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FINANCIAL MANAGEMENT AND ADMINISTRATION OF WATER SUPPLY COMPANIES

Domestic Water Supply Programme
Morogoro Region

Module WSC-FA-PS 1

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FINANCIAL MANAGEMENT AND ADMINISTRATION OF WATER SUPPLY COMPANIES

1. Introduction

One of the most important and equally sensitive responsibilities of the members of the Board of Directors of your Company is the adminstration of finances of the company. Financial management and administration is always considered as the blood stream of any well functioning organisation. Also your Water Supply Company must be based on a *sound foundation* for financial management and administration. If your company is or is going to be administered without serious consideration on how best the company funds are to be managed and controled, you can always remain assured that Company Members will loose their confidence in the company's elected representatives and that, worse still, the company might collapse.

This will result into whole village communities missing clean and safe water, which is the most necessary commodity for human life.

In view of the above, this training module will introduce you to some of the most essential elements of a financial management and administration system and will provide you with some basic skills in:

- Cost calculation
- Water tariff setting
- Budgeting
- Tariff ticket books and their use (revenue collection)
- The way to keep record of the company's cash transactions
- How to handle your company's bank account and
- The way to present the financial results and status of the company

Proper bookkeeping and properly well-maintained financial records will not only facilitate the preparation of the necessary financial statements, like the Profit and Loss Statement and the Balance Sheet, but it will also increase the financial transparency to Company Members, who should have easy access to the most essential financial data of the company. Company Members will then deliver this information to the Water User Group Committeees and, through them, to the members of the Water User Groups.

2. Knowing the production costs of the water produced by your Company: a good way to start

In making proper arrangements for a sound system of financial management and administration, your first and foremost concern should be to get a clear picture of the production costs of your Water Supply Company. What kind of expenses and other costs are involved, in order to enable you to deliver that most precious good, clean and safe water, to your clients, the water users, in the most efficient and effective way?

Let's for that purpose first have a look at the *running costs* of your Company. These are the expenses which your Company has to make on a regular basis to operate the company and to properly maintain the water supply scheme. In order to be able to guarantee your customers (the water users) a continued supply of clean and safe domestic water, both at present as well as in the future, your Company will have to make these expenses.

The running costs of a Water Supply Company will consist of expenses to be made for:

Pumping Costs	fuel or electricity, needed to run the system (only in case of pumped water systems)
Maintenance Costs	all expenses, including costs of materials required and simple handtools, for servicing, repairing and maintaining the piped water supply system
Salaries and Allowances	the salaries and agreed allowances of the Company's personnel and the members of the Board of Directors
Office Costs	stationaries and other office supplies, communication expenses, etc.
Collection Fees	fees to be paid to the collectors of the monthly water tariffs (usually set at 5-10% of the collected water tariffs)
Professional Fees	fees to be paid to the auditors, legal experts, etc.
Rents	for instance office rent, if the company does not yet have an office, etc.
General Expenses	minor expense items, such as bank charges, representation, etc.

When your Water Supply Company becomes operational, the investment cost, that is the total value of the water supply scheme now owned by the company, will be known. If you know the value, then you will have to decide how long (how many years) it will take before the scheme will have to be replaced. Obviously this moment will come sooner when your scheme is a rehabilitated scheme, and thus inherited from the past, than when your water supply scheme has recently been constructed and is still brand new.

Once you know the value of your scheme (in accounting language these are called the Fixed Assets of the company) and once you have taken a decision on how long (in years) the various elements of your scheme will last, it will be possible to calculate how much money (equal to the actual difference between the company's income and the company's running costs) should be set aside each year in order to be able to replace the scheme, or parts of the scheme, at the end of the expected life. Accountants call this annual provision: *Depreciation of the Company's Fixed Assets*.

After you have determined the estimated total amount of the company's annual running costs and the annual additional income, needed for the future replacement of the company's Fixed Assets (the amount for depreciation), you will know exactly how much it will cost to run your Company. At the same time you will then also know the minimum amount of money that should be collected from the water users. Should you collect less from the water users, then your Company will suffer a loss, which means that the company's continuity is in danger. Should you collect more, then your Company makes a profit, which could be used to build up the company's financial reserves.

3. Setting of appropriate water tariffs

The company gets its income from water rates or tariffs, charged to the water users in return for the delivery of water and accompanying services by the company. The price of a certain amount of water (usually one m3 of water is taken as a measuring unit, which is equal to approximately 65 buckets of water) will depend in the first place on the costs made by the company to "produce" the water. The higher the costs, the more expensive one unit of water (m3) will be. In the second place the price will depend on the amount of water used, which in turn will depend on the type and total number of water users that are served by the company. More water users, and thus more people to share the costs of the Company with, will automatically reduce the costs of one unit of water (m3).

The first step of setting appropriate water rates or tariffs is therefore the calculation of how much it will cost to produce one unit of water (m3): *the production costs per m3*. This figure, calculated as follows, is, as we shall see later, essential for the calculation of the water tariffs.

Production Costs per m3 of Water =

Total Estimated Annual Production Costs
divided by
Total Estimated Annual Water Use

3.1 How to calculate the estimated annual water use

First, we shall make an estimate of the amount of water that will most probably be used by the company's customers or water users during the coming year. A distinction is made between three categories of water users:

1. Members of Water User Groups, who obtain their water from the Domestic Water Points (DWPs)
2. Members of Water User Groups, who have a piped water supply, leading directly to their private homes: these are called House Connections (HCs)
3. Businesses, like shops, guesthouses and restaurants, that have a piped water supply, leading directly to their respective premises: these are called Business Connections (BCs)

Experience has shown that these categories of water users each use different quantities of water per day: an average family of 5 persons, taking water from a DWP uses about 150 liter of water per day (30 liter per person per day), the average water consumption of a HC is about 350 liter per day (70 liter per person per day), whereas an average BC uses about 600 liter of water per day. Last mentioned figure is for calculation purposes only: the more precise amount of water, used by a BC, on which you should base your water tariff (see later), will depend on the type of business or institution you are dealing with (a shop, a guesthouse, a restaurant, a health clinic or a school).

When you apply the above mentioned standard assumptions, it is quite easy to calculate the estimated annual water use of your Water Supply Company:

- DWPs: take the total number of families, who will take their water from the (company owned) DWPs, multiply that figure by 5 (an average of 5 persons per family), multiply the outcome by 0.03 m3 (or 30 liter, being the average water consumption per person per day) and, finally, multiply this outcome by 365 days (one year).

- HCs: take the total number of HCs, to be served by the company, multiply that figure by 5 (an average of 5 persons in one household), multiply the outcome by 0.07 m3 (or 70 liter, being the average water consumption per person per day) and, finally, multiply this outcome by 365 days (one year).

- BCs: take the total number of BCs, to be served by the company, multiply that figure by 0.6 m3 (or 600 liter, being the average water consumption per BC per day) and multiply the outcome by 365 days (one year).

After adding the three figures (in m3), thus obtained for each category of water users, your calculation of the estimated total annual water use (in m3) of your Water Supply Company is ready.

3.2 How to calculate the estimated annual costs of the water produced by the company

The next question you have to ask yourself is quite obvious: "How much does it cost our Company to produce that amount of water?".

Earlier we briefly indicated how to calculate the annual production costs of your company: you add the company's annual running costs to the annual additional income, needed for the future replacement of the Company's Fixed Assets (the amount for Depreciation). A few tips are given below in order to make your cost calculation job much easier:

- *Clearly define the cost categories* that you want to use and are most suitable and in line with the conditions within your Company. We already have given you a list of the kind of cost categories that could be useful for most Water Supply Companies, but of course you are free to add one or two, provided you do not complicate things. As a general rule, we can advise you to add a new cost category when the cost item "General Expenses" exceeds 5 % of the total production costs.

- The cost item *Pumping Costs* only applies to pumped water systems. In that case the water pump in the system is either running on electricity provided by an outside source (Tanesco) or on electricity provided by a generator and diesel engine, that is owned by the Company. In both cases the company has to spend money on energy, either by regularly paying the electricity bills or by regularly buying the diesel oil to run the engine. Once your water supply system is running for a while you will know exactly how much money is required for this purpose. Before that, you will have to ask a water technician, e.g. the District Water Engineer or water technicians at the Domestic Water Supply Programme (DWSP) in Morogoro, to help you caculating the estimated energy consumption and its costs.

