Republic of Sierra Leone

Ministry of Water Resources

Water Sanitation and Hygiene (WASH) Support Programme

Study on Management Options & Financial Sustainability for Small Town Water Supplies in Sierra Leone

Undertaken by PEMconsult, Colan Consult & CESPA on behalf of SALWACO
Funded by the UK Government through the WASH Facility'

Guidelines for Establishing a Management System

Final - September 2013

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Contents

1. Introduction

1.1 Scope and Purpose of the Planning Guidelines

These planning Guidelines have been prepared to assist districts and towns to set up sustainable new management systems for piped water supplies in small towns.

The Guidelines do not cover the planning, design and construction of new water supply schemes, they cover the management systems to operate and maintain (O&M) water supply schemes.

The Guidelines outline the main steps in the process of setting up a management system in an individual town. The Guidelines do not deal with wider, sector wide, processes such as capacity building or clarification of the roles between institutions.

The Guidelines focus on establishing management systems (rather than the subsequent operation of the management system) and consider two scenarios:

1. Towns where there is an operating piped water supply or a system under construction. In this scenario the nature and extent of the water supply system has been fixed and the management system needs to work within the existing piped system and technologies.
2. Towns where there is no existing system and any planned new system is still at an early stage of planning and the nature of the water supply can still be optimised.

The Guidelines focus on the first scenario for three reasons:

- This is the most urgent priority as new management systems need to be set up immediately as and when water supply systems are rehabilitated or newly constructed
- New or rehabilitated systems are likely to contain technical weaknesses and it is important that the Guidelines show how these can be mitigated.
- In towns which are at an early stage in planning a new water supply system (i.e. the second scenario) the process of setting up a management system is closely related to the design and construction of the new water supply. Comprehensive guidelines for this scenario would cover design and construction as much as operation and maintenance and this is a much wider issue and beyond the scope of the current report.

The purpose of the guidelines is to provide a “best practice” guide on how to set up a management system. The guidelines are intended to be a general guide and are not a detailed step by step manual and do not replace the need for professional advice when establishing a new management system.

The Guidelines are based on the Final Report of the *"Study on Management Options & Financial Sustainability for Small Town Water Supplies in Sierra Leone"* (the Small Towns Study) and cover two out of the four options proposed in that report:

- Community Managed & Operated Systems, used in small towns with simple technologies: not covered by these guidelines
- **Water Department Operator** (under a Town Water Board) – covered in these guidelines
- **Private Operator** (under a Town Water Board) – covered in these guidelines
- SALWACO Operated Systems – not covered in these guidelines

In line with government policy and the Small Towns Study, the Guidelines are based on the principle that Users pay all the O&M costs of the system and a key principle is:

The full O&M costs of all water systems must be paid for by users.

The cost of all preparatory work (ie. up until the system is operating and users are charged for the use of water) will need to be covered from the district budget. Some of these initial cost could be recouped from subsequent tariffs and this option should be considered in the Concept Plan (see below)

1.2 Format of the Guidelines

The Guidelines are structured around a high level activity flow chart (Appendix 1) that takes users through the process of setting up a management system. The Guidelines expand on the "Why" and the "What" for each activity but the "How" is dealt with in a more limited way as this is an extensive subject and heavily dependent on individual situations.

The Guidelines have been grouped into three main stages:

- Planning the management system. What needs to be done to design the system – this is a critical stage and sets the scene for future success of failure.
- Setting up the basic building blocks of the management system. This covers putting the O&M resources in place.
- Establishing the details of the management system, covering the detailed planning and establishing the systems and processes to operate and maintain the water system

Within the three stages described above, the Guidelines describe 15 key Activities that need to be carried out to set up a management system. The Guidelines are structured around these 15 Activities.

