these requirements.



## 2.1 National Government

### What is the nature of the relationship?

National Government defines the overall political, economic, operational and environmental framework within which the utilities and the municipalities operate. The external effects of National Governments result because they draft and implement legislation which governs the activities and organisation of water and sanitation service providers. For example, on drinking water standards and coverage and also over issues such as tariff setting and land use planning.

### What pressures may the relationship give rise to?

The National Government should not be seen as a single entity but rather as a collection of, often loosely, associated bodies, that may have their own goals, not all of which may be compatible. For example, the Industry and Agriculture Ministries may seek to promote the economic well being of their constituencies in a manner that is incompatible with the aspirations of other Ministries such as Health and the Ministry of Water Resources. Similarly the Financial Ministry may seek to restrict increases in tariffs at the same time that the Ministry of Water Resources is seeking to impose tighter controls on discharges with consequent requirements for the utility to raise new capital. All of these requirements are likely to impact on the water utility in some form or other. The water utility can often find itself caught up in these problems and needs to be aware of the potential conflicts that may arise and how they may impact its operations.

### How may the pressures be addressed?

The external pressures exerted by National Government are best addressed by the water utility by the early identification of measures that may affect the utility and then the development of an effective strategy to ensure that the utility's views are communicated to those developing the measure. The situation on a national level is clouded to a considerable extent by the sheer number of bodies developing measures that may affect the water utility. For example, the Ministry of the Environment may seek to introduce new stringent discharge standards, the Ministry of Health may want to introduce new drinking water standards, the Ministry of Agriculture may want to introduce a new pesticide to boost production, the Ministry of Industry may want the water enterprise to accept a particularly hazardous effluent and the Ministry of Economics may wish to see tariffs reduced. All these developments may be occurring at the same time and all are likely to have an influence on each other. For the water utility to cope with such a complex array of developments on its own would be extremely difficult. Instead it would probably benefit the water utility to belong to a national association, which has the technical and lobbying skills to communicate complex issues to those developing the measures.

*National Government is not a single entity, but a collection of different legislative and regulatory bodies*

*At national level municipal water utilities will benefit from being part of a national association to represent their views and concerns*

*For most water and wastewater utilities local or municipal government represents the main day-to-day political relationship*

*Good information and good communication is the key to establishing and maintaining a relationship based on trust and openness. Business planning plays a key part in achieving this.*

## **2.2 Local or Regional Government**

### **What is the nature of the relationship?**

Although the National Government defines the legal framework in which the water utility operates, on a day-to-day basis the utility will interact to a much greater extent with regional and local government. More often than not local government will oversee the general operation of the water utility and perhaps most importantly set the tariffs it can charge consumers.

### **What pressures may the relationship give rise to?**

The main pressure local government can exert on the water utility relates to tariff setting. The water utility requires the funds raised by the tariff to cover the costs of its day-to-day operations as well as its long term investment plans. If the funds raised by the tariff are inadequate for the utility to cover its costs then its performance will suffer. The quality of service provision will decrease with the result that consumer satisfaction will also reduce. At this stage it may be expected that consumers would be ready to agree to an increase in the tariffs they pay to fund an improvement in service quality. Instead, however, they will often increasingly resent the tariff they presently pay and prove ever more obstructive to an increase to fund improvements.

The health and environmental performance of the water utility will also suffer when funding is not adequate to implement its long term investment plan. This is likely to result in the deterioration in the relationship between the water utility and the health and environmental regulator. As this relationship breaks down, the regulator is likely to seek further information on the performance of the utility, invariably with the result that further fault is found and further inspection required. As more faults are found, the regulator is likely to require the development of improvement plans which will need additional funding, placing further pressure on the limited resources of the water utility.

### **How may the pressures be addressed?**

The key to avoiding excessive pressure from local government, particularly with respect to funding, is the provision of good quality information that ensures they are fully briefed on the problems faced by the water utility and the consequent level of tariff that needs to be levied.

If it is highly likely that the water utility will have to implement a costly improvement programme with a consequent requirement for significant tariff increases, the water utility should be aware that the imposition of such large increases are likely to place considerable political pressure on the local government. Thus the utility needs to ensure that the local government is fully briefed on why the tariff increase is required so that it can brief the consumers (the electorate) on the requirements.

The water utility should also develop good formal and informal links with the local government. This should allow it to anticipate the problems the local government may face in implementing tariff increases at particular times (prior

to elections). In turn it allows the utility to brief the local government on potential future problems that it may face and ensure that plans are made to address them well in advance of them occurring.

Within Ethiopia the important role of the Regional Bureaus for Water needs to be fully understood and the impact of their policies on the management and future planning needs to be clarified. Such impacts may result for the Bureau's policies to restrict abstractions in the regions ground-waters and this may have a direct consequence for the ability of the water utility to further expand water services and raise consumption levels in the community. In addition the Bureaus may lack enforcement powers to prevent illegal drilling of boreholes by private industries seeking to escape higher tariffs, and this will impact the way in which the water utility sets prices for industries.

In some case the Regional Government bureaus, such as for Water, for Finance and for Health will be represented on the Water Boards and this seems to be particularly important for the utility if it is to have a good relationship with the regional level organisations.

In the larger towns it is likely that the municipality or Worreda government entities will have the greater impact on the management of water services. Likely impacts could relate to the municipality's social or housing policies. For example the municipalities are largely engaged in developing new housing areas and these will generate opportunities of new connections for water services. Where the utility and the municipality can work together in identifying areas for housing development and network expansion then significant benefits can be achieved in terms of promoting connections and achieving cost savings. A good example of a utility and municipality partnership on expansion exists in Mekelle in northern Ethiopia. Here the utility works with the town's community housing development programme to connect new households, with the town and the housing community organisation paying toward the costs of the network expansion. The future thinking for the utility here would include a scenario in which, for example the town's budget was no longer able to fund its share of these costs if local financial pressure meant that the town had to make cost savings. Because relationship works well today and does not mean they will always work well. Planning for the future also includes planning for or anticipating unexpected setbacks or changes in external relationships, and given the importance of municipality and regional government relationships any change could have major and profound impacts on the utility.



## 2.3 Consumers

Consumers may be domestic, industrial or agricultural users of the water utility's services. They are the fundamental reason for the existence of the utility and provide a significant proportion of the funds needed to support its operations. Chapter 3 of this manual deals with the issues of customers in greater detail.

### What is the nature of the relationship?

In general all consumers all tend to have the same aspirations, low tariffs and high quality services.

### What pressures may the relationship give rise to?

The inter-relationship between the consumer and the utility is complex. When the relationship is going well there may be little or no contact between the two parties, other than the issuing and payment of bills. However, when the relationship breaks down it can cause the utility immense difficulties.

Consumer discontent usually manifests itself first as a series of individual complaints about a specific problem. This could include problems with water shortages or the location or condition of public taps and shared facilities. At a certain level of complaint the media, pressure groups or the municipality usually picks up on the problem and amplifies it. Consumers in other areas hear of the problem through a particular newspaper, for example, and will circumvent the utility and report the problem directly to the media. Eventually a problem may reach such an intensity that other external forces (for example the municipality, regulators and even the national government) may decide to act.

Another major factor is the relationship between the utility and potential consumers; that is portions of the population in the area of the water utility but not yet supplied. Often this is the result of poor pressure in the existing system and a lack of investment in extensions of the current system to cover new population areas. These potential consumers are equally important to the water utility that has a statutory requirement to be a universal supplier of water services.

A breakdown in the relationship with the consumer can cause the utility both short and long-term problems. For example, in the longer term the utility may be dependent on consumer co-operation to reduce demand at times of water shortage. When this relationship breaks down, it becomes harder to obtain the co-operation of the consumer. Without co-operation the utility may find itself having to impose restrictions on the consumer, for example suspending water supplies for certain parts of the day. The imposition of such a solution can further weaken the relationship and the utility's relationship with its consumers can find itself in a vicious downward spiral that is extremely difficult to break.

The relationship is further complicated by the frequent perception in many places that water should be 'free' to all. The consumer often has little understanding of the costs associated with the provision of water and sanitation

*Consumers are the customers of your services. They pay for your service and demand value for money and improvement*

*It is important to think about future customers. A water utility's customers are not just those that you currently supply*

*The utility can take a threefold approach to influencing the behaviour of the consumer*

services. Many imagine that rainfall arrives at their premises by itself and that similarly it cleanses itself prior to its return to the environment.

Future trends in consumer's operations (particularly industry and agriculture) may also have a major influence on the water utility. For example, in times of falling output the demand for the water utility's services is likely to decrease, with a resultant reduction in the funds it can raise. Conversely at times of increasing demand the water utility may need to provide new capacity.

### **How may the pressures be addressed?**

Because the relationship between the utility and the consumer is so complex, it requires active management at all times. The utility can take a threefold approach to influencing the behaviour of the consumer, by:

1. On-going education programmes. For example, by sending consumers, along with their bills, a breakdown of the costs associated with water services and how, for the average family, they compare with other daily costs such as running a car.
2. Operating an efficient customer complaint and feedback service. This should respond quickly and effectively to all complaints. It should enable managers to identify more widespread problems at an early stage and allow them to develop strategies to addressing the problem well before it generates more than local interest.
3. In many countries it is a national requirement for consumer representatives to be on Boards of water utilities. Whilst in other countries, water utilities have developed customer service committees. These committees consist of consumer and utility representatives and are used to discuss consumer concerns and how they may be addressed.

In addition, the water utility needs to develop a strategy for anticipating trends in its consumer's requirements. For example, by identifying likely future industrial and agricultural output.

## 2.4 Suppliers, Contractors and Consultants

### What is the nature of the relationship?

The water utility may depend on its suppliers for the routine provision of raw materials, for example treatment chemicals, services such as electricity as well as larger scale infrastructure projects.

In addition, suppliers are constantly providing the water utilities with proposals for new equipment and services.

### What pressures may the relationship give rise to?

Suppliers can be the main source of the water utility's costs. Future increases in costs for raw materials, electricity and construction projects will all increase the water utility's costs.

If the water utility selects its new equipment and services correctly it can make significant savings and greatly improve its efficiency. Conversely poor selection of suppliers can result in rapidly escalating costs and poor quality of services.

### How may the pressures be addressed?

The water utility should provide suppliers with sufficient information to encourage them to develop products and services that can address the utility's future needs but without compromising the commercial confidence that allows it to obtain the most competitive price.

In addition, the water utility should identify its future equipment and service needs and estimate their potential costs. It should also develop a robust mechanism for assessing supplier's proposals to ensure that costs are minimised whilst technical quality is maximised.

It may also be possible for smaller water utilities to co-operate and work together to identify common supply requirements. If this is done, then maybe better purchasing and procurement mechanisms may be used to help bring prices down, and make the handling of supplier relationships be more cost-effective. This may also help suppliers to better plan orders, stock or deliveries, which will be beneficial to them as well.

*Suppliers can be the main source of the water utility's costs. Future increases in costs for raw materials, electricity and construction projects will all increase the water utility's costs.*

## 2.5 Regulators (Health, Hygiene and Environmental)

### What is the nature of the relationship?

Legislation relating to the protection of health and the environment is generally adopted by the National Government and its day-to-day implementation undertaken through regional or local offices. Thus, although the health and environmental standards that are applied to the water utility's activities, particularly drinking water and discharges from its waste water treatment plants, are usually covered by standards developed on a national or even international level, the manner in which these standards are applied and enforced will be very much dependent on the policy of the regulatory authorities.

### What pressures may the relationship give rise to?

When a water utility is going through a period of large-scale investment it may be that it can for at least a period of time fail relevant standards. In certain instances the water utility will have a derogation from the national government allowing it to breach these standards for a fixed period of time. However, in other instances it is likely that the local regulator may have grounds for prosecuting the water utility. Prosecutions can be very expensive, and may result in the regulator demanding the implementation of costly improvement programmes. They can also cause the water utility tremendous problems with its public relations. They can act as the focus for the development of adverse publicity which in turn have a negative impact on the consumer and community groups.

The health and environment regulators could also levy local taxes on the water utility associated with its water abstractions and wastewater discharges. The water utility needs to anticipate how these levies may increase in the future.

### How may the pressures be addressed?

The relationship of the water utility with regulators is thus very important. By developing good formal and informal links with the local regulator, the water utility can avoid many potential problems. It can ensure that the regulator is fully aware of all the problems it faces, including those relating to service provision, and the plans it has drawn up to address them. Similarly the water utility can identify the problems faced by the regulator.

*By developing good formal and informal links with the local regulator, the water utility can avoid many potential problems*



## **2.6 Media (for example radio, television and newspapers)**

### **What is the nature of the relationship?**

It is understood that the relevance of media influence and pressure on water utilities will vary from country to country and region to region. Yet with increased public participation and involvement this is a pressure that is likely to grow. Much of what was said relating to the consumer applies equally to the media. For many consumers the media will be the only source of information on the water utility's activities. The media can thus be a tremendous source of support, ensuring that the public understand the need for increased tariffs to pay for improved services and environmental protection. Similarly during emergencies the media can provide both re-assurance and inform the public of specific measures to take. For example, advising consumers to boil drinking and cooking water for 24 hours after an incident.

### **What pressures may the relationship give rise to?**

As with the consumer, there will be little media interest in the utility when things are going well. However, when a problem manifests itself the media will consider it for its potential impact. It is possible that the problem will arise at a time when the media has many other issues to occupy itself. For example, national and international disasters. But if the problem is of major concern, for example a major pollution incident that may have health implications for many thousands of consumers, or occurs at a time when there is little news around, then the media may be very much more interested. Moreover, once the utility has been subject to a number of major stories, any further problems immediately become 'newsworthy', whatever their actual importance.

### **How may the pressures be addressed?**

The best approach to dealing with the media is to be open with them from the beginning. Spell out the magnitude of the problems facing the utility. For example, how under investment in the past has left significant problems that will only be solved by the expenditure of large amounts of money over many years. Invite the local media to view treatment facilities. Provide them with "information packs" explaining how water is collected, treated and supplied to the consumer and the associated costs. Together with information on the benefits of the water utility's services for human health, industrial/agricultural production and environmental protection.

*With increased public participation and involvement pressures from the media are likely to grow. The best approach is to be open with them from the beginning*

## **2.7 Pressure groups (such as NGOs)**

### **What is the nature of the relationship?**

The relationship of the water utility with pressure groups can be complex. Both Pressure groups may be organised on a local, regional or national basis. Some will focus their activities entirely on the activities of the water utility and are usually those that seek to protect the consumer. Others will concentrate on the entire water sector, again usually those seeking to promote consumer protection. Further complexity is caused by the nature of the pressure groups. Some will be single-issue groups with little financial backing or media exposure. Others, particularly international or national environmental groups, may be well organised, well financed and have good links to the media and government.

The role of pressure groups may not be such an important influence at the moment, but as the expectations for improving service increases either as a result of promises from the government and utility, accompanied by some increases in tariffs, the role of pressure groups is likely to increase. This increase will almost certainly come if the utility decides to establish relationships with private sector companies.

### **What pressures may the relationship give rise to?**

Pressure groups can have good access to decision makers in government and regulatory bodies. And they seek to influence by using the media to generate sufficient public concern that decision makers are forced to act. In a few instances the water utility can provide the pressure group with sufficient reassurance that action is pre-empted. This may particularly be the case with single-issue pressure groups that focus on the water utility's activities. Members of such pressure groups should be provided with as much detail as possible, either through briefings or tours of the water utility's facilities.

### **How may the pressures be addressed?**

In some situations the water utility must "compete" with the pressure group for favourable consumer and media attention. If the consumers and media already have a poor view of the water utility it is far more likely to provide the pressure group with good exposure. The water utility can thus anticipate many of the potential problems that pressure groups can cause by developing and maintaining good links with the media. Above all the utility must engage with the media in an honest and constructive manner.

*The water utility can thus anticipate many of the potential problems that pressure groups can cause by developing and maintaining good links with all its stakeholders.*

## 2.8 Financiers

### What is the nature of the relationship?

The water utility may need to raise external finance to meet the costs of its investment programmes. In addition to raising this finance themselves, this may also be done on behalf of the water utility by the local municipality or regional government.

Sometimes these funds from the government are derived from international funding sources, such as the World Bank. These international finance institutions will impose conditions on the government for their loans on grant funding, which will be reflected in the way government disburses finance to the water utilities.

### What pressures may the relationship give rise to?

At a time when the water utilities are facing the need to implement large-scale investment programmes and consumers are increasingly reluctant to pay ever larger tariffs, the availability of external finance for the utility is very important. This external finance may be in the form of loans from local entities or from external funding agencies. However, external finance costs can be high and can come with conditions attached.

It is important to understand what these conditions will be; some will be financial but others will also be institutional and technical conditions (such as procurement rules or only providing support to financially autonomous organisations)

### How may the pressures be addressed?

In ensuring that it obtains the lowest cost and most flexible financing, the water utility will need to provide the municipality and the external financier with comprehensive projections of its future costs and income.

This can most usefully be achieved by using a comprehensive business plan.

*A business plan is the best way for a water utility to have a relationship with potential investors or suppliers of loans.*

**External pressures on water utilities - Exercise and Business Plan Input**

1. Which are the main external pressures that currently affect your utility?

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2. How do you address these existing pressures?

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3. What are the main external pressures that are likely to impact your activities in the future?

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4. How do you intend to address these future issues?

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### **3 RELATIONSHIPS WITH CUSTOMERS - MARKET CHARACTERISTICS**

#### **Overall objective**

To introduce some of the local factors to be taken account of in preparing a business plan.

#### **Units**

- 3.1 Customers and the Water Utility
- 3.2 Relationship with municipally owned institutions
- 3.3 Tariffs and affordability
- 3.4 Special factors, e.g. tourism, new connections
- 3.5 Business Plan Input: Customers and Water Users

### 3.1 Customers And The Water Utility

This section outlines the key issues and main areas for focus in understanding the expectations of customers and the support systems and infrastructure required to manage customer relationships in a water utility. The section restricts itself to the concept of customer and supplier at a straightforward level as this is the most appropriate model to use in this instance. As an organisation develops, so its understanding of the full network of relationships becomes more sophisticated and more complex strategies need to be developed. This added complexity is ignored at this stage and can be elaborated at a later date. Only the specific case of a water utility ('the service provider') and its customers is considered.

#### *What is a customer?*

A customer is anyone who receives or should receive a supply service from the utility or its agents. From an operational point of view, these tend to be split into water supply and wastewater treatment. However, customers focus mainly on the water supply as this is the most tangible evidence of what the supplier does, even though in the context of water and sanitation suppliers it can usually account for less than half the charges levied.

#### *Why are customers important?*

Customers and the customer relationship are vital to the supplier for two main reasons:

- **Revenue** - Customers provide the revenue to pay for operational costs and capital investments (either directly or via taxation). Where modernisation of the infrastructure is required there is often a requirement to increase revenues, either directly from customers or indirectly via taxation. In either case, the increased costs to the customer will make them increasingly aware of the efficiency of the suppliers and the quality of the service provided. If customers are unhappy they can make demands on the supplier in terms of complaints and political pressure. If customers are unhappy they may resist the higher charges and thereby reduce revenues to the supplier.
- **Costs** - Customer expectations and behaviour determine the level of service provided and the costs of providing that service. For example, if customers waste water this means that the infrastructure investment is unnecessarily high and resources are wasted. If customers pollute the sewer then the costs of treating the waste water will be unnecessarily high and there can also be an environmental impact which, in turn, costs money to resolve.

Customer communication is vital therefore if the supplier is to make efficient use of its investment funds and if it is to have a stable cash flow to operate its facilities

*Customers and the customer relationship are important for two main reasons – REVENUE and COSTS*

### *What are the different types and characteristics of customers?*

We define three basic types of customer. These are:

- **Domestic customers** - basically houses etc., but also including other premises which use water solely for domestic purposes, e.g. small shops, cafés, workshops, etc.
- **Large User such as Government and Commercial customers** - this group uses water mainly for domestic purposes but have large-scale requirement, e.g. public institutions (schools, hospitals, government buildings etc), office blocks, department stores, restaurants, universities, etc. They are, however, major users and their consumption patterns are of critical importance, say during periods of or anticipated water shortage.
- **Industrial customers** - this group uses water as part of a process and often discharge a trade effluent which is monitored and charged for on a different basis to domestic and commercial customers. Water use by industrial customers can be a critical element of their production processes, such as in brewing or textile manufacturing, and reliability of supply and consistent quality would be of special importance.