- The cost item *Maintenance Costs*, although most essential, is difficult to estimate. During the initial period of operation of your water supply system, when the system is still new or has recently been rehabilitated, maintenance costs will be relatively low and will mainly consist of the costs of the regular maintenance checks and the costs of minor repairs and the replacement of parts. However, as the system grows older, maintenance expenses will

gradullay increase and more money will be needed to keep the system in good running condition. A safe way of solving the problem of how to estimate the right amount of maintenance costs, is to budget a fixed annual amount of say 2% of the initial value of the system and to set this money aside each year for maintenance purposes only. The percentage indicated (2%) is an indication for gravity water systems. For pumped water systems, maintenance expenses will be much higher, because of the relatively high maintenance costs of the water pump and generating set. In that case it would thus be safer to use a higher percentage, say 5%. In the beginning, during the first years of operation, the money thus accumulated in your "maintenance account" will easily cover the actual maintenance expenses. But later, when the system gets older, the accumulated savings will come in handy when the maintenance expenses are bound to become much higher.

- The cost item *Salaries and Allowances* is much easier to calculate.You know exactly who has been employed by the company and what has been decided concerning their remuniration. Be sure that all Company Members, and through them also the water users, are aware of all the arrangements made and in principle have given their consent to them, otherwise you are bound to have problems in explaining why certain amounts of money is spent on salaries and allowances.

- Be careful with the cost item *Collection Fees*. Usually a certain percentage of collected water tariffs has been agreed upon by the Company Members, that the collectors of the water tariffs at water user group level can keep for themselves as a remuneration of their services and at the same time will act as an incentive for the actual collection of the water tariffs by the water users. In principle such an arrangement is reasonable, but one should see to it that the system is not misused, for instance by fixing the percentage at a level that is out of proportion, when compared with its purpose. In general one could say that fixing a collection fee of higher than 10% is not recommended.

- The remaining cost items *Office Costs, Professional Fees, Rents and General Expenses* speak for themselves and are easy to calculate. Earlier we already made a remark on the height of the cost item General Expenses: avoid a situation whereby these expenses become higher than 5% of the total production costs.

3.3 How to set appropriate water tariffs

We have now established the figure representing the production costs per m3. In other words, we have determined how much it will cost the company in TShs. to produce one m3 (or approximately 65 buckets) of water. The figure means that, suppose we would be able to exactly measure how much water is used by each water user, we now know that we will have to charge that user at least that rate times the actual amount of water consumed by the user in m3.

Unfortunately, we are for various technical reasons not yet in the position to install water meters at the place where each individual water user unit (a family using a DWP, a household, a business or an institution) gets their water. Especially when the water source is commonly used, as is the case with DWPs, the individual measuring of water use becomes extremely difficult, if not impossible. It is for that reason that we have divided all water users into three categories, DWP users, HCs and BCs.

For the categories DWP users and HCs we have assumed a standard amount of water used during a certain time period. Earlier we have made the calculation of estimated water use for these two categories for one year. If we divide these figures (calculated per unit) by twelve, we get a figure in m3 for the estimated water use for each category per month. For DWP users this is 4.56 m3 and for HCs 10.65 m3 of water per month. For the time being these figures are used as standard for all Water Supply Companies. As far as BCs (businesses and institutions) are concerned, we would like to advise you to make separate and individual arrangements with these clients concerning the water tariff that you will charge them. In this category you will see a large variation in water use, depending on the type of business or institution you are dealing with. Compare for instance the quantity of water used by a small business like a shop, with the water use of a larger guesthouse, a school or a health clinic! Therefore, once again, we strongly advise you to estime the monthly water use for each BC on a case-by-case basis, before setting the appropriate water tariff for this category of clients. We advise you to use a standard agreement, to be concluded with each individual business owner or institution. In the contract you mention the mutually agreed estimate of the amount of water (in m3) that is going to be used by the concerned client per month and the agreed water tariff per m3. An example of such an agreement is given below.

The calculation of the recommended minimum monthly water tariff per category of water users (DWP users, HCs and BCs) is now relatively easy: simply multiply their standard water use per month (for DWP users and HCs) or their estimated individual monthly water use (for BCs) by the amount you have calculated for production costs per m3. Using the work sheet on the following page makes the whole exercise even easier.

AGREEMENT

Between: ..... Water Supply Company Ltd.
And
(*Name Business Owner or Institution*)

The ..... Water Supply Company is hereby commited to deliver a continuous supply of clean and safe water, to be used for domestic purposes, to (*name business owner or institution*). It has been estimated, and mutually agreed upon, that approximately ..... m3 of water will be used per month.

(*Name business owner or institution*) will pay to the ..... Water Supply Company a monthly water tariff of TShs. ..... (*in words:* Tanzanian Shillings .....) in return for the water delivered by the company.

The conditions of this Agreement will be reviewed periodically upon request of the ..... Water Supply Company and/or (*name business owner or institution*) in order to account for changes in observed water use and water tariff rates that might occur from time to time.

Date: .....

Signed by ..... Water Supply Company and
(*Name business owner or institution*)

CALCULATION OF MONTHLY TARIFF FEES FOR WATER USE
NAME WATER SUPPLY COMPANY: .....

Basic Assumptions:

Water demand per person (DWPs)	30 liter/day
Water demand per person (House Connections)	70 liter/day
Persons per family (DWPs & House Connections)	5 (average)
Water demand per Business Connection	600 liter/day
Number of DWP users	A (=A/5 families)
Number of House Connections	B
Number of Business Connections	C
Water System	Gravity or Pumped

Estimated Water Demand per Year:

DWPs (A/5 families x 5 x 0.03 m3 x 365 days)	..... m3 (4.56 m3/month/unit)
House Connections (B x 5 x 0.07m3 x 365 days)	..... m3 (10.65 m3/month/unit)
Business Connections (C x 0.6m3 x 365 days)	..... m3 (18.25 m3/month/unit)
Total Water Demand per Year	..... m3

Water Production Costs per Year:

Depreciation Investment Costs (TSh. ...../.. years)	TSh. .....
Pumping Costs (only for pumped water systems)	TSh. .....
Maintenance Costs (. % of Investment Costs/Year)	TSh. .....
Salaries & Allowances	TSh. .....
Office Costs	TSh. .....
Collection Fees	TSh. .....
Professional Fees	TSh. .....
Rents	TSh. .....
General Expenses	TSh. .....
Total Water Production Costs per Year :	TSh. ..... (TSh...../month)

Water Production Costs per m3 (65 buckets)	**TSh. .....**
Water Production Costs per bucket	**TSh. .....**

Calculation of Tariffs per Month per User Category:

User Category	Number	Water Demand per Month/Unit	Tariff per Month/ Unit (TSh.)*	Income per Month (TSh.)
House Connections	B	10.65 m3	...	.....
DWPs (families)	A/5	4.56 m3	...	.....
Business Connections	C	18.25 m3	...	.....

* Tariff per Month (TSh.) = Water Demand per Month per User Category (in m3) x
(break-even calculation!) Water Production Costs per m3 (TSh. .....)

Total Income per Month	**: TSh. .....**
Total Production Costs per Month	**: TSh. ..... (appr. break-even)**

Setting the Right Water Tariffs: essential for survival

- **Calculate how much it will cost the company to produce one m3 of water**
- **Make an estimate of the monthly water use in m3 for each identified group of water users (DWP users, HCs and BCs**
- **Multiply these two figures to get the *minimum* amount of monthly water tariffs to be charged to each group**

To make it absolutely clear, you have just calculated *minimum* water tariffs per category of water users. It means that if you would use these tariffs, you would just cover all production costs of your Company, *provided all water users of all water user categories pay their monthly water bills in time.* If you have any doubts about this assumption, and experience has shown that your doubts are justified, then it is advisable to set the tariffs at a higher level than the minimum you have calculated and thus to include a provision for non collected water tariffs.

It is also possible that, after studying the minimum water tariffs for the different categories of water users, you have come to the conclusion that the calculated minimum tariff for the DWP users is too high and at present beyond the purchasing power of this category of water users. In that case you could consider charging the DWP users a water tariff below the calculated minimum level, *only* if the water tariffs for the other categories can be set at levels that are well above their calculated minimum.

So you see that variations in water tariffs are possible. However, remember one thing. Avoid at all cost a situation whereby you have set your water tariffs too low or, even worse, whereby you have set your water tariffs right, but many of your customers refuse to pay their water bills. This automatically means that the production costs of your Company are not covered by a sufficient amount of income. Should this be the case, then, at the end, the continuity and thus the sheer existance of your Company is in serious danger.

Variations in Water Tariffs are possible, but.....