1.3 Roles and Responsibilities of the Key Players

The roles and responsibilities of the different organisations are assumed to be as proposed in the Small Town Study, i.e.:

- **Water Directorate** – overall policy and supervision. The directorate has a representative in each district who works within the district administration and for the purposes of these guidelines is considered part of the district function. The directorate's representative has been referred to in the Guidelines as the WASH Co-ordinator even although their current role is primarily concerned with water supply rather than sanitation or hygiene.
- **The District Council** – ultimate responsibility for water supply in the district and for enacting any necessary bye-laws. Many of these responsibilities would be delegated to the Town Water Board. The Council instigate the process of setting up a management system and are responsible for high level monitoring of the other parties. They function mainly as in a monitoring and backstopping role which should be limited to that of a "referee" rather than a player. The term District Council has been used to cover all district functions in connection with the small town water supplies and includes work that would in practice be done by the District Administration or the WASH Co-ordinator.
- **SALWACO** – responsible for technical advice and support as well as technical supervision. The term "technical" is used to mean all the skills that SALWACO, as the operator in the larger towns, would be expected to possess such as engineering and technical O&M, water quality, contracts, procurement, supply chain management, financial management and customer service. In reality SALWACO is in the process of developing these skills themselves so for early town water supply management systems they will only be able to provide limited support.
- **PLU and TA Consultants** – support and direction for the Phase 1 towns contained in the National Implementation Plan. The Project Leadership Unit (PLU) for the National Implementation Plan (based in either the Water Directorate or SALWACO) will provide much of the advice and direction for the Phase 1 towns that SALWACO will provide to the later towns.
- **Town Water Board** - ultimately responsible for ensuring effective operation of the water supply system by the operator and can be seen as the supervisor or manager of the actual operator.
- **Town Water Department** or **Private Operator**. They are the actual day to day Operator of the system, including the customer service aspect of liaising with users and billing and financial management.
- **Users** – the ultimate "owners" of the system, the reason the system exists and the people who pay for the O&M of the system. The term Users has been used instead of Community (a) because users includes institutions and commercial organisations and (b) to emphasise that the water system provides a service to the users and is not a general service to the wider community. The Users are the most important group and the Operator ultimately works for them.

The exact allocation of functions between the Town Water Board and the Operator need to be written down clearly in the charter of the Town Water Department or the contract with the private operator. The potential grey areas between the Town Water Board and the Operator includes activities such as:

- Financial control and management of bank accounts
- The level of maintenance that the Operator is expected to carry out and fund as part of their brief and from user payments and longer term maintenance and replacements that are special costs.
- Liaison with customers and dealing with customer complaints
- Dispute resolution

2. Planning the Management System

Activity 1 - Decision to set up a Management System

The process of setting up a management system needs to be formally instigated by a decision from the District Council. This should be at the instigation of the town and users and for many of the towns the decision will be triggered by the imminent completion of a new or rehabilitated water supply system. The decision needs to be driven by user demand and user acceptance that they will have to pay the full O&M costs. The following stakeholders need to be consulted:

- Users, including institutions and other commercial organisations
- Water Directorate
- Town Council, including other departments, in particular those dealing with sanitation and health and other infrastructure
- SALWACO

The "decision" to set up a management system needs to be more than a yes/no decision and must make it clear who will carry out the initial work described below. At this stage the District Council also needs to appoint a **Project Manager** from the district or the town with responsibility for delivering the Concept Plan and the initial user participation. It is likely that the Project Manager will be the district WASH Co-ordinator. This responsibility need not extend to actually doing the work but rather for ensuring that the work is carried out by the appointed organisation.

Activity 2 - Produce and Agree Concept Plan.

The District Council, with advice and support from the PIU and SALWACO, produce a high level Concept Plan that outlines how the water supply will be managed. A small project team, led by the nominated Project Manager, should be set up with the necessary resources to do the work. The Concept Plan is a key document that sets the scene for the subsequent management arrangements. It will include:

- Community views on the type of scheme and first thoughts on tariffs
- A recommendation on the type of management system to be used (Water Department or Private Operator) – see below
- The policy on how existing water systems will be dealt with, including any shared handpump systems or small gravity piped systems. In general, it is assumed that users of existing systems may chose to continue to use their existing systems and opt out of the new piped system.
- The proposed oversight arrangements that are required

- The roles and responsibilities of each party. It is important that the future roles of the District Council, the Town Water Board and the Operator are clearly designed and documented to ensure clarity and avoid duplication or gaps.
- The nature and membership of the Town Water Board
- The Bye-Laws that will be needed
- A high level financial model that identifies how the system will be financially sustainable, the likely tariff level and why the District Council believes that users will be willing and able to pay this tariff. The financial model will also determine the approximate number and nature of the staff to be employed and their remuneration levels. The financial model will also identify the approximate percentage of the tariff that needs to be allocated to the District Council, Town Water Board and SALWACO costs (including the preparation costs if appropriate).