These groups of customers will have different needs and expectations from the supplier based loosely on the importance of the service to them and the amount of money they pay. Large industrial customers can often exert significant financial and political pressure if they are not happy with the service provided. Domestic customers, whilst paying substantially less, can also exert financial and political pressure on the supplier.

The other factor that distinguishes different customer groups is the operational impact that their behaviour can have, such as wasting water or causing pollution. The scale of impact is determined by the size of customer and the nature of their activity.

Within these broad headings there are other categories, which might influence customers expectations and the services provided. For example, customers with special needs such as a disability or special health requirements. These could be adversely affected if water supplies were interrupted. Government, commercial and industrial customers are also categorised according to the impact of interruptions or other changes to the service provided. These sub-classifications influence how you communicate with customers on service issues to ensure an appropriate level of advance warning of changes.

### *Data gathering*

At its simplest level, utilities hold data on who receives the service and who pays the bill. For domestic and small commercial customers there is normally a single water supply to a single address. Details of the service provided are held, the charges made and the amount paid. Also, copies of correspondence from each customer need to be held so that there is a record of issues/problems in the past and how they were resolved.

*The scale of impact on the utility from different customers is determined by their size, nature of activity and influence with other stakeholders*

*Getting information about your customers is the best start to the business planning process*



For government and office based commercial customers the same basic information is held but is often more complex if there are a number of supply points. Bringing the various sets of data to consolidate an account for each customer adds a level of complexity to managing the data.

Industrial customers are perhaps the most complex group, especially if they have process wastewater. In these cases each industrial customer may have a 'permit', which clearly states what the customer can discharge to the sewer. The permit includes volume and constituent limits based on the capacity of the sewage works to handle the effluent and the suitability of the subsequent watercourse to take the final effluent. Regular laboratory analysis ensures that customers remain within their permit and is used as the basis for billing.

### ***Customer perceptions***

"Customers" include existing customers and potential customers. The perceptions of future customers are as important as those of customers currently served by the utility. Future "new" customers are part of the town utility's community and they also represent future "payers" of your supply services.

Customer perceptions are very important for the reasons already described and operate on two basic levels:

- Perception of the service provided. Is the water safe to drink? Are the charges reasonable? Are the water utility staff polite and helpful? etc.;
- Perception of the supplier. Is the company well run? Does it make efficient use of investment? Is it environmentally responsible?

These two sets of perceptions combined determine the customers' attitude towards the supplier and will directly impact on the financial and political environment in which the supplier operates.

At its most basic level customers must trust the supplier and have confidence in the services it provides and the staff it employs. If this is the case, the supplier will be able to deploy its resource in the most efficient manner.

### ***Measuring customer perceptions***

It is important to understand customers' perceptions and to track them over time to ensure that the supplier is meeting its customers' expectations. This can be done in both pro-active and passive ways:

- Pro-active measurement includes market research, focus groups (small discussion groups) and face-to-face interviews with major customers;
- Passive monitoring includes recording customer contacts, recording complaints and talking to customer-facing staff.

Continually monitoring customers' perceptions will enable the supplier to invest its resources in ways likely to bring most benefit to its customers.

*The perceptions of future customers are as important as those of customers currently served by the utility.*

*Important to track customer perceptions over time.*

### *Strategy for managing customers*

The commercial, social and political environment is changing constantly and these changes have a direct impact on customers' beliefs, values and expectations. If we are to embark on a long term strategy of improving and developing the water services and the environment it is important that we have the trust and support of our customers and all the other stakeholders (investors, politicians, environmental pressure groups, funding agencies, etc.). It is only by convincing these groups that the plans are right and that the supplier can deliver them, that the long term investment funds and political support will be made available.

This is especially important with something as fundamental to life and the environment as water and where substantial changes and investments may be required.

It is important to realise that customer expectations are, to a large extent, outside our control. Customers are increasingly exposed to customer-service influences from other areas, such as consumer products, financial services, TV and other media and political parties. All these influences are constantly developing and fine-tuning the way they relate to their customers and audience.

This external experience likely to determine customer expectations of the water supplier. They expect the same service as from every other supplier in their lives and if they do not believe they get it, they will be dissatisfied. On a large scale, this can have damaging effects on the supplier.

So we cannot stand still and be complacent; we need a strategy for managing our customers and potential new customers.

For current customers:

- What do they expect?
- Can we provide it?
- How much do they understand about our services?
- What more do they need to understand?

For potential new customers:

- How do they get water now?
- Why should they want to change to our supply? (price? quality? reliability?)
- What are the obstacles on their side that present this?

The strategy needs to further consider the following:

- What can we afford to do?
- What are we capable of doing?
- How long will it take?

*Utilities cannot be complacent about customer attitudes and expectations – a strategy is needed to manage customers*

- How much will it cost?

Once this fundamental service strategy is defined, the issues to be addressed relate to customer communication and customer contact.

Customer communication is a pro-active programme. Customer contact is how you respond to queries and complaints and how you train staff to deal with them. Both of these areas have costs associated with them and they need to be planned and budgeted for in the same way as capital works and operational requirements.

Underlying the customer contact area is the training and competence of customer facing staff and the systems and facilities they have available to them.

The customer services strategy should set some simple targets, such as the time it takes to respond to an enquiry, the time it takes to repair a leak, etc. These should be determined after talking to customers and they should be measured and reported internally. In this way it is possible to match the actual service delivery with customer expectations. Where service is not adequate in a particular area an action plan can be put in place to improve the situation.

### ***Communicating with customers***

Communication is vital if customers are to understand and support the suppliers' plans and activities in the long term, and if new customers are to be attracted to connect. As has been described, this communication has two main forms:

- How the supplier deals with operational contacts; queries, complaints, etc.;
- Pro-active communication programme.

The objective of the communications programme is to tell customers what you plan to do, what you are currently doing and what you have done. This needs to be regular and should be based on some simple messages. The overriding aim is for customers to trust the supplier and its employees and to value the service it provides.

There is one particular area of communication that has to be handled firmly but sensitively. This relates to persuading customers to change or stop a particular activity. This could be, for example, to stop people wasting water. It could be to stop a factory from polluting a watercourse. These issues need careful handling and may ultimately require support in the form of legislation. In most cases however, persuasion is preferred and can be achieved.

Customer communication can be on different levels in different media. For example:

- Letter news-sheets to customers to explain the plan and progress;
- TV and newspapers to report major achievements;

*The objective of a communications programme is to say what you plan to do, what you are currently doing and what you have done*

- Visits to schools and other community groups to explain the local impact of the plans and the progress being made;
- Invitations to visit works to explain what is happening and the improvements being made;
- Seminars for business people, politicians, pressure groups to explain the plan;
- Sponsorship of community and environmental projects linked to water.

These are just a few examples of activities that can be managed with modest budgets, as they require mostly hard work and enthusiasm from the staff involved.

The main messages are: national media for high-level national issues and local communication to put the issues into a local context.

One very important rule is to only promise what you know you can deliver. Customers value honesty above all other factors and if a supplier has a record of success in meeting its promises it has a greater chance of gaining the trust and support of customers and other interested groups.

### ***Support activities***

The level and sophistication of support activities will depend on the complexity of the local situation and the access to information technology. However, the following general principles apply:

- the greater the impact of changes on customers (good or bad) the more resources will be required to manage customers;
- good prior communication will reduce the number of subsequent enquiries and complaints and the resources needed to deal with them;
- staff should be trained to deal with queries and have the resources to sort things out;
- it is important to give customers feedback and tell them how a matter was resolved;
- internal organisation must establish how complaints and queries are dealt with quickly and effectively;
- separate service related queries and communication from customer accounting as the contacts tend to fall into these two distinct groups;
- these issues are mostly about organisation. The issues about IT systems are dependent on scale and bureaucracy more than anything else, although access to customer information is fundamental to providing service.

*Customers value honesty. Only plan what you know you can deliver*



***Starting from zero***

The three most important areas to start with are the following.

1. Find out what customers and other stakeholders need and expect, using various types and levels of research.
2. Communicate what you are planning to do, when and how. Give the good news and the bad news and explain why. Only promise what can be delivered. Update them regularly.
3. Train all staff and give the resources and authority to deal with customer issues. Give feedback to customers.

The three impressions customers should have of their water utility are:

1. Value
2. Competence
3. Progress.

*Invest in your staff to enhance and improve their communications skills. Your staff will be the main point of contact from your customer*

**Customer base? - Exercises**

Name your four existing customer groups.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

Identify the main groups of potential NEW customers.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

Briefly describe what data you hold for each group

1. \_\_\_\_\_
  
2. \_\_\_\_\_
  
3. \_\_\_\_\_
  
4. \_\_\_\_\_





### **3.2 Relationship with municipally owned institutions - Concepts and principles**

A potential difficulty with trying to run the water utility as an autonomous organisation is that it is often owned by the local or regional government. This introduces a number of potential issues. The first is clarity in the responsibilities related to running the utility and this is discussed in more detail elsewhere in the manual.

A similar issue relates to the relationship between the water utility and other municipally owned institutions. Sometimes water utilities do not pursue non-payment of bills from other institutions since they all have a common master and the funds eventually come out of the same pocket.

For the utility to be run effectively and efficiently it needs to collect all the revenues that are owed, regardless of whether or not they are owned by the same municipality. It is therefore likely that some form of framework established between the utility and its municipality will be needed to define the rules for charging for services, debt recovery and disconnection.

Such a framework would also need to be extended to cover other municipally owned institutions.

*The utility needs to establish clear roles and responsibilities with its municipality and with other municipally owned institutions.*

**Relationship with municipally owned institutions - Exercises**

1. List the three municipally owned institutions your water utility has had recent contact with on areas of common interest.

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2. What are the areas of common interest with each institution?

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3. What role does the municipality take in these areas?

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Now repeat the same exercise for major commercial and industrial organisations in your area.



### 3.3 Tariffs and affordability - Concepts and principles

For the water utility to be fully autonomous and self-financing all costs need to be recovered through the tariff structure. Ideally tariffs will be set in order to recover the costs for the coming year, i.e. the year in which the costs are incurred. This will require forward planning to estimate likely costs and to set the tariffs accordingly

This process though is only part of the overall picture. It is of no benefit to the utility (and its customers) if tariffs are set at a level that households and industries are unable or unwilling to pay. The question of how much people can afford to pay needs to be considered, i.e. affordability.

This is a particularly important issue in view of the big impact that capital investment in water services would have. Low-income households may well not be able to pay more.

Identifying these groups is an important first step in the process. Access to local data about the social composition of the area supplied is required. This will identify the groups on low and intermittent incomes that are likely to be classed as “at-risk”. Such groups will form a sub-group to the main types of customers identified in the previous section and may be readily identifiable if they currently have difficulty paying their water bills.

Having collected such data it would be desirable to discuss with the municipality (and others at government level) the possibility of providing assistance through a social programme or through a subsidy for the cost associated with low income households – this may be especially relevant for connection charges. The possibilities will need to be explored at an early stage to ensure that the principles of access to water at an affordable price are maintained. (see Chapter 6 for more on Connection Policy)

In view of the political nature of affordability, it will be worth ensuring that good quality data is used in order to have a high degree of confidence in the results.

Addressing this issue will in the long term be to the utility’s best advantage. It will have safeguarded its income, and ensured that customers needs are considered and acted upon.

Some utilities have adopted a PROGRESSIVE TARIFF approach where different tariff rates are set for different rates of consumption, with a lower (and often subsidised) rate used to cover essential water use. In Ethiopia utilities have tended to set this lower rate for consumption levels of up to 10 litres per day per connection, and higher rates set on a progressive basis for higher levels of consumption. Crucial to the establishment of a Step Tariff is that the lower rate and expected income at the lower rate should cover operational and maintenance costs. This approach also requires a more sophisticated management of customer data.

*The issue of how much customers can afford to pay needs to be addressed with the municipality and the state government.*

### 3.4 Customer Information<sup>1</sup> – Tariffs and Affordability

Different methods can be used to get information about numbers of users and the annual amounts they will pay, such as focus groups, household surveys and analysis of existing water markets. One important and useful method is the "contingent valuation" (CV) household survey – used as a means of getting the required information for planning.

#### Predicting Capacity and Affordability

*(CV) "contingent valuation" surveys are a recommended way of getting information about willingness to pay.*

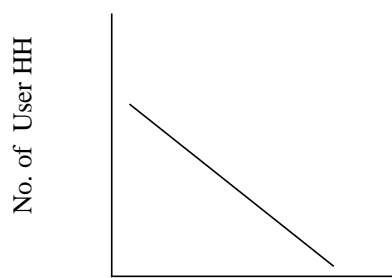
A CV study typically surveys between 500 and 1000 randomly selected households with a questionnaire to get information on each respondents' preferences for water improvements, present water and sanitation practices, whether they are willing to pay a specific amount each month (or billing period) proposed by the interviewer for a specific type of water improvement (the CV question), and socio-economic information about the household. For example, a subset of sample respondents might be asked in the CV question whether their household would be willing to pay the equivalent of US\$ 10 each month for a house connection that provides twice as much water as they presently use; the respondent would be told that the water would be safe to drink and available 24 hours daily. Other subsets of the sample would be asked the same question but with different monthly fees. They would be told that the more they consume, the more they would have to pay, and if they decided not to have a connection, their neighbours would be authorized to sell them water, or they could use other sources such as wells or rivers.

Fewer of the households proffered a high monthly fee for a connection will decide to have one; as connections become more expensive, a smaller fraction of households is willing to pay for them. The responses from the sample of households results in a demand function for connections like the one shown in Fig (a). If the sample is properly drawn, it represents the entire town. Hence, values on the vertical axis are obtained by multiplying the fraction of households (HH) that says yes to a connection at each different fee times the town's design population. If the monthly fee were zero, essentially all households would want a connection, but at some very high fee, no household wants one. The information in Fig (a) is key to decisions about system capacity.

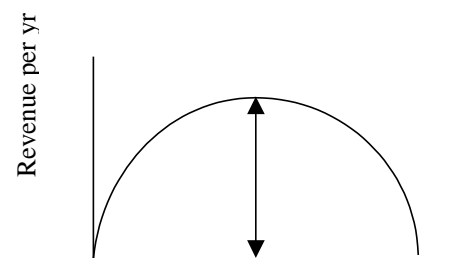
The total annual revenue resulting from different monthly fees looks like the curve in Fig (b), which is obtained by multiplying the number of user households for different fees in (a) by the fees themselves; the fees are converted to equivalent annual values.

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<sup>1</sup> This information is credited to Don Lauria, a consultant expert from the World Bank.



User Fee or Price, \$/HH/yr



User Fee or Price, \$/HH/yr

The maximum revenue per year in (b) is obtained by charging a fee of  $X^*$  per household per yr (or per month). If max revenue is insufficient to cover the annual cost of a system that offers house connections, then it cannot be provided. If the survey reveals insufficient willingness to pay for house connections, the reason may be that respondents do not fully understand the benefits of them, or they might not believe that an improved system could be well implemented and operated, or many households may have constructed their own wells and are satisfied with their present water situation, or there may be other reasons. If the planners are convinced that the reason for rejecting a house connection system is lack of understanding by respondents (assuming the CV study was well executed and got accurate information), then a public education campaign could be launched to better inform townspeople about the benefits of connections followed by another CV study to reassess willingness to pay. Such campaigns are necessary only in rare cases.

If max revenue in Fig (b) is more than enough to cover the total annual cost of a system that offers connections, then the monthly fee charged to users can be lower than  $X^*$ , which means that more households (higher coverage) can be served with connections. It is common to choose the lowest user fee per household in order to maximize the number of households using connections and still cover total annual costs (including profit if the system operator is a private company). This fee derives from the average cost of water production.

Getting community input on household willingness to pay is only part of what is required for planning a town water system. Their input is also needed on the following items:

*The community input on willingness to pay surveys is a critical part of planning for further service expansion.*

- Which neighbourhoods should be initially served with the improved system?
- Where, when, and what criteria should be used for making future network extensions?
- How are decisions about connections to be handled? Should subsidized social
- connections be provided? What are the eligibility rules for getting one?
- What is the tariff and how should it be enforced?
- What are the rules for selling water to neighbours without connections?

### 3.5 Special factors - Concepts and principles

This final section in assessing relationships with customers is intended to indicate the importance of developing a business plan that takes into account the particular local circumstances of your utility. Examples include:

- tourism,
- new connections to those currently not supplied by the water utility,
- industries emitting toxic wastes,
- industries with a highly variable waste streams (amount and quality),
- degree of household metering,
- availability of local contractors to undertake capital schemes.

This list is not complete; it is intended to provide guidance only about the factors that may need to be taken into account. Those preparing the business plan will be best placed to identify and assess the special local factors that impact on their utility.

*Consideration also needs to be given to the particular local circumstances impacting on the utility.*

The nature of the impact will vary according to each factor. Tourism, for example, will create a large seasonal demand for services. It can be expected that operating costs will rise accordingly which will need to be included in the forecast costs. Similarly there may be a need to install extra capacity in order to cope with a large increase in demand which would result in additional capital costs.

The number of household meters impacts on the operating costs of the enterprise, the more meters the greater the costs associated with reading, calibrating and maintaining them. Again this needs to be included in the business plan.

**Special factors - Exercises**

List two local factors impacting on your water utility.

1. \_\_\_\_\_

2. \_\_\_\_\_

In what way will these factors impact on the costs of the utility?

1. \_\_\_\_\_

2. \_\_\_\_\_





### **Relationships with customers - Key Learning Points**

- The water utility needs to establish clear roles and responsibilities for operating with its municipality and with other municipally owned institutions.
- Effective business planning requires good knowledge about different customer types, their specific characteristics and needs.
- The issue of how much customers can afford to pay for water and sewage services needs to be addressed with the municipality, regional and national government.
- The issue of dealing with industrial and commercial customers and the role that tariff policy can contribute to local economic policy, such as the encouragement of investment in new businesses. An extremely high tariff for industry may be a disincentive for new businesses and this is a good example where the utility needs to work in a coherent way with regional and local policies.

### 3.6 Business Plan Input Customers And Water Users

#### Population served

Current year	2004	2005	2006	2007	2008
<b>Population</b>	number	growth % per year			
Core					
Fringe					
Total					
<b>Planned extension to service</b>					
Start year					
End of planning period					
Time period					
	<b>Current year</b>			<b>Targets for end of planning period</b>	
<b>Supply Type</b>	% of population	number of people		% of population	number of people
- Core area					
Protected springs or wells					
Public fountains					
Shared yard taps					
Private yard connections					
House connections					
Other (not supplied by the town water utility)					
Total					
- Fringe area	% of population	number of people		% of population	number of people
Protected springs or wells					
Public fountains					
Shared yard taps					
Private yard connections					
House connections					
Other (not supplied by the town water utility)					
Total					
	<b>Current year</b>			<b>Targets for end of planning period</b>	
<b>Supply connections</b>	number			number	
Protected springs or wells					
Public fountains					
Shared yard taps					
Private yard connections					
House connections					
Industries					

Commercial				
Institutions				
Total				
<b>People per supply</b>		number per supply		number per supply
Protected springs or wells				
Public fountains				
Shared yard taps				
Private yard connections				
House connections				
<b>Water used per person</b>		litres/ person.day		litres/ person.day
Protected springs or wells				
Public fountains				
Shared yard taps				
Private yard connections				
House connections				
<b>Total water used</b>		m3/year		m3/year
Protected springs or wells				
Public fountains				
Domestic				
Industries				
Commercial				
Institutions				
Total				

### Prices

Birr/m <sup>3</sup>	Water supply	Sewerage and Sewage Treatment
Domestic		
Institutional		
Industrial		

### Household Incomes

Type(s) of income	Percentage of households	Value of income (Birr/month)	% of income spent on water and sewerage services
None - unemployed			
Pensions only			
One low wage			
Higher than these			
Total	100		100

Type(s) of income	Percentage of households in arrears with payments	Total amount of arrears to the water company
None - unemployed		
Pensions only		
One low wage		
Higher than these		
Total	100	

**Describe other important customer issues**

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## **4 ASSETS AND OPERATING STATISTICS**

### **Overall objectives**

To develop skills in using data about the existing system in the business planning process, to improve understanding and to help to take decisions.