- **Avoid at all cost a situation whereby water tariffs are too low (below the calculated minimum and not compensated by higher tariffs in other categories)**
- **Avoid at all cost a situation whereby a large group of water users refuse to pay their water bills**
- **Use the Work Sheet to test effects of variations in water tariffs**

4. Preparation of the company's budget

Once you have gone through the exercise of setting appropriate water tariffs, as we have described at length in the previous section, it is relatively easy to prepare a budget for your Company. Usually a Budget is prepared for the forthcoming year of operations and is divided into months.

The Budget is a forecast of the future flow of income to the company and the flow of expenditure or production costs that, at least as far as you can foresee at the moment, the company is most probably going to make. If your forecast covers a period of one year, we call it the Annual Budget. Usually the Annual Budget is divided into Monthly Budgets.

Your Annual and Monthly Budgets will not only enable you to better plan the financial course of your Company, but they are also crucial tools for measuring the actual performance of your Company. At the end of each month you will be able to see how your Company has performed during that month. If the income is far below the budgeted amount, then it means that many of your customers/water users have not yet paid their water bill for that month and you will have to step up your efforts to collect them after all. If the company has spent more money than budgeted, you should be able to explain why this was necessary and, at the same time, explain what kind of corrective measures will be taken to prevent that this will happen again in the future.

4.1 Making a forecast of the income to be received by your Company

The bulk of the company's regular income will come from the water tariffs, collected from the water users through the representatives of the water user groups. From the calculation of the water tariffs (see previous section) you already know how many water users are involved: the total number of families using water from the DWPs, the total number of private HCs and, finally, the total number of BCs serviced by the company.

If you multiply these total numbers for the various categories of water users (DWP users, HCs and BCs) with the monthly water tariffs that you have just set for each category, then, after adding the outcome of these three figure, you will automatically have obtained the total budgeted amount for water tariff income for one individual month.

Your Company might have other sources of income, e.g. the interest received from company funds deposited in the bank. Add the money, you expect to receive each month from these sources, to the budgeted amount for water tariff income, and you will have completed the forecast of the company's income for one month. This amount, and a simple presentation of how this figure has been calculated, can then be entered in the company's Monthly Budget.

4.2 Making a forecast of the production costs to be made by your Company

In fact you have already completed the forecast of your Company's production costs when you were calculating the water tariffs (see previous paragraph). You have made the calculation of the expected annual running costs of the company to which you have added the amount for depreciation. This gave you the forecast of the total production costs of your Company for one year. Division of all calculated figures for all cost items in your annual forecast by twelve, gives you a monthly forecast of all cost items. Enter these also in the company's Monthly Budget.

4.3 Completing your Monthly Budget and preparing your Annual Budget

By entering the relevant figures for expected income and production costs, you have just completed the Monthly Budget of the company. Simply multiply all monthly figures by twelve (for the production costs you then automatically get the figures you started with!), and also the Annual Budget of your Company will be ready. Present and explain this Annual Budget to the Company Members during the company's Annual General Meeting: it will increase their understanding of the company's operations and will at the same time provide them with a tool to assess the performance of their company at the end of the concerned budget period. Formats for Monthly Budgets and for the Annual Budget are presented on the following page.

Budget Preparation

- **Make a forecast of the monthly Income**
- **Make a forecast of the monthly Production Costs**
- **Convert Monthly Budgets into an Annual Budget**
- **Present the Annual Budget to the Company Members during Annual General**
- **Meeting**

MONTHLY BUDGET ..... WATER SUPPLY COMPANY (All amounts in TShs.)			
MONTH:		**YEAR: .....**	
BUDGETED INCOME (+)			
Water Tariffs from DWP Users			
Water Tariffs from House Connections (HCs)			
Water Tariffs from Business Connections (BCs)			
Other Income			
Total Budgeted Income			+
BUDGETED EXPENDITURE (-)			
Pumping Costs (only for pumped water systems)			
Maintenance Costs			
Salaries and Allowances			
Office Costs			
Collection Fees			
Professional Fees			
General Expenses			
Total Budgeted Expenditure			-
NET BUDGETED MONTHLY INCOME (before deduction of provision for depreciation)			=

ANNUAL BUDGET ..... WATER SUPPLY COMPANY same format as monthly budget, but add a provision for annual depreciation as follows:		
NET BUDGETED ANNUAL INCOME (before deduction of provision for depreciation)		=
ANNUAL PROVISION FOR DEPRECIATION		-
NET BUDGETED ANNUAL INCOME		=

5. System for Revenue Collection

Charges for water use will affect *all* households, businesses and institutions alike as consumers of the water, supplied by your Water Supply Company. In the previous chapter we have seen that the rates will differ according to the specific type of water user. Business water users and institutional users will be charged the highest rates (depending on their estimated water use). Households with private house connections pay as a rule more than the water users, who collect their water from the DWPs. The heads of the concerned households or the owners or persons in charge of the concerned businesses or institutions will be liable to pay a water tariff at rates that are determined by your Company.

5.1 Revenue Collection at Water User Group Level

Each Water User Group Committee should inform its group members about the necessity of paying their water charges. They should explain to them that payments have to be made in order to run their water supply scheme and that non-payment will eventually ground the system to an absolute halt. The consequences will obviously be disastrous for everyone.

At Water User Group level a Register will be maintained, showing:

1. The name of the Water User Group
2. Number of households in the Water User Group (separate for DWP users and for HCs)
3. Name of the head of each household
4. Rate which each household is liable to pay (uniform rate for DWP users and HCs)

Payments will be made regularly, at intervals to be decided by the Company. Monthly payments are recommended. Payments from the DWP users and the HCs will be collected by the Treasurers of the Water User Groups, who will come to each household to collect the tariff. Receipts in the form of tariff tickets will be issued for each payment. Businesses and institutions will pay their tariffs directly to the Company.

Each User Group Committee shall have Tariff Books with which to collect water tariffs from the heads of the households. There are three types of Tariff Books: Tariff Book A for DWP users and Tariff Book H for House Connections (Tariff Book B is to be used for Businesses Connections and Institutions). New Tariff Books, containing clearly numbered tariff tickets or receipts, are to be issued by the Water Supply Company and will from time to time be officially handed over to the Treasurers of the Water User Group Committees. A document, to be signed by the Treasurer of the Water User Group Committee upon receipt of each set of Tariff Books, should contain the numbers of the Tariff Books, thus issued by the company, and be recorded in a separate company ledger.

After collecting the tariffs from the heads of the households at the end of the agreed payment period, usually a month, the Treasurer of the Water User Group Committee will enter the tariffs received in the Register, showing the status of water tariff payments of each individual household during the year. As a matter of convenience it is recommended to write only ticket numbers (from the Tariff Books) in the concerned period columns (months) behind the names of the heads of the households, who have paid their water tariff. When no payment is made, the space in the concerned column will automatically remain blank. There is no need to write TSh. amounts in the columns, as the tariff rates per month are the same for all individual households. Writing ticket numbers in the columns will make it much easier to check at a later stage

whether certain payments of tariffs have actually been made or not. Defaulters, having no ticket number in one or more columns behind their name (depending on the number of months that they failed to pay their water tariffs), should be urged by the Water User Group Committee members to pay their debts to the Company at shortest possible notice.

..... WATER SUPPLY COMPANY LTD.

REVIEW OF WATER TARIFF RECEIPTS (WATER USER GROUP LEVEL)

Name of Water User Group: ..... **Year:** .....

Names of the Water User Group Committee members:

Chairperson : ..... Member : .....
Secretary : ..... Member : .....
Treasurer : ..... Member : .....

Monthly Water Tariff DWP Users : TShs. 200
Monthly Water Tariff House Connections: TShs. 1,000

Name Head Household	Jan.	Febr.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
DWP Users												
Plus Msigwa	42533	42595	42635	42704	42801							
Rebecca Julius	42534	42802	42802	42802	42802							
Halima Abdallah	42485	42485	42485	42732	42732	42732	42732					
Mahaligwa Kauzeli	42486	42486	42486	42486	42803	42803	42803	42803	42803			
Mbonde Bungo	42535	42596										
Daudi Ginzell	42536	42597	42636	42705	42804							
etc.												
House Connections												
David Macha	8752	8795	8823	8841	9001							
Nkenja Manda	8524	8796	8796	8796	9002	9002	9002					
Fredi Mwanga	8754	8798	8827	8846	9003							
Gauda Sanga	8694	8694	8829	8829	8829	8829						
Queen Mela	8755	8799	8830	9004	9004							

When certain members of the Water User groups prefer to pay their water tariffs in advance, then the Treasurer will issue only one ticket from the Tariff Book to the concerned member and will then enter *the same ticket number* behind the member's name in the period columns (months) to which the tariff payment is related (e.g. January, February and March when the payment is made for the first quarter of the year). The same procedure should be used for the adminstration of late payments (the collection of unpaid water tariffs from previous periods/months). We advise you to draw a simple arrow under the first or last ticket number, depending on whether you are dealing with an advance payment (arrow under the first ticket number) or a late payment (arrow under the last mentioned ticket number).