Note that the financial modelling done to date shows that financial sustainability is balanced on a knife edge for most schemes. It is therefore vital that the high level financial model is realistic about the willingness and ability to pay of the vast majority of users and takes a robust view on the number of staff needed and their remuneration levels.

Water Department v Private Operator

The choice between a Town Water Board and a Private Operator needs to be done to suit the specific conditions in the town, but will include:

- User preference. Many people have strong views on private v public operation of water systems. Some view local authorities as discredited and subject to cronyism and prefer a private operator that can more easily be held to account through the contract. Others view water as a social service and are fundamentally opposed to the idea of a private company making profit from supplying water. If there is strong user preference (in either direction) this should be an overriding consideration when making the decision.
- The ability of the town to attract well qualified staff if the Water Department route is used.
- The likely technical complexity of the water supply system.

The advantages of the Water Department are:

- Profit, which is an additional O&M cost is removed.
- As employees of the Town Water Board, the operating staff are more directly accountable to the board and to users.
- This is the traditional approach and people are used to how this operates. Local authorities are not used to managing contracts

The advantages of the Private Operator

- If the contract is well structured and managed by the Town Water Board and if an effective contractor is appointed by the Town Water Board, the O&M should be delivered more efficiently than by a Water Department. This efficiency should more than compensate for profit and result is a lower O&M costs.
- There is greater transparency with a contract and less cope for political interference.
- It is easier to remove a poorly performing contractor than to fire district employees.
- A private company is better able to attract well qualified staff and to manage more complex water supply systems.
- A contractor will have some back-up from his wider organisation, whereas a Water Department can only call on their own resources.

The Concept Plan needs to consult with key stakeholders, including town leaders, businesses and users and to then be approved by the District Council.

Activity 3 - User Participation.

The term "User Participation" has been used instead of the more widely used term "Community Sensitisation" to emphasise (a) that this activity involves the users of the system not the wider community (some parts of the community may decide not to connect to the piped system), (b) that it requires active participation and input from the users and is not something that is "done to" the users and (c) that it is an ongoing process and not a one-off step. Note that user participation includes the sensitisation aspects (see below). Note that user participation includes sensitisation.

User participation needs to start before the Concept Plan is produced as the initial user feedback will feed into the plan. This activity then continues throughout the development of the management system and then transfers into the permanent User Forum. The Activity Flow Chart shows the main check points where the users need to be consulted during the process of setting up the management system.

User participation requires professional advice from MLGRD staff and should work in parallel with and build on existing health, sanitation and education activities. It includes the following key activities at different stages.

Initial Discussion & Feedback. This is during the preparation of the Concept Plan and includes:

1. Education on health aspects of water and sanitation including messages on the importance of using protected water sources in conjunction with hygienic sanitation and personal hygiene practices such as hand washing with soap after defecation and before preparing food.
2. Raising awareness on the cost of providing piped water and the responsibility of users for paying for piped water, in particular the message that there is no such thing as free "safe" water. This discussion may need to address any previous promises made for free or subsidised water and also to explain that costs vary by location of the water source and technology and service levels used so tariffs paid elsewhere are not a guide to the required tariff on this scheme.

Current willingness to pay is low, due to past promises of free or subsidised water, the availability of many alternative (usually unsafe) water sources and low awareness of the health risks of using unprotected sources, despite frequent cholera outbreaks. It is therefore most important to raise willingness to pay by increasing understanding of the health benefits of piped water.