To provide a checklist of data for the business plan.

### **Contents**

#### **4.1 Concepts and principles**

- Data and information
- Asset data and operating statistics
- What is enough information?

#### **4.2 Tools and skills**

- What information should be put in the business plan?
- Indicators of service to customers
- Summarising a set of data
- Coping with an uncertain future

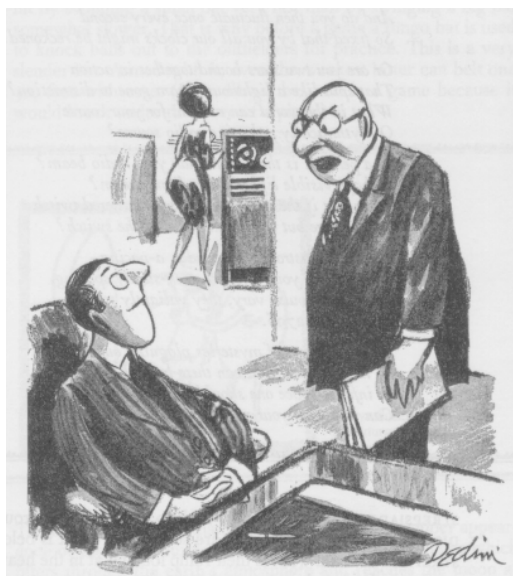
#### **4.3 Exercises**

- Water mains bursts
- Leakage
- Estimating future water demand
- What can households afford to pay for water?
- Developing a performance indicator

#### **4.4 Key learning points**

## 4.1 Assets and operating statistics - Concepts and principles

### *Data and information*



*'Don't just sit there! If you've processed all the data there is, go out and find more data!'*

*Data* are a burden - they have to be collected, checked, analysed and stored. Why should we bother? The answer of course is that we can get useful *information* from data, that helps us do our job better or take decisions.

*We get useful information from data. This helps the good manager do his job and make better decisions.*

This section is about manipulating data to give us useful information, relating to the objectives of the water utility, department or individual.

### **Indicators**

Indicators are numbers or ratios, derived from data, that indicate how well something is performing or a trend with time. There are very many possible indicators. Each organisation or town water utility can choose which to use to help it to carry out its responsibilities and manage its future plans. Indicators may:

- be ratios - for example power used per m<sup>3</sup> of water pumped, or
- show trends from comparison between one year (or month or day) and another - for example the volume of water supplied by year or month, or
- be the price of water compared to what people can afford or may be willing to pay, or
- allow comparison between one company and another - for example the leakage as a % of total water supplied.

### ***Asset data and operating statistics***

Readers of a water utility's business plan may not be familiar with its activities. They will therefore need basic information to allow them to evaluate the initiatives that are described in the sections of the business plan that follow.

The level of detail to be presented in the business planning document will depend on the intended readership of the plan and other factors. As a general rule, the information in the plan should be presented in a concise way, and any details should be put in appendices that the reader can refer to if he/she wishes.

### ***What is enough information?***

If we waited until we had *all* relevant information before taking an important decision, we would probably never decide. On the other hand, deciding without any information is risky. There is no single answer to the question: "What do I need to know...?" However it is an important question to ask when coming to each decision.

For the purpose of business planning, and this is set out in the toolkit, certain key input data forms are provided. These cover information about customers, connections, costs, income, investments and loans, and assets and depreciation. Collecting data about your assets and how they are performing (and their condition) in terms of delivering a defined and acceptable level of service is the concern of this section of the Guidance Document.

It may be the case that a better maintenance programme for current assets could be used to provide an improvement in service. It is also the case that the performance and capacity of existing assets, such as pipelines or the treatment works, will have an impact on the outcome of further investments to extend coverage, for instance.

### ***Maintaining existing assets***

The Business Plan should include information about the water utility's plans to maintain the ability of existing assets to supply water.

Depreciation is one way in which money can be set aside for this and there are rules for calculating depreciation, from the values of the assets and their expected useful lives.

### ***Data gaps and filling the data gaps***

It is recognised that it may seem a daunting task to begin the process of data gathering. In fact data that you need may already exist and be held by other people or organisations. For example relevant data will exist in feasibility studies done by consultants and these reports may be held by national Ministries for whom these reports were commissioned. In addition parts of your organisation may hold relevant data as job management records providing information about the location and types of repair work done on the assets.

*Better maintenance and more efficient operations of current assets could deliver significant improvement and service*



It is important review what data and information currently exists and to assess how useful this is or can be made to be useful for your future planning purposes.

The critical gaps in information for future planning relate to

- how many connections are likely to be made with the expansion of the network in each area of the town
- therefore what % take up of connections do you plan for and how do you expect the per capita consumption to change as a result
- information on the unit costs of each activity and planned future activity so that accurate financial data can be used to support the planning process and the prioritisation of investments

## **4.2 Assets and operating statistics - Tools and skills**

### ***What information should be put in the business plan?***

Potentially relevant information on **assets** includes:

- Different types include water supply, wastewater collection and treatment, buildings, vehicles etc.
- Measures of size (diameter, length...), material and capacity.
- An indication of condition or performance, particularly if improvement is needed.
- Operating or maintenance costs, particularly if these are high, and some reduction is needed.

**Operating statistics** might include:

- Volumes of water supplied (and sewage and sludge treated), subdivided by type of user and showing water not accounted for separately. These can be compared to the water utility's capacity.
- Summaries of the quality of water supplied (and treated wastewater).
- Numbers of customers and summaries of contacts with them,
- Staff numbers, roles and skills.
- Summaries of particular activities, such as repairs made to mains (and sewers).
- Ratios and indicators to illustrate particular points.

Data for the last full year should be provided; sometimes also the trend with time.

### **Indicators of service for current and future water users**

- Are residents connected to the water utility's system
- What is the pressure and level of continuity of the water supply service
- What is the quality of water
- Response to requests for connections
- Response to questions and complaints
- Price of water

### ***Making connections to customers***

The Business Plan depends on water users connecting to the supply!

The company makes the connection and asks the customer to pay the cost

*Is this what your company does?*

### **Payment for connections**

- Some people can afford to pay the full cost, some people may not be able to
- Should some (or all) customers be offered easy terms for connecting?
  - Charge the customer less than the full cost
  - Staged payments
- Both methods of payment have an impact on company income - a 'one off' cost or a delay in recovering the cost

### **Accounting for income from connections**

- The impact of different payment methods on company income can be estimated and taken into account in planning. They might mean:
  - Making tariffs a little higher
  - Getting a (quite small) loan specifically to subsidise connections
  - Getting a grant

### ***Summarising a set of data***

Sometimes a set of data is too big to be useful as it stands, and has to be summarised. One example is the quality of water supplied, which is measured regularly - normally monthly - and compared with a standard. There are different ways of summarising a set of data:

- The mean
- The median - the middle number
- The mode - the most common

All these measure the centre of a set of data. There are other measures of extreme values, such as:

- Maximum
- Minimum
- 90 percentile, which is the value that has 10% of the data above it and 90% below it. It is therefore less extreme than the maximum which may be a very exceptional value.
- Other percentiles may similarly be defined.

### *Coping with an uncertain future*

Projections into the future of the demand for water to be supplied are known to be uncertain. One way of coping with this is to make not one, but two or perhaps three projections.

- A low demand scenario that answers the question “How low might the demand for the water utilities services reasonably be?”
- A high demand scenario.
- Possibly a “most likely” scenario.
- Keep your options open as long as possible, and
- Make it the water utility’s aim to be able to survive whichever scenario actually turns out to be most accurate.

**4.3 Exercises - Assets and operating statistics**

*What can households afford to pay for water services?*

Your water utility is considering a major investment in improving water treatment and in extending the area of serviced with piped water supply, and the increase in prices for water services that would be needed to pay for this is clearly an important issue. What follows is an approach to thinking about the price that users can afford to pay.

1. Identify the main groups of households or communities in terms of low income groups would include the unemployed and employed people with low wages.

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2. Estimate a household income range for each of the main groups, making reasonable assumptions about the number and level of incomes per household or per group of households

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3. Estimate the proportion of households in each group.

<b>Group</b>	<b>Description</b>	<b>Income range</b>	<b>Proportion of households</b>
A			
B			
C			
D			

4. Choose the income level of the household that should just be able to afford to pay for water services and able to pay for a connection to the service. Households with incomes below this level should be given some help or assistance. For example if the mean household income (or the median or most common) will probably be too high: something like a 10 percentile or a

20 percentile would be more appropriate and would mean that 10% to 20% of households should be given help to pay.

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5. For the income level chosen, estimate how much is likely to be spent on housing and essential food. Then form an opinion on how much of what is left could reasonably be spent on water services.

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6. The effect of increased prices on industries and institutions should also be considered.

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Data on household incomes may not be available. However complete data is not required, and it would be interesting to see how much can be done using local knowledge of e.g. the unemployment rate, wage levels paid by major employers, known facts about the levels of poverty in the local community.

*For many water utilities in developing countries the planning for service expansion is the critical planning objective. Understanding customer “asset” information is at the core of the plan.*

## **Finding out about the Population and Planning improvements**

The following sections provide you with a prompt for the sort of questions that you will need to ask about water supplies to your customers and the general population of the area in which you serve.

### **Population and planning period**

- Total population = core and fringe
  - “Core” could be the population living in town centre
  - “Fringe” could be the population living at edge of town
- Growth in population per year as a %
- Planning period
  - Assume an appropriate planning period
  - Period ends when targets have been achieved and loans repaid

### **Water supply and water used**

- What is the current situation
  - Type of supply and % of population per type
  - Number of connections
  - Estimate water used per person, litres per person per day
  - Water used in Industries, Commercial organisations and Institutions

### **Water supply and water used**

- Setting targets for end of planning period
  1. Areas that have water mains
  2. Areas that do not have water mains
  3. Areas of planned new housing
- Uncertainty over whether planning targets will be achieved, so could have 2 options
  - cautious
  - ambitious
  - use of intermediate target during planning period

### **Water supply and water used**

- Areas that have water mains
  - What proportion of households are connected?
  - Would those not connected be able/willing to pay for their own connections?
  - What targets should be set for connections to existing mains?

### **Water supply and water used**

- Areas that do not have water mains
  - How do households get water? Are they satisfied?
  - Would they be able/willing to pay for their own connections?
  - What targets should be set for laying new mains and connections to them?

### **Water supply and water used**

- Areas of planned new housing
  - How will households get water?
  - Would they be able/willing to pay for their own connections?
  - What targets should be set for laying new mains and connections to them?
  - Should the developer of the houses pay for the mains?

### **Planning the improvements**

- Feasibility study
  - Will new water sources be needed? What and where?
  - Pipes and storage: don't build more or bigger than you have to! Design for the next 5 years.
  - Sources, treatment and pumping: design for >5 years
  - Estimated cost (current prices)
  - Actual inflated cost is greater than estimated investment cost at current prices

### **Planning the improvements**

- How will the improvements be paid for?
  - Eventually by the people who use water
  - Now - by a loan and/or grant



- How much will be borrowed? And on what terms (grace period, interest rate, term of loan)?
- The total amount repaid is greater than the total amount borrowed, because of the annual interest payments

#### **4.4 Key learning point - Assets and operating statistics**

- Collecting, checking, processing and storing data costs time and money. This process is not an end in itself, but a means of helping to set objectives, and of measuring progress towards achieving them.
- Filling data gaps are a challenge, but the key data gaps which are important for water utility planners are first about the number connections that can be expected from network expansion, and second information on unit costs relating to operations and expansion.

Guidelines for Preparing a Business Plan  
Section 4 – Assets and Operating Statistics

#### **4.5 Pro-forma For Operational Information Requirements For Business Plans**

This section of the business plan provides information on the company's assets, operating statistics and staff. A checklist of relevant information is given in this note. It should represent a summary of all the information that the company holds. It also represents the information that it is desirable to include in the development of a business plan, as a baseline from which to develop initiatives for change.

The information should be accompanied by a commentary that emphasises what the directors believe to be the important points.

Some tables ask for information for 2001, 2002 and 2003, assuming that the business plan is being written in 2004. If it is being written at a different time, data from the last three full years of operation should be used.

## WATER SUPPLY

### Assets

*In order to show whether assets can fulfil their functions, indicate the state of each asset as good, adequate, poor or very poor.*

*Good = fairly new and well constructed*

*Adequate = asset generally works well*

*Poor = some serious defects, but the asset can be made to work effectively*

*Very poor = improvement needed urgently*

- Sources including associated pumps - type, number, capacity (m<sup>3</sup>/day)
- Treatment - process(es), capacity (m<sup>3</sup>/day)
- Storage reservoirs - number, capacity (m<sup>3</sup>/day)
- Water mains - length (km) split by material, diameter, age
- Pumping stations - number, capacity (m<sup>3</sup>/d), efficiency of pumps (kwh/m<sup>3</sup>)
- Meters - number, type, % operational

### Operating Statistics

#### Volumes of water

		2001	2002	2003
Volume of water abstracted (m <sup>3</sup> )				
Volume of water sold (m <sup>3</sup> )	Public fountains			
	Shared yard taps			
	Private yard connections			
	House connections			
	Institutional			
	Commercial			
	Industrial			
Volume of water abstracted but not sold (m <sup>3</sup> )	Internal use			
	Fire service			
	Lost			
Total (m <sup>3</sup> ) (1)				

Note 1: This total must equal the volume abstracted

***Incidents***

	2001	2002	2003
Number of bursts repaired			
Number of bursts per km			

Number of interruptions to supply			
Number of interruptions per km			
Number of water users affected once			
Number of water users affected twice			
Number of water users affected at least three times			

***Water Quality*** during the last full year

Number of samples taken and analysed	
Number of samples that passed the standard on all parameters	
Number of samples that failed the standard on at least one parameter	
Number of failures not covered by a Department of Hygiene derogation	

State the parameters that caused failure, summarising frequencies and concentrations.

## SEWAGE COLLECTION AND TREATMENT

**Sewage collection and treatment are included, but it is recognised that in many instances it will be a different utility organisation that undertakes the responsibility for operations and planning. Nevertheless there is an increasing awareness of the need to establish and integrated management process for wastewater with that of water supply.**

### *Assets*

*Indicate the condition of all assets as good, adequate, poor or very poor.*

*Good = fairly new and well constructed*

*Adequate = asset generally works well*

*Poor = some serious defects, but the asset can be made to work effectively*

*Very poor = improvement needed urgently*

- Sewers - length (km) split by type (foul sewage only, combined, storm water only), material, diameter, age
- Overflows - number (excluding those at pumping stations)
- Pumping stations - number, capacity (m<sup>3</sup>/d), pump efficiency (kwh/m<sup>3</sup>)
- Sewage and sludge treatment - process(es), capacity (m<sup>3</sup>/d)

### *Operating Statistics*

#### **Volumes of sewage**

	2001	2002	2003
Volume of sewage treated (m <sup>3</sup> )			

#### **Sludge**

	2001	2002	2003
Volume of sludge handled (m <sup>3</sup> )			
Weight of sludge handled (tonnes dry solids)			

Disposal outlet(s)

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**Incidents**

	2001	2002	2003
Number of sewer collapses			
Number of flooding incidents caused by the sewer system			
Number of spills of crude sewage			
Total number of incidents			
Number per km of sewer			

*Sewage Effluent Quality* during the last full year

**Sewage**

Number of samples of sewage effluent taken and analysed.

Parameter	Permitted (average) concentration (mg/l)	Actual (average) concentration (mg/l)
BDS7		
P		
N		
BOD		
COD		
Suspended solids		

**Sludge**

State if the sludge contains metals or other contaminants in higher concentrations than normal, with details.

**STAFF**

Number of staff employed	
Number of staff per 100 people supplied with water	
Number of staff per km of water main	
Number of staff per m <sup>3</sup> of water supplied	



## **5 PLANNING INITIATIVES FOR IMPROVEMENT**

### **Overall objective**

To provide a mechanism and structure for gathering inputs for improvement from different departments of the water utility and consolidating them in document form for use in the business plan.

### **Units**

- 5.1 Balancing programmes
- 5.2 Operations management plan

## 5.1 Balancing Programs - Concepts and principles

A water utility's typical business plan contents has been presented earlier, but it is worth reviewing to understand how the components work together to present a balanced description of the business's activity.

Recall the questions which need to be answered in preparing a business plan and compare them with the business plan contents.

### A. Why is the utility in operation and why do we need to change?

1. Organisation's objectives
2. Relationships with customers
3. National issues impacting on the utility's activities

### B. How is the utility to change?

4. Operational statistics
5. Operational management
6. New capital investment

### C. What will be the financial needs and results?

7. Financial projections
8. Financing investment projects

None of these sections stand alone but they depend on each other in sequence, i.e. they follow a logical order of events.

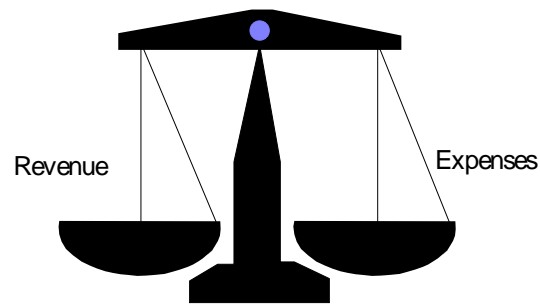
It may be an over simplification to suggest that a business plan can be prepared, each section in sequence. Maybe it would be better described as an iterative process that compares:

1. what are the external needs,
2. what actions does the utility want to take,
3. does the utility have the funding to carry this out,
4. how much will the customer pay toward meeting these costs,
5. what modified actions can be taken,
6. if tariff revenues do not cover expenses, what other sources of funds can be used,
7. and so on.

This sequence describes the balance which must be found between short term operational activities which give rise to costs, and the availability of revenue to meet these costs.

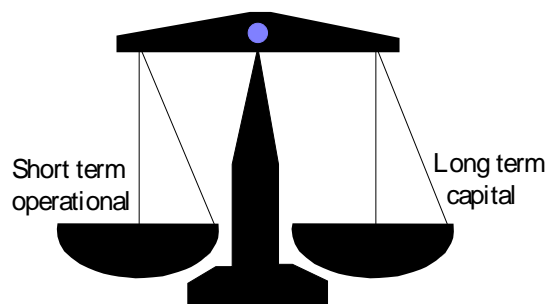
*It is impossible to know what the financial needs and projected results will be until a capital investment plan and work plans for the rest of the business operation are determined.*

*The required changes to the organisation's operations, projected performance including detailed objectives and capital investment programs cannot be prepared until there is an understanding of what the utility's objectives are, how it is performing and what external changes are taking place that require response from the utility.*



A balance is needed between expenses and revenue

Another perspective which needs to find a balance is that between short term operational activities and long term capital investment projects.



A balance is needed between short term and long term expenses

Examples of short term operational activities include; water treatment, mains washing, leakage repair, electrical and mechanical maintenance, meter reading, customer care, billing and collection, etc. These can be regarded as routine operational activities needed in order to continue providing water supply and wastewater collection services to customers.

Examples of long term capital projects are: expanding the system to serve new customers, pipeline network rehabilitation, construction of water or waste water treatment plants, refitting of pumping stations, building new water reservoirs, etc. Long-term capital projects are intermittent events undertaken to construct new assets, or to substantially refurbish existing works.

One of the main issues facing water utilities worldwide is how best to secure the funding needed for developing new assets over the long term. The amount of money needed to develop new assets in order to meet more stringent water quality standards, for example, is significant. An equally important issue is the need for long-term commitment on the part of utilities and their owners in order to demonstrate an ability to meet the contractual requirements of any loan.

One of the main technical issues is that a significant portion of assets by value are buried underground. As these "invisible" assets, i.e. pipes, deteriorate and begin to leak, the resulting operational problems are not necessarily obvious. Even so, there are various approaches

*The process of determining capital investment operational management plans and securing finance is iterative and establishes a balance between the three.*

available that assist in tackling the issue of when and how much of the system to rehabilitate.