Copies of the original tickets, given to heads of households after they paid their water tariffs, are kept with the Treasurer of the Water User Group Committee. Any member of the Water User Group is entitled to check these copies of the original tickets.

The revenue thus collected by the Treasurers of the Water User Group Committees should be sent to the Treasurer of the Company for recording and custody. For recording purposes it is important that the Treasurers of the Water User Group Committees calculate at the end of each month, after collection of the water tariffs over that month:

1. the amount of water tariffs collected from the water users, referring to that month
2. the amount of water tariffs that represent pre-payments for the coming month(s)
3. the amount of water tariffs that represent (late) payments for the previous month(s)

The total of these three amounts should be equal to the total amount in cash received from the the heads of the households over the concerned month and handed over to the Treasurer of the Company.

For accurate recording purposes, each Treasurer of a Water User Group Committee should keep a *Register of Monthly Water Tariff Receipts* (see example hereunder). This Register also contains the names of the Water User Group members (heads of households) and is also divided over DWP users and House Connections. After completing the monthly water tariff collection, the Treasurer will indicate behind the name of each member the *total* amount of water tariffs, collected from that person during that month, the concerned ticket number and the period, stated in months, to which the concerned payment is related.

..... WATER SUPPLY COMPANY LTD.

REGISTER OF MONTHLY WATER TARIFF RECEIPTS (WATER USER GROUP LEVEL)

Name of Water User Group: ..... **Month: May**

Monthly Water Tariff DWP Users : TShs. 200
Monthly Water Tariff House Connections: TShs. 1,000

Name Head Household	Amount Received during Month (TShs.)	Tariff Book Ticket No.	Payment for Period: (Indicate Months)
DWP Users			
Plus Msigwa	200	A42801	May
Rebecca Julius	800	A42802	Febr. - May
Halima Abdallah			Paid earlier
Mahaligwa Kauzeli	1,000	A42803	May - Sept.
Mbonde Bungo			
Daudi Ginzell	200	A42804	May
etc.			
House Connections			
David Macha	1,000	H 9001	May
Nkenja Manda	3,000	H 9002	May - July
Fredi Mwanga	1,000	H 9003	May
Gauda Sanga			Paid earlier
Queen Mela	2,000	H 9004	Apr. - May
etc.			

Revenue Collection at Water User Group level:

- **While collecting water tariffs use Tariff Books type A (DWP users) and H (HCs)**
- **Enter all receipts of water tariffs in the Review of Water Tariff Receipts by putting receipt numbers behind the names of the concerned water users**
- **All monthly receipts of water tariffs either represent payments for the current month, pre-payments for the coming month(s) or payments for the previous month(s): record these amounts by completing the WUG's Register of Monthly Water Tariff Receipts**
- **Make a note each month of how many water users did not pay their water bill for that month**
- **Urge defaulters to immediately pay their debts to the Company and to pay their water bills in time in the future**

5.2 Revenue Collection at Company Level

The company will keep a Water User Groups Register, containing all the names of the Water User Groups and all the names of the heads of the households who are members of these Water User Groups and divided into two categories: DWP users and House Connections. The Register will also have the names of the Committee members of all the Water User Groups and the rate of the monthly water tariffs, which each head of the household (DWP users and HCs) has to pay. The company will also hold a separate Register of Business Connections, containing the names of the business owners or institutions and the rate of monthly water tariffs which each individual business owner has to pay.

In the Company's Register of Monthly Water Tariff Receipts (see example following page) the amounts received from the Treasurers of the particpating Water User Groups have to be entered each month for each Water User Group (in TSh.) Each amount will have to be specified as collected water tariffs for that specific month, pre-paid water tariffs and (late) payments of previous water bills. Also the total amount of unpaid water bills during that specific month should be mentioned for each Water User Group.

After having completed all the entries of the monthly receipts of water tariffs from the Water User Groups and Business Connections, the Treasurer of the company will then be able to tell how much money has been received from all Water User Groups and Business Connections in the form of water tariffs for that particular month, how much money is still outstanding in the form of unpaid water bills, including those of the current month (this is part of what accountants call *Current Assets*) and how much money the Company has received from the water users in the form of pre-paid water tariffs (this is part of what accountants call *Current Liabilities*).

..... WATER SUPPLY COMPANY LTD.

REGISTER OF MONTHLY WATER TARIFF RECEIPTS

Month: May **Year: .....**

Monthly Water Tariff DWP Users : TShs. 200
Monthly Water Tariff House Connections: TShs. 1,000

Water User Groups	Total Amount Received during Month (TShs.)	Specified as: Received for Current Month (TShs.)	Collected for Previous Month(s) (TShs.)	Pre-paid for Coming Month(s) (TShs.)	Total Amount Unpaid during Month (TShs.)
WUG 1 (Name Water User Group)					
DWP Users					
House Connections					
WUG 2 (Name Water User Group)					
DWP Users					
House Connections					
etc.					
Total DWP Users (all WUGs)					
Total House Connections (all WUGs)					

Business Connections	Total Amount Received during Month (TShs.)	Specified as: Received for Current Month (TShs.)	Collected for Previous Month(s) (TShs.)	Pre-paid for Coming Month(s) (TShs.)	Total Amount Unpaid during Month (TShs.)
Name Owner/ Institution:					
Luanda Guesthouse					
Karibu Restaurant					
School					
Health Centre					
Department Store					
etc.					
Total Business Connections					

For the Business Connections the Treasurer of the company will enter the tariffs received from the owners of the businesses or the responsible persons of the involved client institutions in the Register, showing the status of water tariff payments of each individual business or institution during the year. For easy reference we also recommend to write only ticket numbers (from the Tariff Books) in the concerned period columns (months) ~~behind~~ the names of the concerned businesses or institutions, who have paid their water tariff. The actual amount of the monthly water tariffs for each individual business or institution can be obtained from the Register of Business Connections.

REVIEW OF WATER TARIFF RECEIPTS (BUSINESS CONNECTIONS)

Year: .....

Name Owner/Insitution	Jan.	Febr.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
etc.												

It is recommended that at company level a list is kept of the names of the heads of the households, business owners or institutions who are far behind (say more than six months) in paying their water bills. When certain cases of non-payment become notorious and all convincing actions of the concerned Committee members have failed to have the desired result, the company should consider to start legal action against these Water User Group members, in order to force them to pay their outstanding water bills after all.

The Company's Register of Monthly Water Tariff Receipts should be sufficient evidence of the matters entered in it. In case a Company Member inspects the Register and finds some discrepancies, he or she can apply immediately to the company for the necessary alteration to be made.

Revenue Collection at Water Supply Company level

- **Enter all monthly receipts of water tariffs from all Water User Groups and Business Connections in the Company's Register of Monthly Water Tariff Receipts, to be specified as *collected water tariffs for that month*, pre-paid water tariffs and payment of previous water bills**
- **Make also monthly records for each Water User Group and Business Connection of the unpaid amount of water bills for that month**
- **Consider legal action against notorious defaulters**
- ***Compare every month actual receipts of water tariffs with budgeted amounts and report result to Company Members***

6. Keeping record of the company's transactions

By law every company must keep proper books of accounts at the company's registered office. The books of accounts must give a true and fair view of the state of the company's affairs and must give a good explanation of its transactions. The information generally required will comprise of:

- All the money received from the Water User Group Treasurers and other sources
- All purchases of goods (materials, tools, equipment, stationaries, etc.) for your Company
- All other expenditure incurred by your Company

Keeping a good record of all *cash transactions* that take place in your Coimpany is in particular essential for keeping your Company in good health. Without it, you will quickly loose track of what is going on in the company and, at the end, once things start moving in unwanted directions, you will never be able to know what actually went wrong.

So neat, accurate records help you to find out how your Company is doing. They can help you to solve problems when they arise. But even if your Company is doing well, you can use your records to find out why. Once you know why, you can find and plan ways to do it even better!

For good record-keeping you have to write down all your business transactions in an organised way. You need something that you received or paid out money or, in other words, you need proof of every transaction, even for small amounts like buying stamps for your business letters.

6.1 How to handle cash income received by the company

The main source of income for a Water Supply Company is derived from the sale of water. Tariff tickets from the Tariff Books, which were described in the previous section, are issued as receipt notes. These receipt notes acknowledge receipts of payments made by individual households, using the facilities of a DWP, water users with a private house connection or owners of businesses.