3. Explaining the different technologies and service levels that could be provided and the cost implications of each and then discuss the alternative service levels and costs. For water systems that have already been rehabilitated or newly constructed there is limited scope for service level options but "quick fixes" could provide some alternatives (eg. by adding some yard taps or house connections for those that are willing to pay for this improved service). Explain the service level that will be provided by the new piped system and why this level was selected, including potential choices of house connection/yard tap/standpost if these options apply to the new system. It is important that users understand that paying more for a higher service level is not a subsidy to those who chose a lower service level.
4. Explain the cost implications of the water supply system that will be provided and what this means for user payments. Test willingness and ability to pay.
5. Discuss different payment methods for stand post supply, such as: a flat monthly household payment; monthly household payment based on people per house; a kiosk arrangement where payment/container is made when water is collected; or a "pay as you go" prepayment kiosk system.
6. Explain the two different management options and the potential role of a private operator or Water Department and test user preference and strength of feeling. Discuss the implied agreement between the operator (to provide a certain service level) and the user (to pay for the service received).
7. Emphasise throughout that as the users, ultimately the water supply system is there to provide a service to them and is their system – this brings responsibilities as well as benefits. Explain that the User Forum will provide an ongoing route for feedback to the Operator and the Town Water Board.

User Input to setting up the User Forum, Town Water Board, Water Department/Private Operator. Discuss and adjust the exact composition and function of the User Forum (see below) to suit the needs of the users on this scheme and seek user views on the membership and function of the Town Water Board. Seek input on the structure of the Water Department or private contract and explain the need for attractive salary levels and remuneration to secure appropriate skills etc.

User input to the Business Plan and detailed Processes and Systems. Explain the general plans and processes and seek guidance from users on the processes that affect them, including billing and collection and treatment of bad debts.

User participation is difficult to do well and is time consuming. It is important that this activity is given adequate emphasis and professional input

Activity 4 - Bye-Laws.

The District Council enacts the Bye-Laws that are needed to set up and run the water system, including such things as:

- The scope and authority of the Town Water Board and Water Department (if this arrangement is to be used), including authority to enter into a contract with a Private Operator (if this option is selected).
- Setting tariffs and collecting fees and how non-payment will be dealt with.
- The appropriate use of water facilities by users to avoid water wastage and potential pollution.

A significant problem that has been raised many times is damage to water infrastructure (mainly pipes) by other infrastructure providers or their contractors (e.g. roads and electricity) and the inability of SALWACO and districts to recover the cost of such damage. The District Council should consider including a bye-law to require any such damage to be made good or reimbursement of the cost of making good the damage.

Activity 5 - Oversight Organisations and User Forum Established.

This key activity establishes the oversight roles of the District Council, the independent auditing role from the Water Directorate and technical support from SALWACO as well as setting up the User Forum to provide feedback to the water supply management. A charter should be produced for each organisation that states the:

- Purpose and function of the organisation
- Roles and responsibilities
- Membership of the organisation and how members are appointed and removed
- Reporting lines, including frequency and nature of regular reports and approach to ad-hoc reports.

The District Council and SALWACO should, between them, be able to provide most supervision and oversight functions (technical, financial, management and customer service). However, it is proposed that an annual audit is carried out by the Water Directorate to provide a more independent check and this role should be formally established at this stage.

The charter for the User Forum needs to clearly state the authority that the forum has (this will usually only be an advisory role) and who they feed back to (the Operator and/or the Board).

Activity 6 - Town Water Board established.

The Town Water Board is inaugurated at this stage and takes on responsibility for setting up the Water Department or for procuring an O&M contractor. The Board will need a charter (as above) and should be seen as a committee that meets monthly rather than a full time executive organisation. During the initial stages it may need a full time project team, under the leadership of an appointed Project Manager, to organise the setting up of the Water Department or the procurement of the private O&M Contractor.

The composition of the board is critical and should comprise:

- Local leaders who have the trust of users, including the Paramount Chief
- Some “technocrats” with business, accounting or engineering skills
- User representatives, including institutional and commercial users
- Representation of district administration staff, but this should be limited and should not dominate the board
- Representatives from civil society

The Town Water Board reports to two masters: the users and the District Council and the charter should define how this reporting is done, how the board’s performance is measured and how changes to the board will be implemented.