The issues are more obvious but are no less complex for above ground assets.

Other sections of the manual will cover this subject in more detail, but a balance must be found between the effort and expenses directed toward operational activity and capital investment activity.

***First rule of thumb:*** Spend no less capital investment than the annual rate of depreciation as shown in amortisation tables for tax purposes.

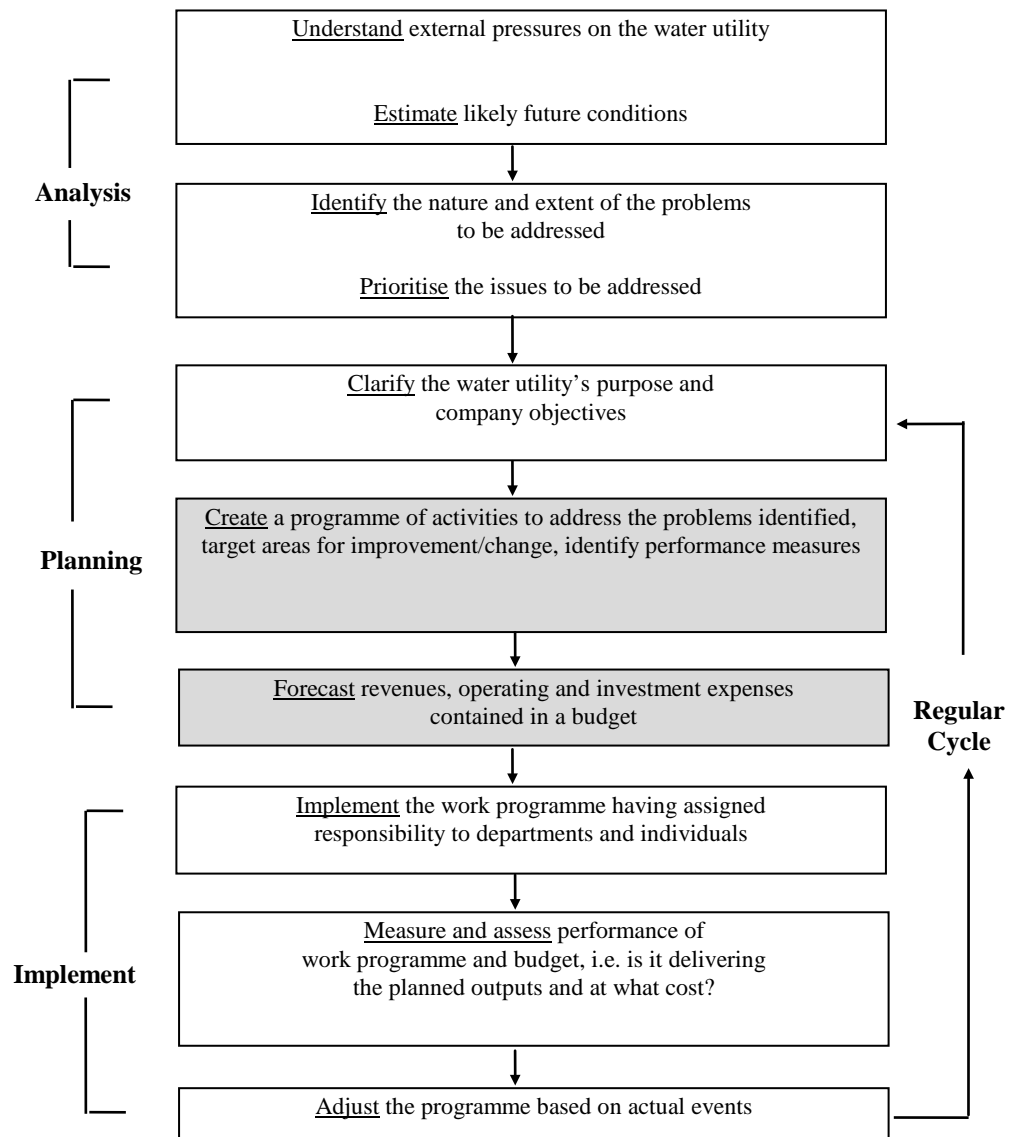
Every effort should be made to keep control over operational expenses such that long term investments do not fall behind meeting customer and community needs

***Second rule of thumb:*** After including the minimum expenditure for capital investment works, spend no more on operational expenses than the customer is prepared to pay for.

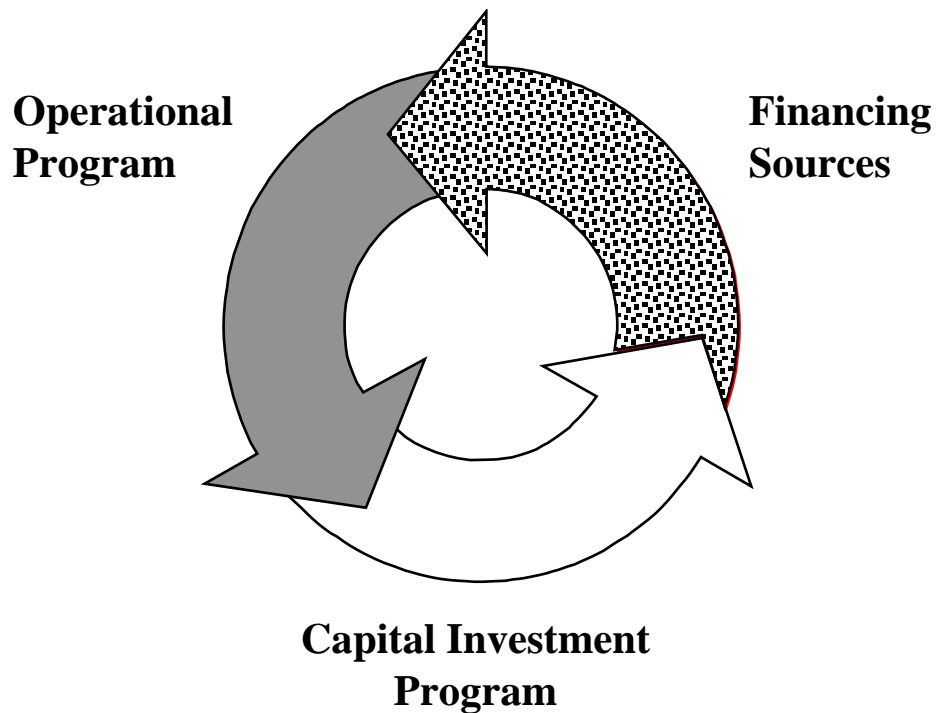
### Balancing programs - Tools and skills

The concept of achieving a balance of programmes needs to be put in perspective with the previous models and tools.

During the preparation of the business plan a discussion must take place within the planning team to establish a realistic work plan that can be determined by the budgets and forecasted financial performance.



The concept of obtaining a balance in programmes through an iterative process can be explained by the following diagram.



In most cases, a utility will have far more ambitious plans to improve service to customers, quality of water or renew assets but it lacks the finances to successfully achieve all its plans.

A balance therefore needs to be found between the following factors;

- what the customer can afford to pay,
- what financial commitments the utility can borrow,
- what expenses can be reduced to create funds for other priority uses,
- what short term actions are a priority,
- what long term assets require construction or repair.

*Balancing programmes involves making choices on your priorities and about your objectives*

Plans for improvement will include plans for expansion of the water network in to new areas and for new customers. These plans need to be implemented in a financially secure way and as mentioned earlier an assessment of the financial benefit from each area of expansion should be examined. For example a feasibility study has provided a cost estimate of 15 million Birr to expand the tertiary network into 12 different areas of the town, but your budget and the utility’s financial projections indicate that this cost is not affordable.

Therefore a process of investment in this expansion needs to take place over a few years and some of the 8 areas will be expanded each year in a phased way. The important planning question is – in which areas will the investments be made in each year in order to first achieve the utility’s objectives for maximum expansion for new connections and second can be undertaken in a financially sustainable way. One way to look at collecting the information for in order to reach an answer to these questions is as follows

<b>Area for planned expansion</b>	<b>Estimated Cost</b>	<b>Expected revenue benefit from new connections</b>	<b>Estimate timescale for implementation</b>	<b>Impact on objectives (high/medium/low)</b>
<b>Area 1</b>				
<b>Area 2</b>				
<b>Area 3</b>				
<b>Area 4</b>				
<b>Area 5</b>				
<b>Area 6</b>				
<b>Area 7</b>				
<b>Area 8</b>				

**Balancing programs -Example of questions to ask**

1. What are the external needs?
2. What actions does the utility want to take?
3. Does the utility have the funding to carry this out?
4. How much will the customer pay toward meeting these costs?
5. What modified actions can be taken?
6. If tariff revenues do not cover expenses, what other sources of funds can be used?
7. How does the cost benefit of each scheme compare with others and what contribution does each make toward the successful achievement of the utility's objectives for increasing and expanding services to new customers.



### **Balancing programs - Example**

The water utility has total assets valued at \$43 million.

Revenues are derived only from charges to residential and industrial customers. Invoices are issued for \$19.7 million, but due to poor payment performance, total revenues planned for next year are only \$16.5 million.

Based on the amortisation tables provided by the tax department, the distribution of assets provides an annual depreciation of \$4.5 million.

<u>Million</u>	<u>\$</u>
Minimum Capital Works Expenditure	4.5
Operational expenses	9.2
Various taxes	<u>3.7</u>
Total desired expenditure	17.4

Revenues of \$16.5 million do not cover desired expenditure.

#### **1. Examine initiatives for improving debt recovery.**

- implement formal debt recovery procedure which increase customer contact and provides sufficient documentation to initiate court proceedings if necessary.
- organise disconnect for non-payment.
- implement a customer payment data base and monitoring system to prioritise debt recovery actions
- provide more and better information to customers increasing the profile of water utility's activities and benefits of programmes which could be implemented if all persons paid their bills

\*\*\* Reducing bad payment performance by 5 percent provides 1.0 million sufficient to cover expenses.\*\*\*

#### **2. Examine initiatives for operational cost savings.**

- use of reservoirs to manage day/night electricity differentiated electricity costs
- eliminating transport drivers and using worker operated vehicles
- eliminating paper reporting tasks and consolidating jobs

- “working” foremen, on rotation in brigades to reduce supervisory time
- use of mobile telecommunications to dispatch second and third mains repair jobs during the day

\*\*\* Painful options to implement since it usually mean eliminating jobs.\*\*\*

**3. Examine capital works projects which can provide operational savings.**

- replacing energy inefficient pumps
- chlorine dosing process controls to reduce excessive use of chemicals
- replace old, inefficient transport or equipment which has high staff and maintenance costs
- selective network rehabilitation where high leakage and burst rates exist

\*\*\* Operational savings are usually realised very gradually thus the immediate impact will not be great \*\*\*

**Balancing programmes - Exercises**

1. Describe the methods currently used in your utility to determine what operational expenses you will have.

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2. How do you presently determine the level of capital expenditure compared to operational expenses?

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3. What is the minimum level of capital investment you should budget for?

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4. What is the limit of operational expenses you should budget for?

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5. How can you increase your source of revenues from customers?

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6. Describe how you will determine capital investment levels and operational expense levels in the future?

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**Balancing programs - Key learning points**

- It is impossible to know what the financial needs and projected results will be until a capital investment plan and operational management plans are available.
- The changes needed to the utility's approach to business planning cannot be prepared until there is an understanding of what the enterprise's objectives are, how it is currently performing and what external changes are taking place that require a response.
- The process of determining capital investment and operational management plans, and securing finance is an iterative approach which establishes a balance among the three.

## 5.2 Operations management plan - Concepts and principles

Recall that the information needed at the planning stage may follow this sequence;

1. Clarify the utility's purpose, vision for the future and company objectives.
2. Create a work plan of activities, initiatives for improvement, targets and performance measures.
3. Forecast revenues, operational and capital investment expenses contained in a budget.

The work plan is the second item of the three part sequence which documents what is planned and committed to take place.

Once organisation's objectives are created, they may be communicated down through the organisation receiving operational and production objectives back from the employees. It is these contributions which are the components of a work plan.

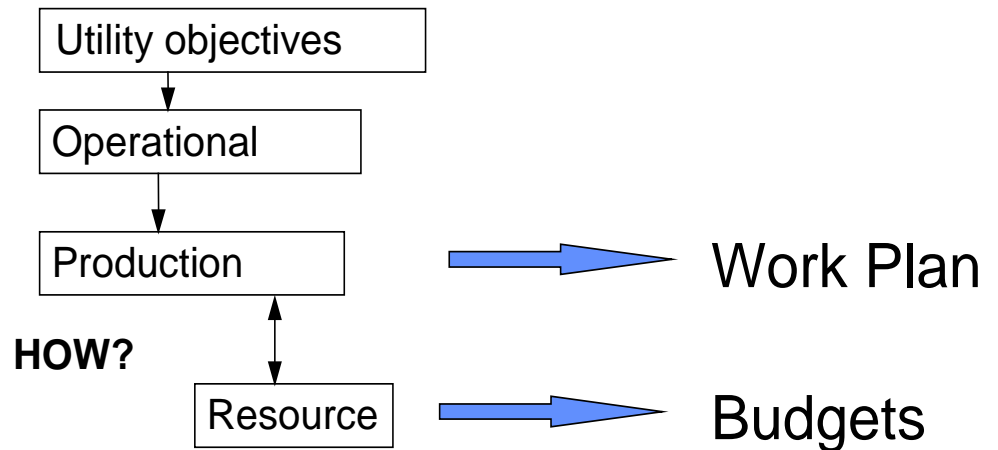
The employees, by setting their own objectives themselves, have created initiatives for change, establishing targets and performance measures by which they can be judged.

The work plan is an assembly of all the production objectives for every section of the enterprise expressed as a commitment of;

- what is intended to be done,
- what target is to be aimed at,
- when will it be reached,
- what resources in terms of budget, people and equipment will be needed.

These dimensions describe the planned programmes and activities in the utility which will produce measurable results and impact the financial performance of the business.

*The work plan pulls together the enterprise's operational objectives expressed in terms of what is to be done, the target, who does it and by when.*



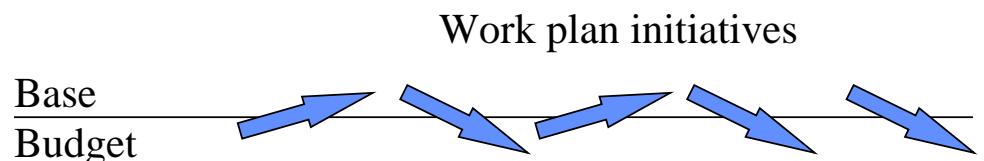
*Managing operational activities becomes a question of monitoring the work plan against actual results to identify where help is required.*

Managing operational activities becomes a question of monitoring the work plan against actual results to identify where help is required.

The work plan and budgets are used together to provide an overall description of results. Budgets describe how money is being used or how successful revenue generation is. The work plan describes the activities which are taking place to improve performance measured by more than just monetary indicators. These may include;

- response time to emergencies
- number of repairs per month
- BOD5 levels in effluent
- number of preventative maintenance jobs per month
- length of mains flushed and swabbed per month

Think of the budget as being the base of information which will in theory be indexed where appropriate for natural inflation. The initiatives described in the work plan will have an impact on the budget depending on whether they are cost saving initiatives, or cost increasing initiatives which may provide needed improvements in quality or service.



Caution - In principle, improvements in quality or service should have a financial reward to justify the increase in costs. For example;

*A successful work plan has the effect of improving water quality, increasing customer satisfaction and lowering costs.*

*80% of a manager's time should be spent thinking about the future, the rest of the time is spent helping employees to resolve the problems of today.*

- better water quality and improved customer service should be rewarded with better collection efficiency,
- reduced pollution levels in effluent should reduce penalty charges,
- employee safety training should reduce injury and overtime costs.

A successful work plan has the effect of improving water quality, increasing customer satisfaction and lowering costs. Result - increased value for money.

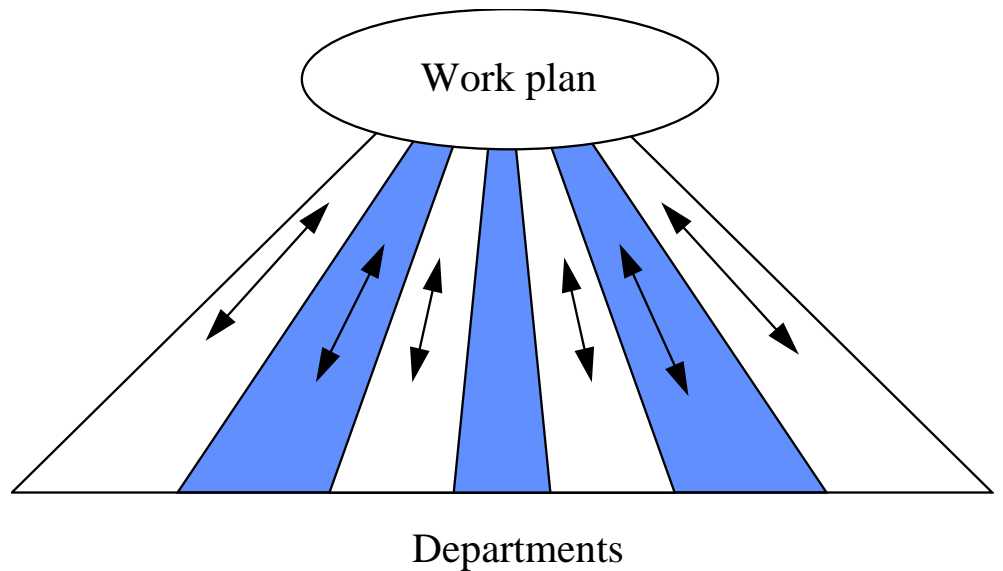
If the business plan is used as a management tool to control the utility's activities and monitor the performance of employees, attention must be paid to the initiatives approved for the work plan.

Enthusiastic employees may propose an overly aggressive list of initiatives or targets which are not realistic to achieve and set themselves up for disappointment. Unmotivated employees may require a push and some tougher targets to get them moving.

The effort and abilities which are put into the planning stage will be a direct reflection on the success of implementation at a later stage.

80% of a manager's time should be spent thinking about the future, the rest of the time is spent helping employees to resolve the problems of today.

As a practical matter, distribution and collection of inputs for the work plan and budgets are probably best done by each department. Each department submits their respective set of initiatives and effects on budgets to be assembled into the business plan.



*Involve all staff in the solution, especially those that have to live with the problem and solution day to day.*

Those people putting the work plan together should have senior management powers to determine what initiatives are to be made priorities and what can be postponed depending on the overall utility needs. In particular, consideration must be given to the economic situation in selecting short term, low cost solutions, or those with long-term benefits and pay-backs.

These persons have a broader more strategic perspective than the department managers. Department managers are closer to implementing the solutions and to give practical input. Having a balance of these perspectives is the ideal approach.



### **Operations management plan - Tools and skills**

#### **Examples of initiatives investigated in operational areas**

- merging area management
- investigating functional and geographic flexibility of mobile employees
- streamlining duties for inspectors and foremen
- automation of pump controls to optimise use of cheap rate electricity
- interchange of employees among areas to match weekly workload
- implementing a 6 man shift system at a production site
- increasing work hours each day to permit a rotating 3 day weekend
- data transfer to and from vehicles to reduce administration
- increased customer service by telephone to reduce personal visits
- reduced number of men on call out for repair from 3 to 2

#### **Examples of initiatives investigated in Customer Service areas**

- increased number of customer publications and brochures
- introduction of a computerised billing system
- training to employees to provide quality of responses which should reduce repeat customer calls and complaints
- reduction in number of departments and cross-training of skills to permit task completion without need to pass on to someone else
- use of document imaging technology to provide access to customer correspondence from any computer workstation
- use of contractors to read meters
- use of contractors to visit customers reminding them of bill payment

When there are many initiatives, it may be advisable to group them in to “programs” depending on the nature of the changes. For example, some of the major programs could be;

- MANAGEMENT AND ADMINISTRATIONAL SYSTEMS
- WATER OPERATIONAL ENHANCEMENTS
- WASTE WATER OPERATIONAL ENHANCEMENTS
- CUSTOMER SERVICE ENHANCEMENTS
- INSTITUTIONAL AND ORGANISATIONAL DEVELOPMENTS
- HUMAN RESOURCE DEVELOPMENT
- FINANCIAL MANAGEMENT SYSTEM; including the implementation of new accounting systems.