When the Treasurer of a Water User Group Committee brings the water tariffs, collected from the members of the Water User Group to the company, the Treasurer of the company will issue him or her an official receipt note, duly stamped with the official stamp of the company. The receipt note should contain the following information:

- A receipt number (to be put on the receipt note when you file it)
- The date
- The name of the person who made the payment (in this case the name of the Treasurer of the Water User Group Committee)
- The amount received in words and numbers
- The purpose of the payment (e.g. collected water tariffs Water User Group ....., May 19..)
- The signature of the Treasurer (or Secretary) of the company, who received the payment

For the payment of water tariffs by owners of businesses with a Business Connection, which is done directly to the company, the Treasurer of the company will issue a receipt in the form of a tariff ticket, taken from the Tariff Book B, as explained in the previous paragraph.

As the company grows, other sources of income might develop, e.g. interest received from a deposit account at the bank. In these cases, money received by the company must also be officially receipted by a stamped company receipt note.

You use the receipt notes to fill in your records: the cash book. File and keep the receipt notes. They are the *only* proof that your records are correct. If there are mistakes in record keeping, the receipt notes and payment vouchers (see next section) will help you to find out where the mistakes are made.

6.2 How to handle cash expenses made by the company

Whenever money is paid out by the company Treasurer, a payment voucher must be prepared prior to the actual payment. All the money to be paid out by the company must be accompanied by a written payment voucher, duly authorized by an authorized person. The Treasurer and the Secretary could be the authorizing officers. The payment voucher should contain the following information:

- A payment voucher number (to be put on the voucher when you file it)
- The date
- The name of the person who receives the payment (e.g. the supplier of materials, stationaries, etc.)
- The amount to be paid out in words and numbers
- The purpose of the payment (e.g. purchase of fittings or other materials, etc.)
- The signature of the receiving person

Usually the person, who receives a certain payment, will give you a receipt or an invoice when you buy certain goods or when you pay the electricity bill. If that is the case, and we advise you to make this as a standard rule in your Company, these receipts or invoices should be attached to their related payment vouchers.

You use the payment vouchers to fill in your records: the cash book. File and keep the payment vouchers. They are the *only* proof that your records are correct. If there are mistakes in record keeping, the payment vouchers and receipt notes (see previous section) will help you to find out where the mistakes are made.

6.3 How to keep record of your cash transactions

Keep the cash you think you need daily in a safe place, preferably in a *cash box* which can be locked properly. Avoid at all cost to keep large amounts of cash in your cash box. Take the amount of cash that you think is *not* needed for the day-to-day business of your Company as quickly as possible to the bank and put it there safely in the Company's bank account.

Write down at the beginning of every day the amount of money that is in you cash box on a blank sheet of paper. Keep that piece of paper in your cash box until the end of the day.

The next step is that you see to it that during the day proper receipt notes (for cash coming in) and payment vouchers (for cash going out) are made for *all* changes in the amount of cash in your cash box during that day. Keep for the time being these receipt notes and payment vouchers for safe keeping in your cash box. At the end of the day you check the amount of cash that is left in your cash box and write that amount on the same piece of paper as you

wrote the starting money (the amount of money that was in your cash box at the beginning of the day) on.

Then take, still at the end of the day, all the receipt notes and payment vouchers of that day from your cash box and enter the data of all the cash receipts (the amounts mentioned on the receipt notes and the information on where it came from) and the data of all cash expenditure (the amounts mentioned on the payment vouchers and the information on what it was used for) one by one in the company's *cash book*.

Be very systematic and precise when you do your daily job of completing the company's cash book. An example of how your company's cash book should look like is given on the following page.

When you have finished the daily routine of completing your cash book, check the last amount mentioned in the Balance column of your cash book with the last figure you have earlier written on your small piece of paper (the content of your cash box at the end of the day). These two figures should match. If not, you have probably made a mistake in your record-keeping. Check your receipt notes and payment vouchers again to find out where the mistake has been made.

CASH BOOK

Date	Number	Details	In	Out	Balance
01/05/97		Brought forward (B/f)	250,000		250,000
02/05/97	0001	Contribution Water User Group A	15,300		265,300
02/05/97	0002	Stationary		8,500	256,800
02/05/97	0003	Contribution Bussiness Con. D	2,500		259,300
02/05/97	0004	Contribution Water User Group X	20,700		280,000
02/05/97	0005	Expenses Annual General Meeting		12,300	267,700

You will notice that there are six columns on each page of your cash book:

- The first column is for the date, mentioned on the respective receipt note or payment voucher you are going to enter into your cash book.
- The second column is used for mentioning the number that you will put on the receipt note or payment voucher of the concerned cash receipt or cash payment.
- In the third column a brief desription is given of each cash receipt or cash payment.
- In the next two columns you write all the cash that came in (the in-column for the amounts mentioned in the respective receipt notes) or went out (the out-column for the amounts mentioned in the respective payment vouchers) of your cash box.

- The sixth column records your cash balance: at any time, the balance column should show the amount of money you have in your cash box.

The easiest way to fill in the columns is as follows:

Step 1	Fill in the date, the details and the number.Use a new number for each entry: start with number 1/1 for the first entry during the first month (usually January), then continue in number order with 2/1,3/1,4/1 and so on until the end of the month. Then start the new month with number 1/2, proceed with 2/2 and so on
Step 2	Write the number on the concerned receipt note or payment voucher and file the note or voucher
Step 3	Record the amount in either the In-column (when it is a cash receipt) or the Out-column (when it is a cash payment)

After finishing your daily cash recording, remember to check the final figure in the Balance column. The figure should match with the content of your cash box!

Close the cash book at the end of the month and carry the last cash balance amount of the month forward to the next month (C/f).There it is recorded as Balance brought forward (B/f)..

6.4 How to handle your Company's bank account(s)

In the previous section you were advised you to disburse the cash money, that you think is *not* needed for the day-to-day business of your Company, as quickly as possible into one of the bank accounts owned by the company. While giving this advise, we have assumed that the company has already opened at least one bank account at the branch office of a trusted bank, nearest to the company's office.

If you have not done so, we strongly advise you to take immediate steps for opening a bank account, or for that matter two accounts: a current account for the company's day-to-day bank transactions and a savings account for the disbursement of money that is not immediately needed. The bank personnel will show you how to open these accounts. The advantage of a savings account is that the account is earning interest. A current account is not earning interest, but has of course the advantage that at any moment money can be withdrawn from such an account.

Payments from a current account are made by using cheques from a cheque book, issued by the bank if your Company is an account holder at that bank. Let the bank personnel also explain to you how to write a cheque! Cheques are a safer way of making payments, in particular larger payments, than using cash money, not only because it is safer to carry a cheque than to carry a large amount of cash, but also because they require an authorized signature before somebody can actually cash the cheque. However, also considering the fact that you will have to pay a little extra for buying a cheque book, we advise you to save the cheques for larger payments and always to use cash money for smaller payments.

If there is a lot of money in the company's savings account, the company can decide to transfer the money into a fixed deposit account, which can earn even a higher interest than a savings

account. It is good to discuss these matters first with the manager of the bank where your Company has an account.
Also we would advise you to seek the advice of a trusted accountant on how the company could best invest its money.

6.5 How to keep record of your bank transactions

When your Company is operating a bank account, the company should have a *bank book*. Just like all the Company's cash transactions are recorded in the company's cash book, all bank transactions are to be recorded in the company's bank book. The format of the bank book could be the same as the cash book.

Prepare receipt notes for all disbursements into the company's bank account (mostly transfers from the Company's cash) and prepare payment vouchers for all payments that were made by cheque. Do not forget to attach the receipts or invoices (signed for being paid!), which were submitted by the person or institution who received the company's payment, to the concerned payment vouchers. For later reference we advise you also to write the concerned cheque number on all payment vouchers that refer to cheque payments.

A money transfer from bank to cash should be booked as expenditure in the bank book and as an income in the cash book. The opposite applies when cash is deposited in the bank.

Normally the bank will send on a regular basis (usually once a month) a statement of accounts to your Company. This statement will show all expenditures and income handled by the bank on behalf of your Company. The entries on the statement should be cross checked with the cheque book entries in combination with their related payment vouchers, and with the receipt notes which you had prepared earlier. However, we advise you to be very careful when you consider the balance figure on your Company's bank statement. Statements of bank accounts are never up to date as some people, who were paid by cheque, will cash the cheque some time later. Moreover, it always takes some time to process the cheque. Nevertheless, keep cross checking your own accounts with the statements you get from the bank!