3. Setting up the Management System

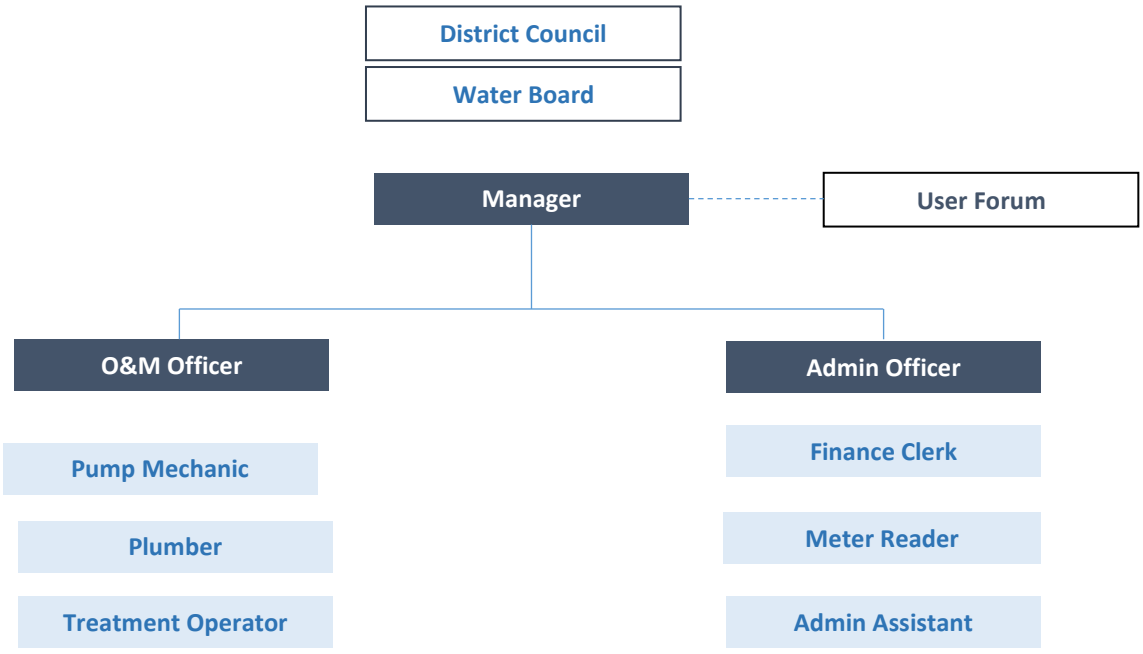
All of the activities in this chapter need to be formally managed by a designated project team under the leadership of a Project Manager. The PIU, SALWACO and, ideally, technical assistance consultants should all form part of this team. The project team needs to have a clear remit, resources and reporting lines.

Activity 7A - Organisational Design (Water Dept. Route).

This covers the general structure of the department, including an organisational chart and job descriptions, what systems will be needed and how the department will report to the town Water Board.

Each town will need to design its Water Department to suit the size and type of scheme, but the figure below shows an example of a typical larger Water Department. Note that there are no labourers or security staff, staff are expected to drive themselves and the community will be used to secure the facilities.

Figure 1 – Example Organisation Diagram for a Larger Water Department



Activity 8A - Recruitment and set up Water Dept. (Water Dept. Route)

This activity covers recruitment of the manager and other key staff and allocation of offices and equipment. Recruitment will include setting attractive terms and conditions (these will include training and development opportunities as well as remuneration) and selecting the

best person for the job. It is clear that recruitment of strong staff will be one of the most challenging aspects of the process and the attributes for the Manager include:

- Some sort of technical background and strong commercial awareness. The particular skills and knowledge related to water supplies and financial management can be taught to a candidate with the right foundation knowledge and commercial awareness.
- Good leadership and project management skills
- An understanding that the water system serves the users and that ultimately, although technical excellence and financial management are important, the role is fundamentally about customer service.

Activity 7B. - Write Tender Documents. (Private Contractor Route)

The town Water Board will need to appoint professionals to write tender documents, including a tight scope of works and a draft contract. It is likely that SALWACO or a TA consultant will do this work.