The choice of specific groups is not as important as raising the profile of the work effort so that the utility and readers of the business plan recognise the commitment to making improvements.

**Sample format for collecting inputs to work plan**

Business plan year \_\_\_\_\_ Department \_\_\_\_\_

Initiative title \_\_\_\_\_

Operational / Production objective \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Description \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Benefits / Risks \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Resources required \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Effects on budget

Expense category Year 1 2 3 4 5

Expense category	Year 1	Year 2	Year 3	Year 4	Year 5
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Changes to performance indicators

Changes to performance indicators	Year 1	Year 2	Year 3	Year 4	Year 5
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

**Example of input to work plan**

Business plan year: **2002** Department: **Water Distribution Area 1**

Initiative title: **Reduction of leakage in network**

Operational / Production objective **Network leakage will be reduced by 5 percent of total leakage by performing renovation up till it is no longer economically cost effective**

Description: **A leakage detection group is to be created to identify those areas of the potable water network which contribute greatest to the leakage of water. Results will be used to determine where network rehabilitation will be done to reduce leakage**

Benefits / Risks: **Reducing need to develop a new well field to meet future demand, improved pressure in the network, fewer pumps needed to operate at peak periods providing electricity savings, lower volume of water supplied to the network resulting in lower chlorine costs**

Resources required: **Two employees, leakage correlation/detection equipment, 1 light vehicle, funding from capital expenditure for network rehabilitation as required**

Effects on budget \$000 (no inflation)

Expense category	Year 1	Year 2	Year 3	Year 4	Year 5
salaries	2	2	2	2	2
social insurance	.7	.7	.7	.7	.7
material	0	(0.2)	(0.4)	(0.6)	(0.6)
equipment	0.5	0.5	0.5	0.5	0.5
electricity	0	(30.0)	(6.0)	(9.0)	(9.0)
capital expenses	50	50	50	50	50

Changes to performance indicators

% leakage	2.25	2.13	2.01	1.89
production cost/ m <sup>3</sup>	.060	.058	.056	.054
bursts/km/year	.213	.210	.207	.204

**Operations management plan - Exercises**

1. Describe the type of information which is assembled in a work plan.

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2. How is the information in the work plan used by management through the duration of the year?

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3. List some performance measures you are using today.

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4. Do any of these performance indicators tell you how cost efficient the activity is? (mark the indicators with a "x")

5. For each of the indicators listed in question 3, identify the expense category which is effected when performance improves.

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6. List the departments in your utility which could potentially be providing inputs to your work plan.

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### **Operations management plan - Key learning points**

- The work plan is a collection of the production objectives for each department in the water utility. It is a commitment of what will be done, what target is to be reached, when it will be reached, and the resources in terms of budget, people and equipment needed.
- Managing operational activity then becomes a matter of monitoring the work plan and comparing with actual results to see where assistance is needed.
- A successful work plan has the effect of improving water quality, increasing customer satisfaction and lowering costs. Result - increased value for money.
- Recipe for successful operational management:
- “80 percent of a manager’s job is thinking about the future, the rest of the time is spent helping employees resolve the few problems of today.”
- Distribution and collection of inputs for the work plan and budgets are best done by individual department.



### **Operations management plan - Key learning points**

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- Distribution and collection of inputs for the work plan and budgets are best done by individual department.





## **6 DEVELOPING AN INVESTMENT PROGRAM**

### **Overall objective**

To provide a short introduction to preparing an investment program.

### **Contents**

#### **6.1 Concepts and Principles**

- Investment planning as a process
- Roles in the planning process
- Small projects
- After the feasibility study...

#### **6.2 Tools and Skills**

- Putting projects in priority order
- Identifying a need
- The feasibility study

#### **6.3 Exercises**

- Need identification
- Giving company goals priority weights
- Assigning priorities to proposals
- Deciding what your company will do next year
- Defining briefs for the next steps

#### **6.4 Key Learning Points**

*Investment planning is a process. It is the process of choosing how to spend capital investment.*

## **6.1 Developing an investment programme - Concepts and principles**

### *Investment planning as a process*

The income of any organisation is limited, and the amount left over after paying for current operation and running cost is still more limited. Water utility organisations are in a similar situation, with very limited resources and many potentially useful projects. Investment planning is the name used for the process of choosing which projects to proceed with, and when. The process never ends, but can be organised by:

- a) having an annual cycle that fits in with other water utility activities, in particular to do with budgeting and tariff setting
- b) trying to ensure a relatively constant level of investment from year to year.

The stages in the process are shown in figure 6.1. The first stage is to confirm that there really is a problem to be solved or an opportunity to be taken. This sounds obvious, but experience indicates that the objectives of proposals are not always in line with company goals.

The second stage is an investigation of the options for solving the problem that has been identified, and leads into the third stage, which is the choice of the preferred solution.

The preferred solution will not necessarily require investment. For example, a water quality problem may be reduced by a mains cleaning programme, or a treatment problem may be solved by changing the method of operating the process.

### *Roles in the planning process*

The process should be guided and controlled by a group of people whom we shall call the “planning group”. Ideally this small group includes people who between them understand the company’s goals, its financial situation, and the engineering aspects. This group exercises control at two stages in particular:

- a) Confirming the need for some action, and approving a “feasibility study” during which the options for meeting the need will be studied, and a preferred option chosen. For undertaking this, the utility might wish to consider using the services of a consultant in order to get an independent view on the needs and most cost effective solution.
- b) Agreeing that utility will go ahead with the recommended solution, and will pay all associated costs.

Others with a role in the process are:

- the originator who identifies the need/opportunity

*It is important not to design and invest in a new system that is over designed and will be unaffordable to customers and will cause overwhelming financial burden on the utility and the municipality*

- the person responsible for the feasibility study that identifies the preferred solution
- the person responsible for detailed design and awarding the contract

the person responsible for supervising construction and testing the completed plant before hand over.

### ***Planning and Design for Town Water Systems***

Normal engineering processes of designing new water supply systems are mainly based on projected demands and population growth statistics. Projections of demand and designs based on these projections can create significant uncertainties for decision-makers. Planners need to look forward and to design on the basis that the new water supply system will be sustainable... and this means financially viable for the financially self-sufficient water utility. At the centre of planning for a viable system, will be the actual demand defined by the willingness of the future customers to pay for them.

**It is important not to design and invest in a new system that has excess capacity or is over-built, that will be unaffordable to customers and that will cause overwhelming financial burdens on the water utility.**

Demand for a water utility planner can be defined as:

- how many households will connect and use the improved and/or expanded system
- how much water will the users "purchase"

*"The financial viability of water supply systems depends on having customers with connections in the short term – it needs to connect customers as soon as the system is in place."*

Don Lauria

Relationships with customers and potential customers for areas for expansion are extremely important. Rather than making assumptions that most households will want to connect to an improved system, it is crucial to focus on good information about customers' likelihood to connect. The implication of designing based upon the willingness to connect and pay is that the first task of planning is to tailor the basic capacity of the system to the number of users who will connect to it on completion of the construction.

Demand projections in the **long term** (that is numbers of new connections and amounts they will buy over time in the future) are mainly important for the purpose of planning excess capacity in improved water systems. The provision and investment for excess capacity in the long term can be financially very risky.

So what can be done to determine demand?

- evidence and relevant experience - your experience and knowledge about the population in your supply area.
- willingness to pay surveys for short-term demand
- customer information

Important customer information will include information on:

- the number of households that have and do not have their own private water supply
- the number of households currently sharing water supply sources or using vendor supplies
- levels of satisfaction with present supply
- levels of household income
- household **attitudes** to an improved and expanded water supply system and **attitudes** towards the local water utility (are they well regarded and do people have confidence in its ability to provide the service they need?)

### ***Importance of a Connection Policy for Town Water Supplies***

Ensuring that customers connect to the water supply system is important for a number of reasons:

- **first**, connections mean that the utility is doing its job of ensuring a supply to the people that you serve;
- **second**, connections mean that you have customers and these customers will be required to pay for the water service that the utility is providing;
- **third**, connections with paying customers is the basis for the utility's income, and this provides the basis for the financial self-sufficiency sustainability of the utility.

Connections policy is more complex than the logistical process of making the connection. In fact it is at the centre of the water utility's relationship with customers. Connections are an important part of planning and designs for town water supply, because the utility needs a sufficient number of regular customers to ensure positive cash-flow. The long term goal should be to increase the number of private household or dwelling connections.

However not every potential customer will be able to afford to pay the costs of a connection so the utility needs to develop a strategy for encouraging as much connection as is possible. The issues that need to be considered include:

*If planners based designs and investments on the expectation rather than real data of new connections but they don't materialise, then the sustainability of the project (and utility) is at risk*

*Managing customers on low incomes requires flexible and novel approaches*

- type of connection (such as private household, shared connection, yard taps, private kiosks) and
- the connection fee.

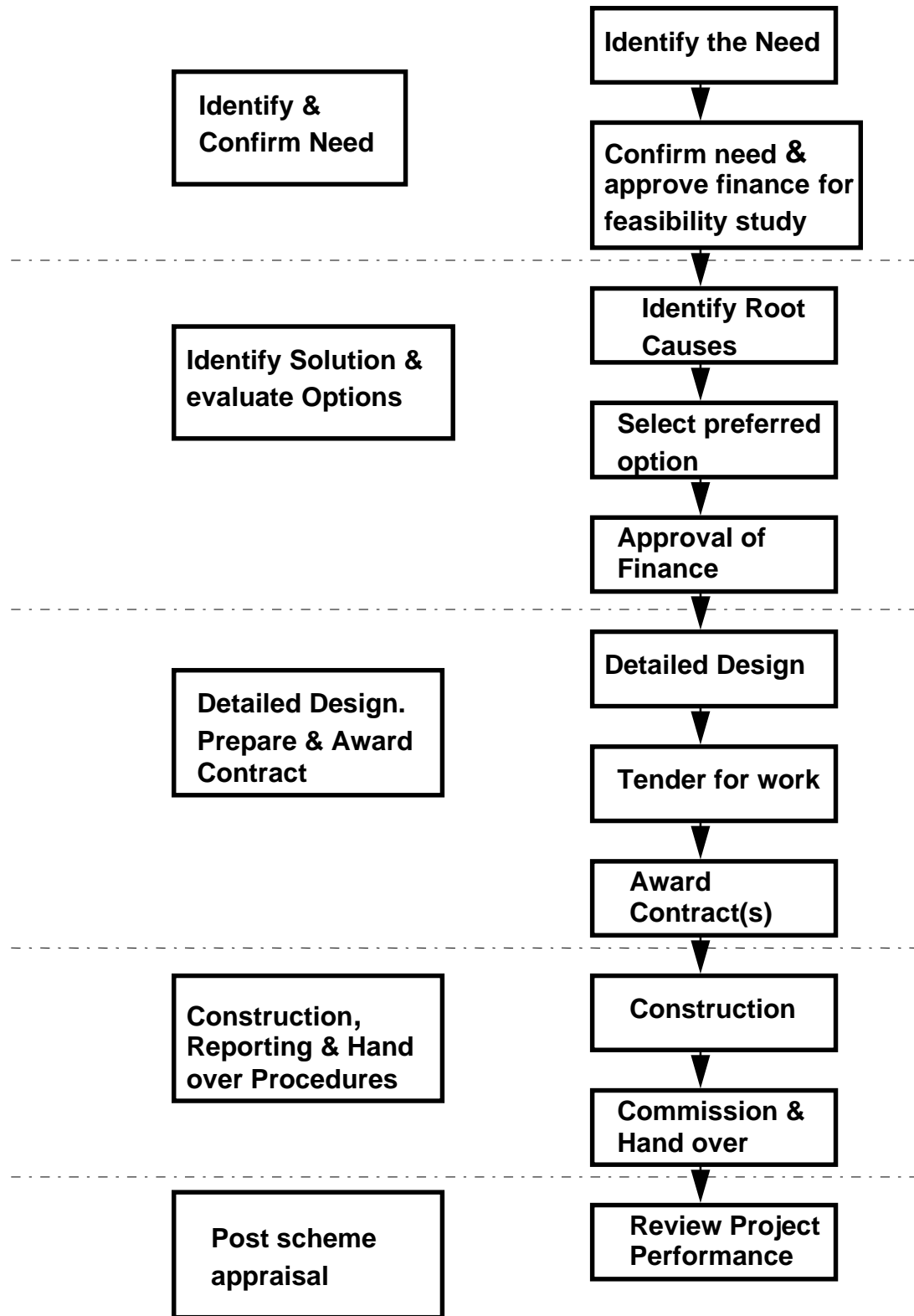
The connection fee is the likely cause of most people's reluctance to connect to a piped water system and it is therefore important for the utility to find out what customers' opinions are about this and about their willingness to pay.

Information regarding the preferences of customers needs to come from surveys with customers and from discussions with community groups which represent customers – NOT guesses about customer intentions.

With this information, decisions can be made about what type of water supply extension service is wanted by different customer groups.

Strategies can be developed to "market" the water utility's plans for extending services. This is a vital aspect of the strategy because the plan's viability will depend on having customers with connections. Strategies to maximise the number of customers take on a connection usually concern providing support to the level of the up-front payment. The utility can decide a policy in which some or all customers pay a percentage of the cost over a period of time (a deferred payment made in instalments) or with support from the government (local or national) connections to some lower income households could be subsidised.

Subsidising low income households to connect may be the best strategy to increase water sales and usage.



**Figure 6.1** Implementing capital investment projects. A step-by-step process

### ***Small projects***

A full assessment process is necessary for major projects. There will be small simple projects for which the full process is unnecessary, such as the replacement of a pump with a similar new one. A simplified process can be used for such projects, but it is probably important that control is retained by the planning group. This is partly to ensure financial control, but also as a check that the proposed action is correct. For example, if a pump is being replaced early, why? Should the replacement pump be bigger or of a different type?

### ***After the feasibility study...***

The feasibility study is just the beginning, and its cost should normally be only a few percent of the expected investment costs. The stages that follow approval of finance for an investment project comprise:

- detailed design
- award of the contract(s) for construction
- construction
- commissioning and hand-over
- appraisal of the effectiveness of the investment after a period of operation.

These stages apply to construction work. If equipment is being bought, the process is simpler.



## 6.2 Developing an investment program - Tools and skills

### *Putting projects in priority order*

It is always likely to be the case that there will be more projects than the water utility can afford to pay for. Given that the available financial resources, based upon customers' willingness to pay and available funds from loans or government grants, will be limited; the most important priority projects need to be chosen.

The importance of a proposal can be judged by assessing the contribution that the proposal would make towards achieving the water utility's goals. This can be done subjectively if there are relatively few projects. However many utilities try to make the process as objective as possible, by allocating a score to each project that corresponds to its contribution. One way of doing this is shown here. However, you may wish to adapt it to your own company's situation.

*The importance of an investment proposal can be judge on the contribution it will make towards achieving the utility's goals.*

It is possible to include stakeholders in this process, thereby ensuring that priorities and investment decisions are undertaken in a transparent and consultative way.

Before looking at the individual proposals for investment, the planning group considers the company's goals, and decides whether they should all be given equal weight, or whether some should be given more importance than others.

Suppose that the company goals relate to:

- a) The quality of water supplied (and sewage treated),
- b) Numbers of people supplied with safe piped water
- c) Health and safety of staff
- d) Extensions of water supply
- e) Saving costs and generating income
- f) The condition of the assets and equipment.

There may also be a goal relating to the development of staff skills, but training initiatives are more likely than investment proposals to contribute to this goal.

Numbers can be assigned to the planning group's views on the relative importance of these goals, using table 6.1. The scores in the table reflect the view that c) and d) are most important, while e) is least important. Two things should be checked when completing this table:

- that the ranking of importance is consistent, so that for example c) more important than a), and a) more important than e), imply that c) is more important than e).
- that the total of the weights adds to 100.

A score can then be assigned to each proposal, using an assessment of the contribution that it makes to each goal. An example for a proposal to replace unreliable company vans is shown in table 6.2. Proposals that will have a big impact on important goals will score highly - the maximum theoretically possible with this method being 400 - and schemes with a small impact will have a low score - 100 is the theoretical minimum.

The final stage is to take account of costs (table 6.3). Numerical methods of doing this have been developed by some utilities, but the comparison of costs and benefits may not be easy to represent numerically in a way that represents the water utility's situation and goals.

### ***Identifying a need***

The planning group needs information to do its job, and will be helped greatly if the information comes in a standard form. An example of a completed standard form is shown in table 6.4.

### ***The feasibility study***

The planning group's response to a proposal may be:

- To reject it.
- To confirm the need to take action, and ask for a feasibility study to recommend what action is necessary. The planning group should then define the scope of the feasibility study.
- To confirm the need for action, agree the proposed solution, and authorise expenditure. This should be done only if the planning group has no doubt about the solution.

Operations staff who commonly identify needs for investment, may have a natural wish to identify the solution too. While they should clearly have an important input to this, there may be wider issues to be considered, and the planning group should not necessarily accept a solution that has been proposed at the need identification stage.

When authorising a feasibility study, the planning group should define:

- The *objective* of the study, which may be to recommend a solution to a particular problem, and identify its costs and expected benefits.
- *What* investigations are to be done. These will include a comparison of options for solving the problem, including doing nothing as an option.
- *Who* will be responsible for the study,
- A limit to the *amount to be spent* on the study,
- A *date* for reporting back.

The results of a feasibility study may be summarised in a table - see table 6.5 for an example.

### 6.3 Developing an investment program - Exercises

#### *Need identification*

You are responsible for the water supply to a town with a population of 20000 people. Customers are complaining that, at certain times of the day, water pressure is too low for water to reach their properties. Your investigations show that the worst affected areas are at the end of the distribution system, where the ground level is above 65m. Although only 20 complaints are received each year, you estimate that in 500 households, the problems occur for approximately 1 hour each morning and evening.

Your operating staff believe that the problem has been growing steadily for the last 10 years, since water from a new well was introduced into the supply system.

Complete a “need identification sheet” for this problem, using the blank sheet in table 6.6.

#### *Giving company goals priority weights*

Imagine that you are a member of the World Bank Town Water Utility’s board of directors. The Utility’s goals against which investment proposals are to be judged are these:

a) Quality standards

Meet all water quality and environmental standards required by national law, by 2006.

b) Health and safety

Ensure that relevant staff are trained and equipped for work in confined spaces, and that unsafe electrical wiring and equipment is replaced.

c) Extension of water services

Undertake a programme to extend water supply services by the year 2006 to 20% (that is say, 3000 people) of the population that currently do not have access to safe water services.

d) Cost saving and income generation

Income should exceed operating costs plus depreciation during 2005.

e) Asset condition

Assets that are visible to customers such as vehicles and buildings should be, and appear to be, in good condition. All assets should at least be in good enough condition to perform their required role.

*Use standard templates for preparing investment proposals; but adapt them to make sure they fit your situation*

Use the blank table 6.7 to derive weights for these goals. (If you need to invent or assume details about the Company in the process, please do this and make a note of what you have assumed).

***Assigning priorities to proposals***

Using the need identification sheet examples in tables 6.10(A) to 6.10(F), assign a score to each need/proposal. Use copies of table 6.8 to do this, and enter the results on table 6.9.

Do you agree with the proposed next steps in all the sheets? If no, why not?

***Deciding what your organisation will do next year***

Your company has, with great difficulty, obtained approval to invest X\$ during 2002. In spite of some sympathy with the water utility's situation amongst elected politicians in the municipality or regional government officers and informal support for the water utility's plans, there is no guarantee of investment money for 2003 onwards.

On which proposals would you choose to spend the money allocated for investment? If you wish, use table 6.9 or something similar to help you decide. Note that feasibility studies have to be paid for from this sum of money too.