Keep all receipt notes and payment vouchers, related to bank transactions, in a separate folder. As the number of bank transactions will under normal circumstances only be few, it will be sufficient to do the entries in the bank book say once a week. The procedure, however, is the same as was described earlier for the completion of the company's cash book. An example of how your Company's bank book should look like is given below (see next page):

BANK BOOK					
Date	**Number**	**Details**	**In**	**Out**	**Balance**
01/05/97		Brought forward (B/f)			
02/05/97	0001				
02/05/97	0002				
02/05/97	0003				
02/05/97	0004				
02/05/97	0005				

For easy reference we repeat here the easiest way to fill in the columns:

Step 1	Fill in the date, the details and the number.Use a new number for each entry: start with number 1/1 for the first entry during the first month (usually January), then continue in number order with 2/1,3/1,4/1 and so on until the end of the month. Then start the new month with number 1/2, proceed with 2/2 and so on
Step 2	Write the number on the concerned receipt note or payment voucher and file the note or voucher
Step 3	Record the amount in either the In-column (when it is a bank receipt also called bank transfer) or the Out-column (when it is a bank payment, usually by cheque)

Advice: If possible wait with closing your bank book at the end of the month till you have received the bank statement over that month. This gives you the opportunity to cross check the figures and to as yet include still unrecorded bank transactions for that month (interest charges or receipts and bank charges). After closing the bank book at the end of the month, carry the last bank balance amount of the month forward to the next month (C/f).There it is recorded as Balance brought forward (B/f)..

6.6 Preparing a review of the Monthly Cash/Bank Income & Expenditure

The activities concerning the handling of the company's cash and bank transactions, as described before, refer to the daily and weekly routine of cash and bank handling. In order to know how much money the company received from various sources (Water Tariffs from DWP users, HCs and BCs, Other Income) and how much money was spent for which purposes, it is recommended to make a simple review of the *combined* monthly cash/bank income and expenditure of the company as follows:

REVIEW OF THE MONTHLY CASH/BANK INCOME & EXPENDITURE (All amounts in TShs.)			
MONTH:		**YEAR: .....**	
INCOME (+)			
Water Tariffs from DWP Users			
Water Tariffs from House Connections (HCs)			
Water Tariffs from Business Connections (BCs)			
Other Income			
Total Cash/Bank Income			+
EXPENDITURE (-)			
Pumping Costs (only for pumped water systems)			
Maintenance Costs			
Salaries and Allowances			
Office Costs			
Collection Fees			
Professional Fees			
General Expenses			
Total Cash/Bank Expenditure			-
MUTATION OF CASH/BANK INCOME & EXPENDITURE DURING MONTH			
			=
Cash Balance at the end of the month			
Cash Balance at the beginning of the month			
MUTATION OF CASH DURING MONTH			
Bank Balance at the end of the month			+
Bank Balance at the beginning of the month			
MUTATION OF BANK DURING MONTH			

The last part of the above mentioned review (mutations of cash respectively bank during the month) enables you to check the correctness of the figures mentioned in the first part (mutation of cash/bank income and expenditure during the month). Last mentioned mutation should at all times be equal to the sum of the cash and the bank mutations!

Once you have completed the review of the *combined* monthly cash/bank income and expenditure of the company, it will be quite easy to make a comparison between the actual income and expenditure figures and the budgeted figures (see chapter 4) for that month. Study the figures very carefully and try to analyse the differences. Compare the actual income and expenditure figures also with the actual figures of the previous months. If there are large differences in some of the individual income and expenditure items, try to find out what happened, what the problems are and what can be done to solve them.

7. The way to present the financial results and status of your Company

Company Members, and through them the water users, should be permanently informed about the financial performance of the company. It is therefore recommended to present, as a standard routine, the monthly comparison between the actual income and expenditure figures and the budgeted figures, as mentioned at the end of the previous chapter, to all Company Members. It is exactly this kind of information that should be made easy accessible to them, for instance by attaching the "monthly budget" and "review of monthly cash/bank income and expenditure" formats to the wall in your Company's office. Keep them there till you have seen to it that they are updated the following month.

7.1 The Profit and Loss Statement Account

Periodically the Company Members should be informed how their company is doing financially. Is the company making a profit or is the company loosing money? The way to find this out is by making a *Profit and Loss Statement*, showing the financial performance of the company during a certain period of time.

By law every company is obliged to prepare a Profit and Loss Statement at the end of every financial year. However, you can also calculate your profit and loss more often, for example after three or six months. The more often you calculate your profit and loss, the sooner you will know if your Company has really serious problems. Then you can do something about the problems before it is too late.

On the following page you will see how a standard format of a Profit and Loss Statement of a Water Supply Company should look like.

In fact, if you have completed the monthly reviews of income and expenditure, which we discussed earlier, regularly, it should be reletively easy for you to make a Profit and Loss Account over a period of say six months. You just add all income and expenditure figures over the concerned six months and put the totals behind the related income and cost items in your Profit and Loss Statement.

If you calculate the profit and loss of your Company for a shorter period than one year, for example six months, it is not necessary to include the amount for depreciation (or the loss in value) of the Fixed Assets of the company. You do that only when you prepare the Profit and Loss Statement for the whole year at the end of the financial year. Depreciation is a cost, an indirect cost, to the company and must be recorded. But depreciation does not mean that money goes out of the business! To calculate the depreciation amount, divide the total cost of buying the concerned fixed assets (your water supply system, the furniture in your office, the office building owned by the company, etc.) by the number of years you expect to use it. In general, you should only calculate depreciation for equipment and other fixed assets which has a high value and lasts longer than a year.

PROFIT AND LOSS STATEMENT ..... WATER SUPPLY COMPANY LTD. (All amounts in TShs.)			
PERIOD:		**YEAR: .....**	
INCOME			
Water Tariffs from DWP Users			
Water Tariffs from House Connections (HCs)			
Water Tariffs from Business Connections (BCs)			
Other Income		+	
TOTAL INCOME			
DIRECT PRODUCTION COSTS			
Pumping Costs (only for pumped water systems)			
Maintenance Costs		+	
TOTAL DIRECT PRODUCTION COSTS			−
			=
GROSS PROFIT			
INDIRECT PRODUCTION COSTS			
Salaries and Allowances			
Office Costs			
Collection Fees			
Professional Fees			
General Expenses			
Depreciation of Fixed Assets		+	
TOTAL INDIRECT PRODUCTION COSTS			−
			=
NET PROFIT			

7.2 The Balance Sheet

It is equally important for all Company Members, and through them all water users in the scheme, to know the value of *their* company. Your Water Supply Company is a separate legal entity which can own property (called the *Assets*) and owe debts to others, including the owners of the company (these are called the *Liabilities*).

The *Assets* of Your Company include:

- All *Fixed Assets* that are legally owned by the company, in other words all assets, that depreciate or decrease in value every year (see above),
- All *Stocks* of spares, materials and simple handtools that are owned by the company,
- All debts, owned by the company, including all outstanding water bills (water users who have failed to pay their water tariffs). These are called *Accounts Receivable*.
- The amount of money which the company holds in *Cash* (either in the cash box or in a bank account)

The *Liabilities* of your Company include:

- The *Capital Costs* of the water supply system and all other Fixed Assets
- All accumulated *Retained Earnings* in the form of surplus income and provisions (reserves) for replacements of Fixed Assets and major repairs
- Any *Loans* the company might need for running its business
- Other debts of the company: unpaid invoices *(Accounts Payable)*, unpaid taxes *(Tax Liability)* and pre-paid water tariffs by water users *(Pre-paid Water Tariffs)*.

Considering the fact that all the assets of the company are claimed by someone, either by the owners of the water supply system, i.e. the water users, or by the creditors of the company, i.e. those who gave the company a credit, and that the value of the combined claims cannot exceed the total value of the assets of the company, it follows that the total value of the assets is per definition equal to the total value of the liabilities. Hence the name *Balance Sheet* is used by accountants.

By law every company is obliged to prepare a Balance Sheet at the end of every financial year. This is how a standard format of the Balance Sheet of a Water Supply Company should look like (see next page):

Some additional remarks and recommendations concerning the Balance Sheet of your Company:

- Keep a separate ledger, containing all the details of the Fixed Assets of the company. Use seperate pages for writing the details of each specific group of assets (certain elements of the water supply system for instance), their original value or purchase value, the depreciation period in years, and the amount of depreciation per year.

- You also have to prepare a ledger, containing all the details of your stocks (materials, spareparts, simple handtools, etc.). Write down the quantity and value of each stock item and see to it that all changes in your stock are recorded immediately in the ledger. Check at the end of every month whether your actual stock still tallies with the recordings in your stock ledger. Enter the total value of the stocks at the end of the financial year (usually the 31st of December) under the heading Current Assets in the company's Balance Sheet.