Important aspects of the draft contract will be:

- The scope of work, in particular how much maintenance is included. It is suggested that all reactive, "one-off" repairs and replacements are included but that replacement of large sections of the system are excluded.
- The financial arrangements. It is proposed that bidders are told what the starting tariff will be and are told that they will retain and agreed percentage of the money collected to fund O&M, their overheads and their profit (say 95%). The remaining funds (say 5%) will be allocated to cover the costs of the Town Water Board and SALWACO support. Bidders will be asked to provide a breakdown of their costs for managing the system and how they will ensure a sustainable service level within the budget.
- An escalation mechanism for tariffs, possibly indexed to the cost of fuel and staff costs.
- The dispute resolution process

Activity 8B - Procurement of O&M Contractor. (Private Contractor Route)

The Town Water Board will tender and appoint the O&M contractor with professional advice from SALWACO or a TA consultant. The actual procurement process may be carried out by the district procurement authority but it is important that the Town Water Board (with their professional advisers) are in control of the procurement design and key decisions. The procurement should be based on best value (not lowest price) and should assess:

- The financial stability of the bidders
- Company resources, including management staff, equipment and systems

- Track record and past experience. Most bidders are likely to have only experience of construction and rehabilitation of water supply systems, but related O&M experience in other fields should also be assessed.
- Proposed approach and methodology to operating and maintaining the system and in particular liaison with users and how to secure spare parts for major breakdowns.
- Proposed staffing and in particular the qualifications and skills of the proposed manager.
- The robustness of the estimated cost of managing the system within the budget.

4. Establishing the Management System

Activity 9 - Produce Business Plan.

The Operator (the Town Water Department or Private Operator) will then produce a detailed business plan that includes

- Overall vision for managing the system and how the operator will report to the Board
- Proposed tariffs, assessment of willingness and ability to pay and payment mechanism
- Proposed organisational structure and HR plan with remuneration levels
- Estimated operating costs
- Financial plan, including cash flow and banking arrangements
- A description of how to liaise with users
- Outline O&M plan including how to secure spares for major breakdowns – this is a critical but difficult element of the business plan

Activity 10 - Establish Detailed Processes and Systems.

The Operator will develop detailed business processes covering such things as billing and O&M as well as contingency plans for major breakdowns. A key process that is needed before operation can start is signed user agreements that provide legally enforceable tariff agreements between the operator and the users. This is an extensive and ongoing activity which is only briefly described here in the Guidelines because it is so dependent on the individual situation.

Activity 11 - Technical Review of System and Identify Quick Fixes.

At an early stage the Town Water Board will commission a technical review of the water supply system to identify and "show stopper" technical issues that need to be fixed. This early action (before the Operator has been appointed) is important in order to get quick fixes in place as early as possible. Key factors are likely to be leakage and coverage of the system. The review will probably be done by SALWACO, a TA consultant or a local consultants. It is important that this review does not try to redesign or optimise the system and that it focusses on real "show stoppers" that will undermine the financial sustainability of O&M.

Activity 12 - Fund, Specify and Procure Quick Fixes.

If no show stoppers are found in the technical review, or if the problems are small enough for the Operator to rectify then this activity is not needed. The quick fixes that are required will be specified to a level of detail to allow procurement and funding to be secured for the work. The work will then be tendered under the management of the Town Water Board (unless they chose to delegate this to a more experienced organisation such as SALWACO).

If the private operator route has been selected for the O&M of the system, then it may be possible for the quick-fixes to be included in the O&M contract and funded by user payments.

Activity 13 - Implement Quick Fixes.

This covers implementation of the work as planned above

Activity 14 – Write O&M Manual

The Operator should prepare an O&M Manual that covers:

- A brief description of the water supply system and the design assumptions
- A description of the general operation of the system: who does what, when. This would cover the normal operating regime (e.g. number of hours pumping) and the target service level (e.g. 24 hours a day, 7 days a week?)
- Health and safety procedures
- More detailed operational processes such as starting and stopping the pumps, including how valves will be operated to avoid water hammer.
- A maintenance schedule for common tasks, probably as a chart showing daily, weekly and monthly tasks.
- A plan for more long term or indeterminate maintenance such as cleaning out storage tanks, testing and replacing customer meters or replacing sand in slow sand filters.
- Procedures for reactive maintenance such as repairing leaking taps of burst pipes.
- Management and control of spares.