***Defining briefs for the next steps***

Define what you want to be done next, for those proposals that you have chosen. The next step may be for a feasibility study - in which case you should define what is to be done and set a limit to how much may be spent - or to proceed with the investment - in which case you may wish to modify or define more clearly what is proposed.

**Developing an investment program - Key learning points**

- There may be many investment needs, with limited money available.
- The proposals are assessed by the impact they will have on achieving the organisation's goals. A major priority for the utility likely to be to undertake to increase access to safe drinking water for the whole of the community's population
- Investment planning is a continual process, to be controlled by senior management, carried out by many different people and co-ordinated with the annual accounting cycle.

**Table 6.1 Assessing the Relative Importance of Company Goals  
 Completed Example**

	Quality Compliance	Health and Safety	Extensions of water supply	Cost saving or income generation	Asset Condition	Total	Weight
(a) Quality Compliance	3	3	2	2	4	14	19
(b) Health and Safety	3	3	2	2	4	14	19
(c) Extensions of water supply	4	4	3	3	5	19	25
(d) Cost saving or income generation	4	4	3	3	5	19	25
(e) Asset Condition	2	2	1	1	3	9	12
Total	xxxxxxx	xxxxxxx	Xxxxxxx	xxxxxxx	xxxxxxx	75	100

**Scores:**

- 1 = very much less important
- 2 = less important
- 3 = equally important
- 4 = more important
- 5 = very much more important

**Weights**

The weights are calculated by multiplying the total scores by a factor (in this case 100/75) that makes the total of all the weights equal to 100.

**Table 6.2 Assigning a Benefits Score to a Scheme**

Scheme code	Scheme name
A	Replace vans

Benefit type	Weight (from table 7.1)	Scheme impact (note 1)	Scheme score (note 1)	Weighted score (note 2)
Quality compliance	19	low	2	38
Health and safety	19	low	2	38
Extension of water supply	25	none	1	0
Cost saving or income generation	25	medium	3	75
Asset Condition	12	high	4	48
Total	xxxxxxxx	xxxxxxxx	xxxxxxxx	199

*Note 1.* The impact of the scheme may be ranked as:

- High - 4 points
- Medium - 3 points
- Low - 2 point
- None - 1 points

*Note 2.* Numbers in this column are equal to (weight multiplied by scheme score), totalled at the bottom.

**Table 6.3 Ranking Schemes**

<b>Scheme name</b>	<b>Scheme code</b>	<b>Total benefit score (from table 3)</b>	<b>Feasibility study cost (000 \$)</b>	<b>Estimated scheme cost (000 \$)</b>	<b>Rank</b>
Replace vans	A	249	small		
	B				
	C				
	D				
	E				
	F				



**Table 6.4 Need Identification Sheet**

Name of originator.....Location/'Phone no.....

Simple description of the problem or opportunity	A set of pumps used to lift water to the main service reservoir are oversized relative to their current duty, because of the reduction in demand for water during the last few years. The pumps are also inefficient compared to those that can be bought now. It is believed that the electric power required could be reduced by 40% if the pump set were replaced.
Who or what is affected? Quantify as far as possible	The utility uses more electric power than is necessary. It is estimated that the annual cost of electric power could be reduced by 15% or Y\$, if more efficient pumps were installed.
When does it occur? How frequently?	Not applicable.
Where does it occur? Be as specific as possible	Not applicable.
Proposed next action (for investigation, or investment if it is clear what is needed) Give costs where known	Buy a new set of pumps, costing Y\$.

Potential Benefits	Tick if benefit is expected	Description, quantified as far as possible
Quality compliance	No	
Health and safety	No	
Extension of water supply	No	
Cost saving / Income generation	Yes	X\$ per year, investment cost Y\$
Asset condition	Yes	Improved pump condition

**For planning group use:**

Need/opportunity Accepted/Rejected

If accepted: short name..... reference number.....

Confirmation that the next step has been defined.....

**Table 6.5 Comparison of Options for Solving a Problem**

Scheme code	Scheme name
A	Replace vans

**Option**                      **Criteria against which options are compared**

	Description	Cost	Ease of Implementation	Meets Design Objectives	Risk of Failure	Score	Rank
I	No action	Low 4	Easy 4	None 1	High 1	16	
II	Buy new vans of same type	High 1	Easy 4	All 4	Low 4	64	
III	Use a soft loan from Region to buy new vans	Fairly high 2	Fairly easy 3	Most* 3	Fairly low* 3	54	
IV	Buy second hand vans of same type	Fairly low 3	Fairly easy 3	All 4	Fairly high 2	72	
V							

**Note** \*: The new vans would require a different set of spare parts, and are said by operations staff to be less well suited to cold weather than the existing vans.

**Scores**

4 = Low cost, easy to implement, meets all design criteria, low risk of failure.

3

2

1 = High cost, difficult to implement, meets few or no design criteria, high risk of failure.

To differentiate between options, the total score is the product of multiplying the individual scores. The highest score should indicate the preferred option.

**Table 6.6 Need Identification Sheet**

Name of originator.....Location/'Phone no.....

Simple description of the problem or opportunity	
Who or what is affected? Quantify as far as possible	
When does it occur? How frequently?	
Where does it occur? Be as specific as possible	
Proposed next action (for investigation, or investment if it is clear what is needed) Give costs where known	

Potential Benefits	Tick if benefit is expected	Description, quantified as far as possible
Quality compliance		
Health and safety		
Extension of water supply		
Cost saving / Income generation		
Asset condition		

**For planning group use:**

Need/opportunity Accepted/Rejected

If accepted: short name..... reference number.....

Confirmation that the next step has been defined.....

**Table 6.7 Assessing the Relative Importance of Company Goals  
 Blank Form**

	<b>Quality Compliance</b>	<b>Health and Safety</b>	<b>Exyension of water supply</b>	<b>Cost saving or income generation</b>	<b>Asset Condition</b>	<b>Total</b>	<b>Weight</b>
Quality Compliance							
Health and Safety							
Extension of water supply							
Cost saving or income generation							
Asset Condition							
Total	xxxxxxx	xxxxxxx	Xxxxxxx	xxxxxxx	xxxxxxx	75	100

**Scores:**

- 1 = very much less important
- 2 = less important
- 3 = equally important
- 4 = more important
- 5 = very much more important

**Weights**

The weights are calculated by multiplying the total scores by a factor (in this case 100/75) that makes the total of all the weights equal to 100.

**Table 6.8 Assigning a Benefits Score to a Scheme**

Scheme code	Scheme name

Benefit type	Weight (from table 7.1)	Scheme impact (note 1)	Scheme score (note 1)	Weighted score (note 2)
Quality compliance				
Health and safety				
Extension of water supply				
Cost saving or income generation				
Asset Condition				
Total	xxxxxxxx	xxxxxxxx	xxxxxxxx	

*Note 1.* The impact of the scheme may be ranked as:

- High - 4 points
- Medium - 3 points
- Low - 2 point
- None - 1 points

*Note 2.* Numbers in this column are equal to weight multiplied by scheme score, totalled at the bottom.

**Table 6.9 Ranking Schemes**

<b>Scheme name</b>	<b>Scheme code</b>	<b>Total benefit score (from table 3)</b>	<b>Feasibility study cost (000 \$)</b>	<b>Estimated scheme cost (000 \$)</b>	<b>Rank</b>

**Table 6.10(A) Need Identification Sheet**

Simple description of the problem or opportunity	Financial reports have been late and occasionally inaccurate. In addition since becoming an autonomous water utility we are required to provide improved accounts and better financial information for management decisions. The proposal is to provide computers to improve management information systems.
Who or what is affected? Quantify as far as possible	Managers and directors do not have up to date accounts, and have to take decisions without adequate information.
When does it occur? How frequently?	From time to time.
Where does it occur? Be as specific as possible	Not applicable.
Proposed next action (for investigation, or investment if it is clear what is needed) Give costs where known	Buy two personal computers with software for preparing accounts, at a cost of

Potential benefits of solving the problem	Tick if benefit is expected	Description, quantified as far as possible
Quality compliance	No	Significant benefits to the management of the company are expected, resulting in better decisions, because based on sound information.
Health and safety	No	
Extension of water supply	No	
Cost saving / Income generation	Yes	
Asset condition	No	

**Table 6.10(B) Need Identification Sheet**

Simple description of the problem or opportunity	The electrical switch gear and control panels are old. There have been no breakdowns affecting water supplies yet, but the risk exists. There is also a risk to staff from unsafe wiring.
Who or what is affected? Quantify as far as possible	Safety of electrical maintenance staff and water treatment staff.
When does it occur? How frequently?	Not applicable
Where does it occur? Be as specific as possible	At the water treatment plant.
Proposed next action (for investigation, or investment if it is clear what is needed) Give costs where known	Replace the electrical panel and associated wiring.

Potential benefits of solving the problem	Tick if benefit is expected	Description, quantified as far as possible
Quality compliance	No	
Health and safety	Yes	Eliminate risk to electrical maintenance staff
Extension of water supply	No	
Cost saving / Income generation	Yes	Reduce power costs
Asset condition	Yes	New electrical panel



**Table 6.10(C): Need Identification Sheet**

Simple description of the problem or opportunity	Unreliable vehicles. It is estimated that vehicles are available for use only 50% of the time.
Who or what is affected? Quantify as far as possible	Company staff - delays while vehicles are repaired. Customers - completion of repair work may be delayed
When does it occur? How frequently?	Random breakdowns. The number of occasions when work was significantly delayed last year is estimated to be between 5 and 10, but definite information is not available
Where does it occur? Be as specific as possible	No specific locations
Proposed next action (for investigation, or investment if it is clear what is needed) Give costs where known	Buy new vehicles at a cost of 200000 birr

Potential benefits of solving the problem	Tick if benefit is expected	Description, quantified as far as possible
Quality compliance	No	
Health and safety	Yes	One van is said to be unsafe to drive
Extension of water supply	No	
Cost saving / Income generation	Yes	Lower maintenance costs
Asset condition	Yes	Vehicles in good condition. More repairs will be completed on time

## **7 FINANCIAL PROJECTIONS**

### **Overall objective**

To provide an overview of the basic financial principles and the financial statements to be included in the water utility's business plan.

### **Contents**

- 7.1 Concepts and principles
- 7.2 Tools and skills
- 7.3 Exercises
- 7.4 Key Learning Points
- 7.5 Worksheets

## **7.1 Financial Projections - Concepts and principles**

### ***Introduction***

A business plan needs to include information about the future financial performance of the water utility. Many of the projections of the key financial indicators will be processed automatically by, for example the Business Planning Toolkit, which is included as a disc with this Guidance Document.

So for some of the utility's managers, directors, customers and other stakeholders, having a detailed understanding of financial accounts is not essential. What is important is the knowledge and understanding that on decisions taken, on investment, on connections policy, on staffing strategy, in all probability, on any aspects of the utility's operations and future, there will be a financial implication and consequence.

This section of the Guidance Manual provides an introduction and background information to support access to this general understanding.

Once work plans for operational activities and longer-term investments have been formulated for the utility, a forecast needs to be made of the likely results that are going to be achieved by implementing the plans. Financial projections translate longer-term strategies and plans into detailed estimates of profit, asset investment and cash requirements. Working with the results of the financial projections from the toolkit, managers of the water utility will be able to see the financial impacts of their decisions and from that develop a financing strategy based on a mix of tariff income, or loans, or government grants to fund the plan. If the financial projections do not provide evidence that the plan can be financially sustainable the business planning approach allows the manager to review priorities for investment and expenditure in an iterative and consultative way. The manager can then work to achieve an agreed balance between the costs for the plan and the financing available.

Potential investors and lenders have the greatest interest in the financial projections section of the business plan as it is this information which defines the company's future financial position and sustainability.

The key aspects relevant to preparing the financial projections for a utility's business plan are now considered; the planning (or budgeting) process, time periods covered in financial projections and using financial information to chart progress against expected performance.

### ***Budgeting for the Organisation***

Budgeting is the process of preparing detailed financial projections which in turn are tied to specific management actions. The objective of budgeting is to provide a formal quantitative and authoritative statement of the enterprises plans expressed in financial terms. Budgeting is therefore seen as an important management activity; not only in terms of the outputs produced from the process, but also because of the impact the process itself has on any business.

There are many objectives to budgeting. The most significant reasons for budgeting are:

- budgeting forces managers to plan,
- budgeting encourages the communication and co-ordination of activities,
- budgeting provides a guide for action,
- budgeting provides a basis for measuring and evaluating performance.

The development of any budget rarely starts with a clean sheet of paper. Factors such as last year's level of performance and the enterprise's short-term and long-term goals influence the process.

### ***Time Periods for Budgets***

In general planning horizons chosen for a budget will depend on the uncertainty of the operational environment, and management's need for financial information to monitor performance. It is normal however to distinguish between two types of budget; short-term and long-term, because they may seek to serve different purposes and because the level of detail they incorporate differs widely.

*Long-Term Budgets:* These are budgets which relate to the development of the utility over many years and as such are unlikely to be changed very often. They reflect a long-run appreciation of an organisation's objectives and are usually drawn up in very general terms. Long-term budgets are typically prepared for a period of between three and ten years and deal particularly with the likely requirements for long-term assets and the appropriate mix of financing through loans (debt) or through customer income.

*Short-Term Budgets:* These are budgets which relate to current conditions and usually cover a period of one year. Such annual budgets are in turn broken down into quarterly, monthly, four weekly or even weekly periods to monitor progress.

Long-term budgets should be prepared as part of the utility's business plan; whilst short-term budgets ought to be used to manage the business on a day-to-day basis. The Toolkit provides an opportunity to project costs and income over a 12 to 20 year period.

- ***Responsibilities***

Budgets reflect areas of responsibility within an organisation. Typically a manager is responsible for a particular area of activity within an organisation and as such manages a specific responsibility centre i.e. has control over particular resources for a specified period. Responsibility centres are usually cost centres, revenue centres, profit centres or investment centres

A *cost centre* is the smallest area of responsibility for which costs are accumulated. For example a single department of an organisation employing a few people. A manager in charge of a cost centre is held accountable only for the costs over which he/she has control. He/she has no control over and is therefore not accountable for revenues earned. A *revenue centre* is the converse - having accountability for income, but not costs.

A *profit centre* such as an autonomous division within an organisation is a section of business for which both costs and revenues are accumulated. Thus a manager in charge of a profit centre is responsible for the profit or contribution margin earned by his/her section of the business.

The manager of the *investment centre* is responsible for the return on the assets under his/her control.

It is critical to identify responsibility centres within a utility as a prerequisite to budgeting and preparing any financial projections.

- ***Management Control***

Once plans have been agreed and decisions implemented, reports are prepared to determine whether events are going according to plan. This control process can be thought to involve three sequential, but interrelated stages; (i) the recording of actual performance (ii) the comparison of actual performance with expected performance and as a linking stage (iii) the provision of regular feedback to allow continual monitoring of events.

The *operations report* presents actual work results. Primarily, the operations report shows actual data for comparison with budgeted, projected figures.

The budgeted, projected figures can be given in the form of a static (also known as a fixed) budget. This budget does not necessarily correspond to the real results achieved in terms of the level and type of activity.

A flexible budget mirrors actual results and operational characteristics. For control purposes it is necessary to compare like with like i.e. compare actual and budgeted costs at the level of activity achieved during any period. This ensures that valid comparisons and inferences can be made when the budgeted activity level is not attained. If the organisation's output tends to vary across a range of levels then a

number of different, flexible budgets should be prepared. They show the effects on costs (and contributions) of producing at various activity levels and thus put the management in a better position to evaluate performance and take appropriate action.

The key to flexible budgeting is the separation of fixed and variable costs. If costs are split in this way, it becomes much easier to gauge the impact of changes in the activity level on the period's results. In practice this split may not be easy to achieve. Very few of the utility's costs are 'fixed' over the long term and very few are 'variable' in the short term. Thus the time period chosen in preparing the flexible budget is very influential in the determining the usefulness of the control system's output and thus its ultimate success.

Differences between budgeted and actual performance are termed variances. *Variance* is the difference between projected and actual results or between normative expenses (or income) and actual expenses or income. Variance may be :

- negative, when actual income does not reach the budget or when actual expenses exceed the budget,
- positive, when actual income exceeds the budget or when actual expenses are lower than the budget.

A variety of variance types can exist and variance can be grouped into *income or sales variance* and *expense variance according to the company*.

Variance analysis is a key part of the feedback mechanism for managers. It assists in revealing areas where action is necessary and where decisions have to be made. First of all, variance analysis shows how effective the organisation and its departments were meeting and implementing goals. In general, not adhering to a static budget is defined as not being effective. *Productivity* is the relationship between budgeted and actual results and it demonstrates how efficiently resources were used. Operations can be both effective and productive, although something which is productive should not automatically be assumed to be effective and vice versa. For example, the introduction of meters into every household is a feature of effective operations if this was an action which met an operational objective. It does not however imply that operational activities were productive. For example, what about future metering maintenance and potential costs of unreliability, were they taken into consideration?

- ***A system of production accounting in water supply utilities***

Water utilities most frequently apportion expenses to the two types of services they provide - water supply and waste water collection. The activity of a water supply utility is unlike any other mass production or manufacturing production activity. The production process consists of operating the water supply system and physical equipment comprising the network and infrastructure; rather than the process of converting raw materials into a finished product. Servicing the water supply

system is often not a continuous and constant process; the operation tends to be characterised by an abundance of tasks which are not performed as a matter of routine. Due to this, water supply utilities often need to focus on maintaining a production accounting system which reflects the types of activity and jobs undertaken i.e. where the major expense items correspond to activities, such as water saving, maintenance of water supply system, dealing with accidents, etc. Each major activity within a water supply utility can be allocated a centre of responsibility which estimates the cost of production. Applying a standard accountancy system for a water utility is not therefore always suitable.

In addition, the accounting system practised at a water supply utility can accommodate one more distinctive feature - that the activities of a typical water supply utility cannot be evaluated purely on a financial basis using financial indicators. If a static budget is drawn up for a certain activity, achieving the budget does not necessarily mean that the activity was carried out in a satisfactory way, because such an activity such as preventive maintenance of the water supply system could have not been conducted at all. So, the total budget of water supply utility needs to be accompanied by the establishment and control of non-financial indicators such as customer satisfaction.

## 7.2 Financial Projections - Tools and Skills

### *Financial Information for Business Planning*

The financial information for a business plan should comprise three main statements - the budgeted (i) profit and loss statement, (ii) account balance sheet and (iii) cash flow statement. In addition a commentary needs to be prepared on the financial statements to highlight key result areas and financial performance.

A water utility's business plan should show

- profit and loss projections on an annual and quarterly basis for the planning period
- account balance sheets on an annual basis for the planning period
- cash flow analyses as annual projections for planning period, with monthly analysis in the first year and quarterly thereafter.

The assumptions on which the projections are based should be made explicit so that an appropriate evaluation of the information presented can be made. Assumptions may be specific e.g. the basis of the utility's sales forecast, the financing requirements, the investments to be made or non-specific to the utility e.g. macro-economic assumptions. Managers within the utility should be consulted in order to identify the most realistic assumptions for the budget whilst the latest published or publicly available information can be referenced to determine the general assumptions e.g. for inflation the Ministry of Economics have made available certain assumptions.

*For example; annual assumed inflation*

2004	25%
2005	16%
2006	14%
2007	10%

The following sections offer a guide to the preparation of the main financial statements as well as the financial commentary that is required to complete the water utility's business plan.



### ***1. PROFIT AND LOSS STATEMENT***

The *Profit and loss statement* shows the organisation's profit (or loss) *over a particular time period*. The profit and loss statement provides profit calculations indicating the period's income and the period's expenses with the difference between the two representing profit.