- Use the company's Register of Monthly Water Tariff Receipts to check both the amount of money still outstanding at the end of the financial year in the form of unpaid water bills and the amount of money the company has received at the end of the financial year from the water users in the form of pre-paid water tariffs. Enter these amounts under the respective headings Accounts Receivable and Pre-paid Water Tariffs in the company's Balance Sheet.

- Keep all unpaid invoices (of the company's suppliers of equipment, parts, materials, etc.) in a separate folder. We advise you to prepare a separate ledger, containing a list of all the company's unpaid invoices, and to keep that ledger with the folder. Enter the last amount in the ledger at the end of the financial year under the heading Accounts Payable in the company's Balance Sheet.

- If you and all the other Board Members are convinced that a certain amount of the Current Assets item Accounts Receivable (in practice the total amount of the unpaid water bills) cannot be recovered, it is recommended to write them off at the end of the financial year against the financial result of that year. In that case you decrease the item Accounts Receivable and the item Retained Earnings with the amount that you decided to write off. Your Balance Sheet will remain in balance!

BALANCE SHEET ..... WATER SUPPLY COMPANY LTD. (All amounts in TShs.)			
DATE: 31st of December		**YEAR: .....**	
ASSETS		**LIABILITIES**	
Fixed Assets (-) depreciation:		**Capital Cost of Fixed Assets**	
Land		**Retained Earnings**	
Buildings			
Water tank		**Long Term Loans**	
Underground Pipes			
Water Point Structures		**Current Liabilities:**	
Vehicles			
Office Furniture		Pre-paid Water Tariffs	
Total Fixed Assets		Accounts Payable	
		Short Term Loans	
Current Assets:		Tax Liability	
		Other Accrued Liabilities	
Account Receivable		*Total Current Liabilities*	
Stocks			
Cash			
Total Current Assets			
TOTAL ASSETS		**TOTAL LIABILITIES**	

8. The external audit of the company's accounts

8.1 Appointment of an External Auditor

The Company Ordinance (Law) requires every company, so also your Water Supply Company, to appoint at its Annual General Meeting a qualified auditor or a qualified firm of auditors to hold office until the next Annual General Meeting. If such appointment of an auditor is not made, then the court may, on the application of any Company Member, appoint an auditor for the company for the current year. At any Annual General Meeting the company can appoint another auditor, provided it has given a notice of intention to do so to the auditor in office. This notice is to be given by a Company Member not less than 14 days before the Annual General Meeting. The first auditor of the company can be appointed by the Board of Directors of the company at any time before the first Annual General Meeting.

The remuneration of the auditor is fixed by the company at the Annual General Meeting. The remuneration of the auditor, appointed before the Annual General Meeting or of an auditor, appointed to fill a casual vacancy, can be fixed by the Board of Directors. In the case of auditors, appointed by a court, their remuneration will be fixed by the court.

8.2 Roles and responsibilities of the Auditor

The auditors are to compile a report on the accounts examined by them and on every Balance Sheet which is to be laid before the Members of the Water Supply Company in the Annual General meeting during their tenure of office. The report must state:

- whether or not they have obtained all the information and explanations they required to prepare the report and
- whether, in their opinion, the Balance Sheet referred to in their report is properly drawn up so as to exhibit a true and correct view of the state of the Water Supply Company's affairs, according to the best of their information and the explanation given to them, and as shown in the books of the company.

Every auditor of the company has the right of access at all times to the books and accounts and vouchers of the company. Furthermore, they are entitled to require from the members of the Board of Directors of the company such information and explanation as may be necessary for the performance of their duties.

The auditor of the company is entitled to attend any General Meeting of the company at which any accounts, which have been examined or reported by them, are to be presented to the Company Members.

In order to facilitate matters and to reduce the costs of the annual audit of the company's accounts by an external auditor, DWSP Morogoro will assist in making a selection of two or three qualified auditors or qualified firms of auditors. These auditors or firms will then be made familiar with the (uniform) accounting systems and practices of all Water Supply Companies. As a result of this action the time to do the actual audit of each company will be shortened, which means a reduction of the relatively high auditing costs. The company can choose one of these auditors or auditor firms and fix their remuneration.

CASE STUDY

SETTING OF WATER TARIFFS

With the support of DWSP Morogoro a Water Supply Company has been established at **MINAZI MINGI** village. The company is a private, limited by guarantee, and will carry out its activities on a non-profit making basis. The services of the company also include the provision of potable water to the inhabitants of neighbouring **MCHIKICHINI** village.

The two villages together have a population of 49,000 inhabitants. Since there is no suitable stream or other source of potable surface water in the vicinity of the two villages, a borehole has been drilled close to Minazi Mingi and a complete piped water scheme has been installed in both villages. There is no supply of electricity in the villages and for that reason a diesel driven generating set has been installed to pump the water from the borehole into the watertank and from there to the water users.

The Chairperson acts as the company manager and is together with the secretary and the treasurer of the company responsible for the day-to-day management. The management team were in the first place faced with three important questions:

- How much water will be used by our clients?
- What will be the costs of supplying this water to our clients?
- How much do our clients have to pay per month for the water used by them?

The management team's first question: How much water will be used by our clients?

In order to get an easy answer to the first question, the water users in the two villages were classified in three categories:

1. Those who get their water from public tap or Domestic Water Point (DWP)
2. Those who have a private house connection (HC)
3. Those who have a direct connection to the premises of their respective business or institution (BC)

A quick survey was organised in the two villages, involving the established Water User Group Committees in these villages. As a result of this survey one came to the conclusion that:

907 households are getting their water from a DWP,
70 households have private water connections (HCs) and that
13 businesses or institution have direct piped water connections (BCs)

Assuming that:

- the average household consists of 5 persons
- the average water use from a DWP is 30 litres per person per day
- the average water use by private house connections (HCs) is 70 litres per person per day and
- the average water use by businesses and institutions (BC) is 600 litres per day,

the Company's management team was now able to make an estimate of the total amount of water consumed by the three identified categories of water users.

DWPs:

Estimate of annual water use:
Number of households x average number of persons per household x average daily consumption of water per person x 365 days.
In this case 907 x 5 x 30 litres x 365 = 49,658,250 litres or 49,658.25 m3 (,000 litres = 1 m3)
The estimated monthly water use for this category is thus 49,658.25 m3 : 12 = 4,138.187 m3

HCs:

Estimate of annual water use: number of households x average number of persons per household x average daily consumption of water per person x 365 days
In this case 70 x 5 x 70 litres x 365 = 8,942,500 litres or 8,943.5 m3 (1,000 litres = 1 m3)
The estimated monthly water use for this category is thus 8,943.5 m3 :12 = 745.21 m3

BCs:

Estimate of annual water use: number of businesses and institutions x average daily consumption of water per business or institution x 365 days
In this case 13 x 600 litres x 365 = 2,847,000 litres or 2,847 m3 (1,000 litres = 1 m3)
The estimated monthly water use for this category is thus 2,847 m3 : 12 = 237.25 m3

The total estimated annual and monthly demand for water in the two villages can thus be summarized as follows:

Category	Annual water use	Monthly water use
DWPs	49,658 m3	4,138 m3
HCs	8,943 m3	745 m3
BCs	2,847 m3	237 m3
Total	61,448 m3	5,120 m3

The management team's second question: What will be the costs of supplying this water to our clients?

Secondly, the company's management team wanted to know how much it would cost the company to guarantee a continuous supply of the calculated amount of water to their clients. They sat down together and came to the conclusion that in fact two cost categories can be identified: the actual production costs of the water and the costs of running the office of the water supply company.

1. The production costs

These costs consist of th expenses that have to be made for pumping the water from the borehole into the water tank *(pumping costs)*, the costs that have to be made for a proper maintenance of the complete piped water scheme (*maintenance costs*) and the provision that has to be made for the ultimate replacement of the scheme *(depreciation costs)*.

Pumping costs

Assuming that:

- the pumping installation has a capacity of pumping 16 m3 per hour
- the diesel engine/generating set consumes 12 litres of diesel oil for every 3 hours and that
- the current price of one litre of diesel is TShs. 365

The management team was able to calculate the total amount of pumping costs as follows:

To run the diesel engine for one hour 4 litres of diesel oil is needed (12 litre : 3 hours). One litre of diesel oil will thus produce 4 m3 of water (16 m3 : 4 litres of diesel oil).