Here is a simplified form of profit and loss statement:

+Turnover from sales (income)

- Cost of goods sold and services rendered

=Gross profit

- Administrative and selling expenses

=Profit from operations

+Profit from financial, investing and extraordinary activities

=Profit before taxes

- Profit tax

=Net profit

**Table 7.1 Example of a Profit And Loss Statement**

	-	1 month	2 month	3 month	Total
<b>Net income:</b>					
Water supply	123	120	121	124	366
Waste water collection	132	130	132	135	398
	255	250	254	259	763
<b>Costs of the goods sold:</b>					
Water supply	84	82	83	85	250
Waste water collection	129	123	125	130	377
	213	205	208	215	628
<b>Total profit</b>	42	45	46	44	136
Administration costs	38	37	38	38	113
<b>Operational profit</b>	4	8	8	6	23
Financial operations profit	-	0	1	2	3
Extraordinary operations profit	-	-	-	2	2
<b>Profit before taxes</b>	4	8	8	6	22
Profit taxes	1	2	2	1	4
<b>Net profit</b>	<u>5</u>	<u>9</u>	<u>9</u>	<u>8</u>	<u>26</u>
<b>Distribution of the net profit</b>					
Dividends	-	-	-	-	-
Undistributed profit	5	9	9	8	26

The operational profit and loss statement shows the calculation of the operational profit as part of the production activity plan. The utility's production activity plan serves as a basis for the preparing the estimated profit and loss statement in that the budgeted production activity plan projects the utility's future production activity in both quantitative and financial terms.

The operational profit is not however the overall profit for the utility. The utility may also receive income and incur losses from the activities which are not related to the main water supply and wastewater operations. For example, water companies pay interest for the loans they receive, they earn a small amount of interest on the bank balance; sometimes they may get profit by selling depreciated equipment or equipment which is no longer used. Such revenues belong to the financial, investment and extraordinary activities of the utility and are accounted for as separate distinct items from the main operational activities of a water utility.

The net profit is calculated by deducting the total expenses from the total income of the utility; before deducting the final expense which is tax. The net profit increases the owner's (for example a municipality) equity in the utility and it could be apportioned in two ways: either paid in dividends and or left in as undistributed profit for reinvestment.

## 2. ***BALANCE SHEET STATEMENT***

*An account balance* or balance sheet, gives a picture of the assets owned by the organisation and the liabilities and capital by which the organisation's assets are financed. The account balance is constructed according to the balance of account *on the last day of the accounting period*. This is a typical account balance structure:

Assets: Liabilities:

+Short term assets+Short term liabilities

+Long term assets+Long term liabilities

+Owners' equity

=Assets=Liabilities plus Owners' equity

**Table 7.2 Example of a Balance Sheet**

	-	1 month	2 month	3 month
<b>ASSETS</b>				
<b>Short - term assets:</b>				
Cash	500	595	341	507
Accounts receivable	100	107	109	112
Inventory	15	26	28	29
Other short term assets	45	42	35	33
	660	771	513	681
<b>Long term assets:</b>				
Buildings	15,000	15,000	15,250	15,350
Structures and equipment	19,000	19,000	19,180	19,180
Other long term assets	9,000	9,000	9,000	9,020
Depreciation	-17,250	-17,325	-17,401	-17,477
	25,750	25,675	26,029	26,073
<b>Assets, total</b>	<b>26,410</b>	<b>26,445</b>	<b>26,542</b>	<b>26,754</b>
<b>Liabilities and shareholders' equity</b>				
<b>Short - term liability:</b>				
Accrued expenses	50	87	88	90
Accounts payable	10	9	9	9
Short term payables	20	10	-	-
Other short term liabilities	20	20	17	19
	100	126	113	117
<b>Long term liabilities:</b>				
Bank loan	-	-	100	300
	-	-	100	300
<b>Shareholders' equity:</b>				
Common shares	10,000	10,000	10,000	10,000
Undistributed profit	16,310	16,319	16,329	16,336
	26,310	26,319	26,329	26,336
<b>Liabilities and shareholders' equity, total</b>	<b>26,410</b>	<b>26,445</b>	<b>26,542</b>	<b>26,754</b>

A balance sheet consists of two parts - assets and liabilities; total assets always balance with total liabilities plus shareholders' equity.

The assets are divided into *current* assets which are also called working capital and *fixed assets*. Current assets are items such as cash in the bank, accounts receivable, and inventories, while fixed assets are mainly assets which are used for production.

Similarly, liabilities are divided into short-term and long term liabilities. *Short term liabilities* are payable within one year from the balance day and they generally include accounts payable to the suppliers, employees, the state, and financial institutions. *Long term liabilities* are payable after more than one year and are generally bank loans.

The difference between short-term assets and short-term liabilities is called the *net working capital*.

In addition to liabilities, assets are financed by the shareholders' equity. The equity of water utilities' owners includes *shares*, owned by the municipalities and *undistributed* or *retained profit*.

### 3. **CASH FLOW STATEMENT**

*The cash flow statement* shows cash inflows and outflows of the company over a certain period of time. The total cash flow of the period consists of the cash flows of three operational areas: cash flow of the main operations, investment operations and financial operations.

+Cash flow from the main operating activities

+Cash flow from investing activities

+Cash flow from financial activities

=Total cash flow

**Table 7.3 Example of a Cash Flow Statement**

	1 month	2 month	3 month
<b>Cash flow of the main operations:</b>			
Net profit	9	9	8
Depreciation	75	76	76
Change in the working capital	20	1	2
	105	86	86
<b>Opening cash balance</b>	<b>500</b>	<b>595</b>	<b>341</b>
<b>Closing cash surplus (shortage)</b>	<b>605</b>	<b>681</b>	<b>427</b>
<b>Cash Flow of Main Operations</b>	<b>105</b>	<b>86</b>	<b>80</b>
<b>Investment operations cash flows:</b>			
Selling of the buildings	-	-	-
(purchase of buildings)	-	-250	-100
Selling of structures and equipment	-	-	-
(purchase of structures and equipment)	-	-180	-
Selling of the other long term assets	-	-	-
(purchase of the other long term assets)	-	-	-20
	-	-430	-120
<b>Financial operations cash flow:</b>			
Issuing of common shares	-	-	-
Getting of a bank loan	-	100	200
(Repaying a bank loan)	-10	-10	-
(Paying dividends)	-	-	-
	-10	90	200
<b>Cash balance at the end of the period</b>	<b>595</b>	<b>341</b>	<b>507</b>

*The cash flow of the main operations is made up of inflows and outflows related to the net profit. It also includes cash inflows from the sold goods and services, obtained loans and dividends from other organisations. The cash outflows of main activities consist of money paid to the suppliers of the raw materials, employees and contractors, and interest to the bank.*

The cash flow of the main operations could be calculated in two ways - directly and indirectly.

Using the direct method, cash outflows are deducted from cash inflows. For finance accounting purposes this method is rarely used as it requires a separate cash accounting procedure.

The cash flow of the main operations can also be calculated indirectly using the profit and loss statement and balance sheet. If we use the indirect method, we take the net profit and make adjustments - add the depreciation which is not a cash outflow, the decrease in the working capital related to the main operations over the period, or deduct its increase.



Total cash flow statement, when the cash flow of the main operations is made up directly, is also called the *cash budget*.

*Investment operations cash flow* includes cash inflows and outflows related to the purchase or sale of the long- term assets. The sale and purchase of assets, the giving and repaying of loans; the sale and purchase of securities have an impact on the cash flow of the investment operations.

*Operational cash flow* is relates to cash inflows and outflows from debtors and creditors. Inflows relate to the money received by issuing shares and taking loans, while the outflows are payments of dividends and the repayment of loans.

**Table 7.4 Cash Flow of the Main Operations (Direct method)**

	1 month	2 month	3 month
<b>Cash inflow of which:</b>			
apartment service companies	63	63	63
Co-operative associations	38	38	38
individual houses	15	15	15
Industry	102	102	102
other customers	36	36	36
	254	257	262
<b>Cash outflows:</b>			
wages and salaries	67	67	67
social security	20	20	20
utility services	29	31	25
taxes and charges	13	20	22
materials and goods inventories	6	4	8
Contractor services	7	8	9
Other outflows	7	20	25
	149	170	176
<b>Cash flow of the main operations</b>	<b>105</b>	<b>86</b>	<b>86</b>

#### **4. KEY RESULT AREAS & PERFORMANCE INDICATORS**

Having developed the three financial statements, an important step in preparing the financial projections for the utility's business plan is to provide an interpretation of these statements, identifying the key result areas.

It is important to be aware that normally there is no one unique financial picture for a utility. The way profit, assets and wealth are measured in accounting and financial terms tends to be quite subjective. This makes the monetary values which are recorded in any financial statements dependent upon the view of the person making them. An accountant's view of a financial picture may be different from the municipality's view, which may not be the same as an investor's view, which may in turn be different from a manager's view! This means that when looking at financial statements you are not dealing with absolute and unequivocal measures.

Due to the volume of data presented in the financial statements of a utility's business plan, it is often difficult to look at a profit and loss account or a balance sheet and derive a full picture for a business. Ratios can therefore be used to highlight key result areas and interpret the financial projections. A ratio is simply a relationship between two numbers. Ratios help to simplify by reducing the amount of data presented and help to provide a pattern or structure from a potential mass of numbers. Ratios or performance indicators are essential therefore in presenting information to any interested parties.

When ratios are compared to the same ratios from previous periods, trends and patterns of performance can be seen. Ratios can also be compared with the same ratios for other organisations operating in a similar environment in order to give an idea of relative, and if appropriate, competitive performance. Performance ratios are published for many business sectors enabling cross industry comparisons to be made. Industry averages which are published are sometimes referred to as industry norms or benchmarks.

Table 7.5 summarises the framework of financial performance indicators which can be used in a utility's business plan under three broad headings.

**Table 7.5 A Framework for Financial Analysis**

**INVESTMENT**

*Performance indicators to show how the financial results relate to the s/holders stake in the utility*

1. **Return on shareholders funds:**  $\frac{\text{Profit after interest \& tax}}{\text{Shareholders funds}} \times 100$

**FINANCIAL STATUS**

*Performance indicators to measure the utility's financial stability distinguishing between its solvency or ability to meet its long-term liabilities*

2. **Gearing ratio:**  $\frac{\text{Loans \& bank overdraft}}{\text{Equity \& long term loans \& bank overdraft}} \times 100$

3. **Interest cover ratio:**  $\frac{\text{Profit before interest \& tax}}{\text{Loan interest}}$

*and its liquidity or ability to meet short-term commitments*

4. **Current ratio:**  $\frac{\text{Current assets}}{\text{Current liabilities}}$

5. **Acid ratio:**  $\frac{\text{Liquid assets}}{\text{Current liabilities}}$

**PERFORMANCE**

*Performance indicators to indicate how successfully and efficiently the utility is being run measuring how good the management is at securing and utilising assets*

*Profitability*

6. **Profit margin:**  $\frac{\text{Profit before interest \& tax}}{\text{Sales revenue}} \times 100$

7. **Profit/total assets & ROCE:**  $\frac{\text{Profit before interest \& tax}}{\text{Total capital employed}} \times 100$

*Efficiency*

8. **Asset utilisation:**  $\frac{\text{Sales revenue}}{\text{Total assets}}$

9. **Debtor turnover ratio:**  $\frac{\text{Sales revenue}}{\text{Debtors}}$

10. **Debtor days:**  $\frac{\text{Debtors} \times 365 \text{ days}}{\text{Sales}}$

11. **Creditors' turnover:**  $\frac{\text{Cost of sales}}{\text{Creditors}}$

12. **Average payment period:**  $\frac{\text{Creditors} \times 365 \text{ days}}{\text{Cost of sales}}$

The key performance indicators, which the utility can use to highlight result areas are now explained in more detail. Please refer to this with some caution since the purpose here is to provide general definitions and explanation. There will be circumstances for a water utility, which may mean that some of these indicators should not be regarded as absolute positions of “success” or “failure”.

### **Solvency Indicators**

If the net worth of an organisation becomes negative i.e. the total liabilities exceed the assets, then the organisation has become insolvent. If it were closed down in this situation, it would not be possible to repay all the people who were owed money.

One performance indicator, which gives an indication of solvency is the gearing. It is normally defined as the ratio of debt (i.e. loans from all sources including debentures and overdraft) to total finance (i.e. shareholders capital plus reserves plus long term debt plus overdraft). The higher the proportion of loan-finance the higher the gearing. The gearing should not be greater than 50%, although for new small businesses it tends to be higher. If the cash flow is stable and profit is fairly stable then the enterprise can afford a higher gearing.

Operational gearing refers to the relationship between fixed and variable costs. If profit for organisation ‘A’ rises by 45% for a 10% increase in sales, whilst profit for organisation ‘B’ rises by only 15% in response to a 10% increase in sales, it is because the fixed costs for organisation ‘B’ are a smaller fraction of its cost structure. Organisation ‘A’ therefore has a higher gearing. Organisation ‘B’, however, could sustain a much higher fall in turnover before reaching a break even sales point than organisation ‘A’.

In addition to watching the gearing, investors will also want to be satisfied that an organisation will be able to pay interest on a loan. They look particularly therefore at how many times profit or surplus exceeds the interest being charged. If this is more than 4 it is usually very good. If it is less than 2 it may indicate problems if interest rates rise.

### **Liquidity Indicators**

An organisation should always have enough current assets (e.g. debtors, cash in the bank, work in progress and stock if applicable) to cover current liabilities (e.g. bank overdraft, creditors etc.). Liquidity ratios indicate the ability to meet the liabilities with the assets available. The current ratio shows the relationship of current assets to current liabilities. This ratio should normally be between 1.5 and 2. Some people argue that the current ratio should be at least 2 on the basis that half the assets might be stock for an organisation. If it is less than 1 (i.e. current liabilities exceed current assets) the organisation could be insolvent.

A stricter test of liquidity is the quick ratio or acid test. Some current assets such as work in progress as stock may be difficult to turn

quickly into cash. Deducting these from the current assets gives the quick assets. The quick ratio should normally be around 0.7 to 1.0. To be absolutely safe, the quick ratio should be at least 1.0, which indicates that quick assets exceed current liabilities. If the current ratio is rising and the quick ratio is static, there is usually a stockholding problem.

Some people find it helpful to calculate the 'defensive interval'. This is the best measure of impending insolvency and shows the number of days the organisation can exist if no more cash flows come in. As a guide this should be 30 to 90 days though this varies depending on the industry.

### **Profitability Indicators**

There are a number of simple profitability ratios that can be used. Some investors will also want to know the **return on capital employed** (ROCE). This will give a comparison with what could have been achieved had the same sum of money had invested in a bank. In this performance indicator, profit is related to the resources used to generate it.

### **Efficiency Indicators**

Efficiency indicators provide a measure of how much working capital is committed, gauge how quickly the organisation collects outstanding debt (and pays creditors) and shows how effective the organisation is in making money work and generating a return.

Asset utilisation is the ratio that measures capital intensity. It indicates how many \$ are generated for every \$ invested in total assets. If ROCE is chosen as the performance ratio for profitability then for consistency sales revenue divided by net assets should be chosen, since net assets equals capital employed.

For the debtors' turnover ratio, average debtors for the period should be chosen. An approximation is given by dividing the sales by the debtors at the end of the period. Dividing this ratio into the days of the year gives the average collection period in days.

Tight credit control is essential. The collection period should be kept as short as possible and many organisations aim to operate on 30 days often finding it is worse than that.

Monitoring how long it takes to pay your suppliers is as important as how long your customers take to pay you. If suppliers have to wait too long, they may withdraw credit facilities. It is normal to use cost of sales in calculating the average payment period. When comparing your utility with others, however you may need to approximate by using the sales of similar utilities.

### **Other Non-Financial Performance Indicators**

In addition to the financial measures discussed above, other non-financial performance indicators should be highlighted in the business plan. A discussion of these measures has been included under the relevant preceding sections of this manual.

Non-financial indicators for a water utility could include

- Resource Management

*For example*

- Current water supply and wastewater treatment levels
- Percentage of unaccounted for water
- Present production rates versus future demand and capacity

- Operating Assets & Statistics
- Environmental/Quality Compliance

*For example*

- Number and type of regulatory violations

- Service Quality

*For example*

- Measured customer satisfaction
- Number and type of customer complaints

- Stakeholder Relations

*For example*

- A qualitative measurement of relationships with the municipality

### 7.3 Financial Projections - Exercises

**1. Does your utility draw up budgets? If yes, list them.**

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

**2. What is the purpose of drawing up a budget in your utility?**

Budgets are used for operational planning and management

- Yes
- No

Budgets are used for securing financial resources

- Yes
- No

Budgets are used for seeking increase of tariffs

- Yes
- No

**3. Responsibility centres**

Who is considered to be responsibility centres in your utility? Please indicate their names or titles.

Expense centre	Income centre	Profit centre	Investment centre
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

#### 4. *Expense objects*

Managers wish to have a separate accounting for expense objects (divisions, activities, services). List expense objects of your utility:

_____	_____
_____	_____
_____	_____
_____	_____

#### 5. *Direct and indirect expenses*

Let us assume that your utility has two expense objects, such as water supply and wastewater collection. One of your auxiliary shops received some materials from a warehouse and carried out a pipeline maintenance work.

- Labour expenses incurred by an auxiliary shop will be viewed as:
  - direct expenses  indirect
- Material expenses incurred by an auxiliary shop will be viewed as:
  - direct expenses  indirect

Please consider, how it is done in your utility.

#### 6 **Financial Statements**

- “It is tax inspectorate and the banks that need financial statements, but not water utilities themselves.”
  - Agree
  - Disagree

Why?

_____
_____
_____

- “While making plans we draw up (would draw up) only an estimated profit and loss statement. An estimated account balance



and the more so a budgeted cash flow statement is not useful for the purposes of management.”

- Agree
- Disagree

Why?

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- “Estimated financial statements describe a utility’s profitability and financial status, therefore they well define the aims that utility should be striving for. Municipalities have to control the activities of the water utility first and foremost relying on how well estimated financial statements are fulfilled. “

- Agree
- Disagree

Why?

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#### **7.4 Financial Projections - Key Learning Points**

- The water utility's budget is a plan of the entire utility expressed in quantitative and financial terms over the planning period.
- The total budget reflects the decisions, which are to be taken by a utility and the results, which can be expected.
- A formal budgeting process forces managers to plan; encourages the communication and co-ordination of activities; provides a guide for action and provides a basis for measuring and evaluating performance.
- The development of a budget or financial plan has to be accompanied by a process of management control. The main means of control is a formal operational report, which demonstrates how well a utility's budget is being fulfilled. For management purposes, actual operational data is compared with projected figures in order to demonstrate the plan variance.
- Managers are interested in variance, since variance indicates areas that need attention.
- Due to nature of their activities, water utilities need to supplement financial performance indicators with non-financial indicators when measuring performance.
- Financial projections and financial statements include a working capital estimate, an investment estimate, a financing estimate and other estimates related more to investment and financing activities of the utility rather than just the main operations of the organisation.
- A production activity plan consists of estimates of sales, production, overhead, administrative expenses and other expense estimates related to the main activities of a utility. These are needed for the preparation of the operational profit and loss statement.
- Financial projections for a business plan comprise three main statements: a profit and loss statement, a balance sheet and a cash flow statement which cover the whole of the enterprise's activities.

## **7.5 Financial Projections; Worksheet Pro-forma**

The Worksheet pro-forma contained in this chapter cover an example period of 3 years. These pro-forma can and should cover the total planning period for the business plan. These pro-forma are available in the Toolkit, but having read this chapter it is useful to refer to them as part of the Guidance Document.