Knowing that the company is expected to produce 61,448 m3 per year (or 5,120 m3 per month), this means that the company will have to purchase 15,362 litres of diesel oil per year (61,448 m3 : 4 litres of diesel oil) or 1,280 litres of diesel oil per month (5,120 m3 : 4 litres of diesel oil).
This will cost the company TShs. 5,607,130 per year (15,362 litres of diesel oil x TShs. 365) or TShs. 467,200 per month (1,280 litres of diesel oil x Tshs. 365).

Maintenance costs

In order to be able to continuously provide good services to their clients/water users, the company is obliged to undertake regular maintenance services of all installations that are part of the piped water scheme in the two villages. In consultation with DWSP Morogoro the management team decided to set aside an annual amount that is equal to 3% of the total investment costs of the installations for this purpose.

The total investment costs of the scheme amount to Tshs. 75,000,000. The annual provision for maintenance costs is therefore 3%of that amount or TShs. 2,250,000. The monthly requirements are thus TShs. 187,500 (Tshs. 2,250,000 : 12).

Depreciation costs

Despite a proper and regular maintenance of the piped water scheme installations, the management team realize too well that over the years the equipment will wear out and will have to be replaced by new installations. Experience has learned that, provided the installations are properly maintained, the equipment can last 50 years. In financial technical terms we use the expression depreciation period, in this case 50 years.

Earlier we concluded that the total investment costs of the scheme amount to TShs. 75,000,000. With a depreciation period of 50 years, the depreciation costs amount to TShs. 1,500,000 per year or TShs. 125,000 per month.

II. The costs of running the office

The members of the company's team then made a list of all the expenses that have to be made to keep the company's office running. Their list was based on past experience of their own company and on the experience of other water supply companies in the region.

This is how their list looked like (all estimated expenses are for one the month only!):

Salaries and allowances for the company's employees and board members	T. Shs. 250,000
Transportation costs (bus fares, etc.) for official trips	T. Shs. 20,000
Office rent	T.Shs. 30,000
Collection fees 10% of budgeted DWP and HC income	TShs. 30,000
Other expenses	TShs. 90.000

Apart from these monthly expenses, the company will have to pay each year TShs. 100,000 to the auditors.

The company's estimated production and running costs can now be summarized as follows:

1. Production Costs	**Per month**	**Per year**
Pumping costs	TShs. 467,000	TShs. 5,607,000
Maintenance costs	TShs. 187,500	TShs. 2,250,000
Depreciation costs	TShs. 125,000	TShs. 1,500,000
II. Running Costs		
Salaries and Allowances	TShs. 250,000	TShs. 3,000,000
Transportation costs	TShs. 20,000	TShs. 240,000
Office rent	TShs. 30,000	TShs. 360,000
Collection fees	TShs. 150,000	TShs. 1,800,000
Stationeries etc.	TShs. 30,000	TShs. 360,000
Auditing fees		TShs. 100,000
Other expenses	TShs. 90,000	TShs. 1,080,000
Total Costs	**TShs1,349,500**	**TShs.16,297,000**

The management's team third question: How much do our clients have to pay per month for the water used by them?

To answer this question the company's management team realized that they must try to find out how much it will cost the company to produce one unit of water (usually a m3 of water is used for this
purpose).

The solution is now quite easy:They simply take the total amount of the annual production and running costs and divide this total by the estimated annual demand for water. (TShs. 16,297,000:61,448 m3 = TShs. 265.22 per m3 of water.

In setting an appropriate water tariff, the company's management decided to add 15% to the costs of producing one m3 of water as a provision for late payments and other unexpected events. So decision was taken to set the sales price of one m3 at TShs. 305 (TShs. 265.22 x 1.15).

What is the implication of this decision for each group of water users?

DWPs:

Earlier we saw that the estimated monthly water use for this group of water users is 4,138 m3. There are 907 household in this group, which means that the average monthly water use is 4.56 m3 per household (4,138 m3 : 907 households). Every household in this group should therefore be charged a monthly water tariff of 4.65 m3 x TShs. 305 or TShs. 1,418.25 (rounded off: TShs. 1,420).

HCs:

Earlier we saw that the estimated monthly water use for this group of water users is 745 m3. There are 70 household in this group, which means that the average monthly water use is 10.65 m3 per household (745 m3 : 70 households). Every household in this group should therefore be charged a monthly water tariff of 10.65 m3 x TShs. 305 or TShs. 3,248.25 (rounded off:TShs. 3,250).

BCs:

The variations in actual water use within this group are quite substantial. The management team realised that the assumption of using an average amount of water consumed by this group (600 litres per day) was correct for calculating the estimated monthly or annual water use for the whole group, but unsuitable for using this figure as a basis for calculating a proper water tariff. The differences in water consumption between the individual members of this group (businesses and institutions) are simply too big. The water tariff to be charged to each individual business or institution should therefore be based on there actual use of water.

For each individual business or institution an estimate was made of the amount of water consumed by this water user during one month. Based on that figure the water supply company has concluded seclude agreements with each individual business or institution.

An example:

Mr. Ukiyo Kisholwe is the owner of a small guest house in Mchilichini village. He told the concerned company manager that he needs approximately 3 barrels of clean water per day for his business. This is equal to 3 x 200 = 600 litres per day (one barrel is about 200 litres). The monthly water use was calculated as follows: average daily use x 365 days : 12 months. In this case: 0.6 m3 x 365 : 12 = 18.25 m3. Mr. Ukiyo Kisholwe should therefore be charged a monthly water tariff of 18.25 m3 x TShs. 305 or TShs. 5,566.25 (rounded off Tshs. 5,570)

The monthly estimated water demand and corresponding income per month can thus be summarised as follows:

Category	Number of households or businesses	Estimated average water use per month	Water tariff per month	Estimated income per month
DWPs	907	4.56 m3	TShs. 1,420	TShs. 1,287,940
HCs	70	10.65 m3	TShs. 3,250	TShs. 227,500
BCs	13	18.25 m3	TShs. 5,570	TShs. 72,410
Total Income				**TShs. 1,587,850**
Total Costs				**TShs. 1,349,500**

WATER SUPPLY COMPANY LTD
THE PREPARATION OF A BUDGET - AN EXAMPLE

The management of the Water Supply Company unanimously agreed that it is impossible to manage the company without any form of managerial guidance and operational guidelines. They decide to take action and immediately start making a plan to organise the what they consider the most crucial elements of their business operations in a better way. Their main worry and interest at the moment is how to make proper arrangements for dealing with the company's finances.

Together the Board members decide to prepare the annual budget of their company. The first thing they do is to make an estimate of the company's expected income. This is not too difficult for them as they know how much money should be collected from the water users every month. By simply taking this figure and multiplying it by twelve, they get a rather good estimate of the company's annual income. After that exercise they start making a realistic estimate of the company's expenditure, needed to run the company and to make provisions for a possible expansion. This is the result of their joint efforts:

ESTIMATE OF ANNUAL INCOME

DWPs: 907 households are getting their water from Domestic Water Points: They are paying TShs. 1,420 per month. The estimated annual income is thus 907 x 1,420 x 12=	TShs. 15,455,280
HCs: 70 households have private house connections. They are paying T. shs. 3,250 per month. The estimated annual income is thus 70 x 3,250 x 12 =	TShs. 2,730,000
BCs: There are 13 business connections. On the average each business connection is paying TShs. 5,570 per month. The estimated annual income is thus 13 x 5,570 =	TShs. 868,920
Total Annual Income	TShs. 19,054,200

ESTIMATE OF ANNUAL EXPENDITURE

Pumping costs	TShs. 5,607,000
Maintenance expenditure	TShs. 2,250,000
Depreciation	Tshs. 1,500,000
Salaries	
Chairperson/Manager 1 x TShs. 60,000 x 12	TShs. 720,000
Secretary 1 x TShs. 50,000 x 12	TShs. 600,000
Treasurer 1 x TShs. 50,000 x 12	TShs. 600,000
Water technician 1 x TShs. 50,000 x 12	TShs. 600,000
Watchmen 2 x TShs. 10,000 x 12 =	TShs. 240,000
Allowances	
Board members 10 x Tshs. 1,000/meeting x 12 =	TShs. 120,000
Travelling allowances Board members TShs. 10,000/month x 12	TShs. 120,000
Other running costs	
Transportation TShs. 20,000/month x 12	TShs. 240,000
Office rent TShs. 30,000/month x 12	TShs. 360,000
Collection fees 10% of DWP and HC income	TShs. 1,800,000
Stationeries TShs. 30,000/month x 12	TShs. 360,000
Auditing fees	TShs. 100,000
Other expenses TShs. 90,000/month x 12 =	TShs. 1,080,000
Total Annual Expenditure	TShs. 16,297,000
Estimated surplus for company expansion	TShs. 2,757,200