### **Annually for 3 Years**

**WORKSHEET 1: Projected Profit & Loss Statement**

**WORKSHEET 2: Projected Cash Flow Statement**

**WORKSHEET 3: Projected Balance Sheet Statement**

### **Quarterly for 3 Years**

**WORKSHEET 4: Projected Profit & Loss Statement**

**WORKSHEET 5: Projected Cash Flow Statement**

### **Monthly for Year 1**

**WORKSHEET 6: Projected Cash Flow Statement**

**WORKSHEET 1: PROJECTED PROFIT & LOSS STATEMENT (3 YEARS)**

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
<b>SALES AND SERVICES</b>			
Revenue from goods sold and services rendered			
Cost of goods sold and services rendered			
<b>GROSS PROFIT (LOSS)</b>			
<b>OPERATING EXPENSES</b>			
<b>PROFIT FROM OPERATIONS (LOSS)</b>			
<b>OTHER OPERATIONS</b>			
<b>FINANCIAL AND INVESTING ACTIVITIES</b>			
Revenue			
Expenses			
<b>PROFIT (LOSS) FROM ORDINARY ACTIVITIES</b>			
<b>EXTRAORDINARY ACTIVITIES</b>			
Extraordinary gain			
Extraordinary losses			
<b>CURRENT YEAR PROFIT (LOSS) BEFORE TAXES</b>			
<b>TAXES</b>			
<b>NET PROFIT (LOSS) OF THE CURRENT YEAR FOR APPROPRIATION</b>			

**WORKSHEET 2: PROJECTED CASH FLOW STATEMENT (3 YEARS)**

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Opening Cash Balance			
Cash inflow			
- Co-operative associations			
- Individual houses			
- Industry			
- Other customers			
- Loan			
Total Inflow			
Cash Outflow			
- Wages & salaries			
- Social security			
- Utility services			
- Taxes & charges			
- Materials & goods inventories			
- Contractor services			
- Purchase of buildings			
- Loan repayment			
- Dividend			
Total Outflow			
Cash surplus/(deficit)*			
Closing Balance			

NOTE: \* Equal to net profit plus depreciation plus change in working capital

**WORKSHEET 3: PROJECTED BALANCE SHEET STATEMENT (3 YEARS)**

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
<i>Long term assets</i>			
FORMATION COSTS			
INTANGIBLE COSTS			
TANGIBLE ASSETS			
Land			
Buildings			
Plant and machinery			
Vehicles and other transport means			
Other fixtures, fittings, tools and equipment			
Other tangible assets			
Constructions in progress and prepayments			
FINANCIAL LONG-TERM ASSETS			
AMOUNTS RECEIVABLE AFTER ONE YEAR			
Trade debtors			
Other amounts receivable			
<i>Short term assets</i>			
STOCKS AND CONTRACTS IN PROGRESS			
Stocks			
Contracts in progress			
AMOUNTS RECEIVABLE WITHIN ONE YEAR			
Trade debtors			
Other amounts receivable			
INVESTMENTS AND TERM DEPOSITS			
CASH AT BANK AND IN HAND			
<i>Accrued income and deferred charges</i>			
<b>TOTAL ASSETS</b>			

/ contd.

/ contd	Year 1	Year 2	Year 3
<p><i>Capital and reserves</i></p> <p>CAPITAL Subscribed capital Uncalled capital (-) SHARE PREMIUM ACCOUNT REVALUATION RESERVE RESERVES Legal reserves Reserves not available for distribution Reserves available for distribution PROFIT (LOSS) BROUGHT FORWARD</p> <p><i>Financing (grants and subsidies)</i></p> <p><i>Provisions for liabilities and charge, postponed taxes</i></p> <p>PROVISIONS FOR LIABILITIES AND CHARGES POSTPONED TAXES</p> <p><i>Amounts payable after one year and long term liabilities</i></p> <p>FINANCIAL DEBTS Credit institutions Others TRADE DEBTS Suppliers Bills of exchange payable PREPAYMENTS RECEIVED ON CONTRACTS IN PROGRESS OTHER AMOUNTS PAYABLE AND LONG TERM LIABILITIES</p> <p><i>Amounts payable within one year and short term liabilities</i></p> <p>CURRENT YEAR PORTION OF LONG TERM DEBTS FINANCIAL DEBTS Credit institutions Others TRADE DEBTS Suppliers Bills of exchange payable PREPAYMENTS RECEIVED ON CONTRACTS IN PROGRESS TAXES, REMUNERATIONS AND SOCIAL SECURITY Taxes Remunerations and social security OTHER AMOUNTS PAYABLE AND SHORT TERM LIABILITIES</p> <p>Accrued charges and deferred income</p> <p>TOTAL OWNER'S EQUITY AND LIABILITIES</p>			

**WORKSHEET 4: PROJECTED PROFIT & LOSS STATEMENT (QUARTERLY)**

	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>SALES AND SERVICE</b>												
Revenue from goods sold and services rendered												
Cost of goods sold and services rendered												
<b>GROSS PROFIT (LOSS)</b>												
<b>OPERATING EXPENSES</b>												
<b>PROFIT (LOSS) FROM OPERATIONS</b>												
<b>OTHER OPERATIONS</b>												
<b>FINANCIAL AND INVESTING ACTIVITIES</b>												
Revenue												
Expenses												
<b>PROFIT (LOSS) FROM ORDINARY ACTIVITIES</b>												
<b>EXTRAORDINARY ACTIVITIES</b>												
Extraordinary gain												
Extraordinary losses												
<b>CURRENT YEAR PROFIT (LOSS) BEFORE TAXES</b>												
<b>TAXES</b>												
<b>NET PROFIT (LOSS) OF THE CURRENT YEAR FOR APPROPRIATION</b>												



**WORKSHEET 5: PROJECTED CASH FLOW STATEMENT (QUARTERLY)**

	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Opening Cash Balance												
Cash inflow												
- Co-operative associations												
- Individual houses												
- Industry												
- Other customers												
- Loan												
Total Inflow												
Cash Outflow												
- Wages and salaries												
- Social security												
- Utility services												
- Taxes & charges												
- Materials and goods inventories												
- Contractor services												
- Purchase of buildings												
- Loan repayment												
- Dividend												
Total Outflow												
Cash surplus/(deficit)*												
Closing Balance												

NOTE: \*Equal to net profit plus depreciation plus change in working capital

**WORKSHEET 6: PROJECTED CASH FLOW STATEMENT (MONTHLY)**

	Year XXXX												Total
	1	2	3	4	5	6	7	8	9	10	11	12	
Opening Cash Balance													
Cash inflow													
- Co-operative associations													
- Individual houses													
- Industry													
- Other customers													
- Loan													
Total Inflow													
Cash Outflow													
- Wages & salaries													
- Social security													
- Utility services													
- Taxes & charges													
- Materials & goods inventories													
- Contractor services													
- Purchase of buildings													
- Loan repayment													
- Dividend													
Total Outflow													
Cash surplus/(deficit)*													
Closing Balance													

NOTE: \*Equal to net profit plus depreciation plus change in working capital



# **PROFORMA BUSINESS PLAN**

## **.....Town Water Service**

### **Table of Contents**

1. Vision and objectives of the Organisation
2. Customers and Water Users
3. External Issues
4. Assets and Operating Information
5. Business Plan Initiatives
6. Money Matters
7. Monitoring the Plan
8. Promoting the Plan

## **1. VISION AND OBJECTIVES OF THE ORGANISATION**

### **1.1 Vision of the Organisation**

For example:

*The ..... Town Water Service is committed to provide safe and continuous water supply to all people and organizations in the municipal district of.....and to provide this service in an efficient way at a price customers are willing to pay.*

### **1.2 Objectives of the Organisation**

Examples of objectives of the organisation could include the following:

- *To expand coverage of water supply to X% of population in the town covered by the water utility by year 2006.*
- *To increase the per capita water consumption increased from 10 lpcd to 25 lpcd by year 2010.*
- *To reduce unaccounted for water by at least 5% by year 2006.*
- *To reduce interruptions of water supply to X number of customers from.....to zero by year2010.*
- *To implement a tariff covering O&M plus R&R of short life assets by year 2006.*
- *To produce financial statements every year and audited by external auditor.*
- *To improve skills and motivation of employees in the following areas...*
- *To develop new water resources to meet expected future demands*
- *To enable the water utility enter a performance contract between the town water board and the Water Service for 5 years.*

These “objectives” cover a range of initiatives, some of which will require significant capital investment, whilst others not. Also some will be very specific in terms of targets to achieve, others will not. But each has an important contribution to make in improving the performance of the water utility. The organisation’s objectives become the basis for planning change and investment in the business plan. During the development of these plans and seeing the financial impact likely to result, it will be important to look at ways of prioritising initiatives.

## 2. CUSTOMERS AND WATER USERS

The types of users are classified in to four, namely

- Private households
- Commercial and industrial
- Government and
- Public Tap users

*In year ....., the number of customers in the different groups is as follows:*

- *Private households.....,*
- *Commercials.....,*
- *Government and.....,*
- *Public Tap users.....,*

*The different customers can be classified in to the following five modes of services:*

- *In house connections*
- *Yard Connections*
- *Neighbourhood taps*
- *Public Taps*
- *Vendors*

*There are also sections of the residents who are not using the water from the Town Water Service. It accounts.....% of the total population.*

*The Water Service provide water supply for .....number of households. It accounts.....% of the total population.*

*The Water Service is planning to increase the number of households using water from its system to .....%.*

*The average household consumption is .... m<sup>3</sup> per month. While average monthly expenditure on water is Birr .....*

*Put in a sketch map of the town, split into up to approximately 20 different areas showing where the water pipes are and the public water points are positioned. Also put in a table showing information about the areas. Example:*

Name of Area	Approximate number of households	Number of households connected	Number of households that could connect if they chose	Number of water points	Number of households that connected last year
Area 1					
Area 2					
Area 3					
Area 4 etc					

### **Customer Related Problems**

The main customer related problems could for example be the following:

- *Customers are not satisfied with the service of the Utility.*
- *The Meter readers and bill collectors are not performing well.*
- *Some private water meters do not work properly.*
- *The Utility does not have a good image in the town.*
- *Say where in the town the problems are located*
- *Industrial and commercial customers believe they pay too much for their water services*

Also describe the way in which you do or propose, to work to communicate with customers and potential future customers, (for example – undertaking surveys on water use, on levels of satisfaction with your service, on affordability and willingness to pay, health and quality concerns)

### 3. EXTERNAL ISSUES

The Water Service is influenced by a number of external factors, which have deep impacts on their planning, operation and management. For example:

#### ***Federal Water Policy***

*The most important external issue that has a profound influence on the activity of the Water Service is the National water Policy.*

*The National Water Policy provides a number of directives that affects urban water utilities among which **full cost recovery and autonomous decentralised management** are the most essential one.*

#### ***Other Legislations and Policies***

*In addition to the federal water policy the following legislations and strategies also affect the Water Service*

- *Water Administration Law*
- *Commercial Law*
- *Environment Laws*
- *Labour Law*
- *Currency Regulations*
- *Water Supply Development Strategy*
- *Economic Development Strategies*
- *Urban Development Strategies*

*Discuss the external issues impacting on the.....Water Board. These can have profound influences on the organization and its ability to deliver the service. External factors can include new national or regional government legislation and policy, traditions or customs of local communities. Good examples would be a policy of regional and national governments to implement a programme of full cost recovery in utilities or a policy to require every water utility to provide piped water supply to all people in the district.*



#### 4. ASSETS AND OPERATING INFORMATION

This section describes the condition and performance of your assets and provides information about the data that you have and identifies the gaps in data and what can be done to gather or generate that information, for example from feasibility studies.

##### ***Water Supply System***

*The source of supply for .....town is .....*

*There are ..... capacity reservoir,.*

*The total length of the transmission line is .....*

*The existing main distribution network consists of uPVC PN6 pipes diameter ranging from DN ..... up to DN..... with an estimated length of ..... km.*

*The annual water production in year 2002 was ..... while water consumption (billed water) was ..... Unaccounted for the year 2002 water was .....%.*

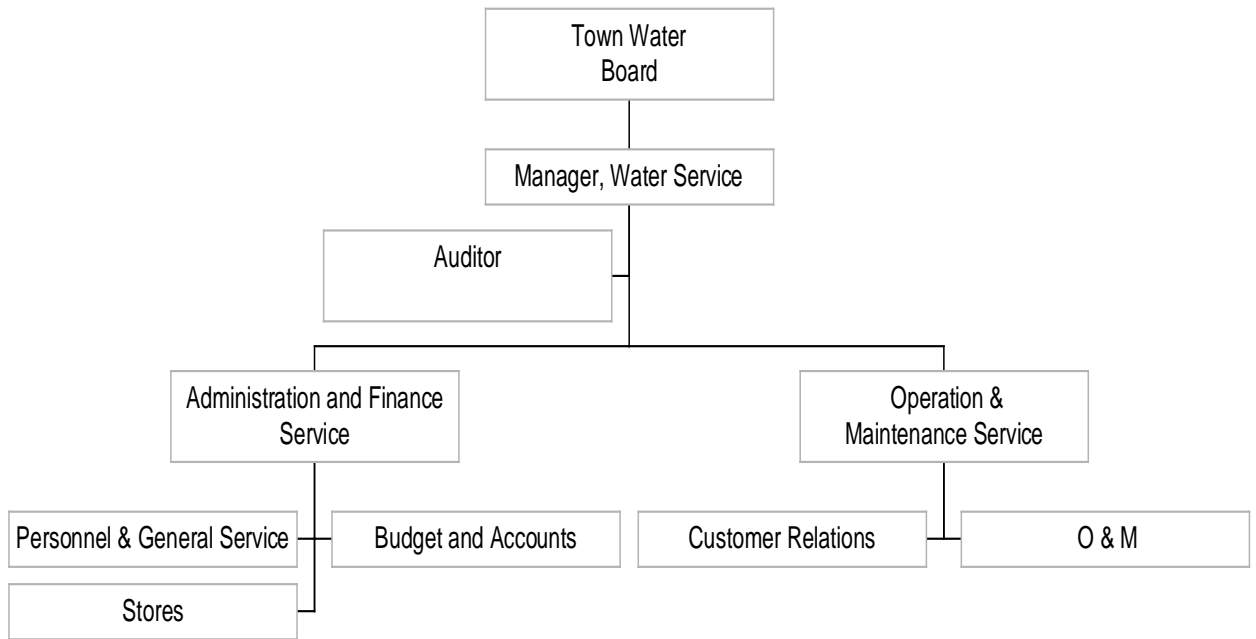
*Accordingly, .....% was assumed commercial loss while .....% was technical loss.*

*The water produced from the boreholes is distributed to a total of ..... Customers having private connections and ..... Public fountains out of which ..... are working at the moment.*

##### ***Organisation***

*The town water service is constituted as an autonomous public organization established under the Municipality. The supervising authority is the town water board.*

*The Water Service is administered by a manager who is appointed by the Water Board. Under the manager there are two main sections. The organisational structure of the water service is as shown overleaf.*



**Human Resources**

Describe the current levels of staffing, their numbers in the different areas of operations, their skills etc. Describe what your organisation requires in the future – what sort of skills are needed to deliver the objectives of the utility. Describe any training or incentive programmes that you have for your staff and managers. Example:

*The current staffing is as follows:*

*Operation* .....  
*Finance* .....  
*Customers* .....  
*Administration and support* .....

*The number of staff per 1000 customers is* .....

### **Operational Problems**

The following are examples of major operational problems:

- *The present sources do not provide sufficient water.*
- *The water is not properly treated for lack of chemicals and skilled man power.*
- *The pipes are very old and leakage is a major problem.*
- *Skill levels of the staff are inadequate*

In your description of operational problems mention where the problems are located and state how extensive these problems are across the utility's operations.

For this section you may be able to refer to information in any feasibility report or master plan study done for the town. The section will include both descriptive text and an input into the financial spreadsheets. It will allow you to think about future operating needs (for example new treatment facilities may require new chemicals or more power and this will add to operating costs) and costs and about future investments (for example if current assets are falling apart)

**5. BUSINESS PLAN INITIATIVES**

*The Water Service is committed to provide sustainable water supply in the Town. It has set out specific objectives as described in section 2 of this plan. However, these objectives can not be achieved under the present circumstances.*

*The Water Supply System cannot meet the demand of the town, the system is old, the staff are not skilled and customers are not satisfied with the service provided by the Utility. Therefore, the Utility has developed an improvement plan.*

These are the programmes of activities proposed to deal with the problems and to achieve the objectives described. These plans need to be costed. Once programmes have been costed their impact on the financial performance of the organization will be assessed.

The plans for improvement and associated investments could come under following heading and be in these areas. Examples are:

*Activity 1. Expansion of the Water Supply System*

*The expansion project will target to increase the volume of water “sold” (supplied to and paid for by customers) from the present .....m3 per day to .....m3. In order to achieve this the following works will be undertaken (for example, the development of a new source or laying of ...km of water mains).*

<i>Project stage</i>	<i>Description</i>	<i>Cost</i>	<i>Date to complete</i>
<i>Stage 1</i>			
<i>Stage 2</i>			
<i>Stage 3</i>			

Show if any of this work will be paid for by a third party – such as the Government or a private sector partner, or indeed if a loan will need to be taken in order to meet the cost.

*We expect to make new connections as shown below:*

<i>Year</i>	<i>Number of new connections</i>

**Activity 2. Capacity Building of the Water Service**

*The capacity building of the Water Service will have the following components.*

- *Construction of new office building*
- *Purchase of vehicles and computers*
- *Development of operational manuals*
- *Training of staff*

Guidelines for Preparing a Business Plan  
Section 8 – Proforma Business Plan

**Activity 3.Improvement of Customer Relations**

Describe your proposed consultations with customers and state whether you will undertake any customer surveys.

**Activity 4.Introduction of New Tariff**

Describe the impact on tariffs of the proposed activities.

Describe your tariffs setting process and the your strategy to ensure that tariffs are affordable and that customers are willing to pay.

**Activity 5.Improving efficiency**

For example, programmes for leakage control, optimising of pump operations, optimising the use of chemicals

This section is the central feature of the business plan, and it is in this and subsequent sections that become an iterative process, that compares:

- i. What are the external needs
- ii. What actions does the utility want to take to meet these needs
- iii. Does the utility have the funding to carry this out
- iv. How much will customers pay towards meeting these costs
- v. If tariff revenues do not cover these costs, what other funds are available, and what implications do these have on costs.

It is very likely that having identified a number of plans for improvement that you will need to make decisions about the priority of these plans so that they can be implemented in a financially sustainable manner. A number of techniques and tools to support this decision making process are included in the Guidelines. Example presentation of priorities:

Planned Activity	Estimated Cost	Revenue or efficiency benefit	Other benefits	Timescales for implementation	Impact on utility objectives

See the section **ABOUT THE TOOLKIT** further information.

Go to input screen **PLANNED IMPROVEMENTS** in order to input the cost information associated with plans for improvement and for investment.

## 6. **MONEY MATTERS**

The main element of the Toolkit is the financial model. A formal budgeting and financial process ensures that you, the manager will plan and that the results of your planning will be communicated. The financial plan will provide you with results of your cost and income projections.

Go to input screen **MONEY MATTERS** to input the financial data required

Go to **TAKING DECISIONS** screen for detailed explanation of the results and the way in which you can run different options for introducing and phasing your plan.

## 7. MONITORING THE PLAN

Monitoring plays an essential role in implementing successful plans. A properly designed monitoring system provides stakeholders with a way to assess implementation of the plan and make adaptations as needed.

Having made decisions on the activities and investments that will be implemented, and having undertaken to finalise the work plans, it will be important to ensure that initiatives and investments are being done according to the timescales and budgets specified in the business plan. It is important to understand that as you implement the plan you will gain more information and knowledge which can be used to increase the certainty of assumptions made in the early planning stage. You will also need to monitor costs as these may change in ways not foreseen in the business plan and therefore make adjustments to the plan. Two important areas that require regular monitoring include:

- Sales of water
- Operating costs

These are the two things that will directly affect the financial performance and key financial indicators can be used

- Operating Revenue / Operating costs
- Profit after financing payments (that is payments on loans, depreciation)
- Cash Balance at any given time



## **8. PROMOTING THE PLAN**

The success of any plan is dependent not only on how well it is designed but also on how well it is implemented. In order to implement the plan successfully, promoting the plan is essential. Therefore, the following promotion plan has been prepared

- The commitment of the management and the municipality to implement the plan and to address the challenges.
- Effective communication between the Management and the employee.
- Staffing all positions with competent people and upgrading of existing employees through training.
- Involving the stakeholders primarily the consumers in the process.
- Introduction of commercial practises.
- Introduction of incentive schemes

As mentioned before, the Business Plan is an important means for the water utility to communicate with its customers and with organizations, such as the municipality, which have a major impact on the utility's operations.

It is important for the utility to promote its plan and this should be briefly outlined. (for example: to undertake a series of public meetings over 1 month, to meet and present to community leaders every 6 months, and to report progress on achieving business plan)