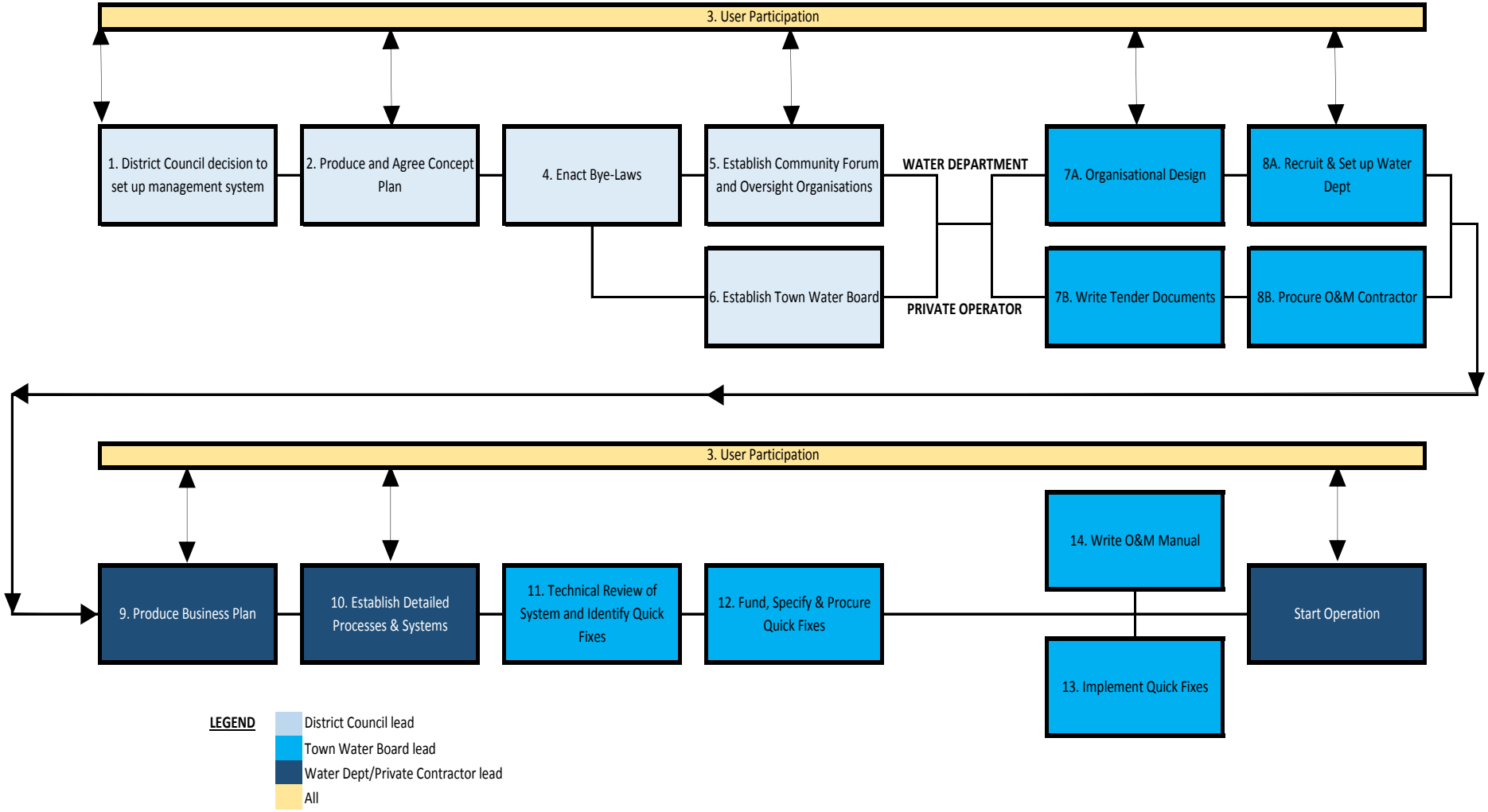
The O&M Manual is a particular case of the detailed processes and systems and there will be similar manuals covering finance, billing etc. as well as asset management. The scope of the O&M Manual can vary and it is questionable whether purchase of fuel (for example) is included in the O&M Manual or in another commercial manual or guidelines. The key point is that all significant processes need to be covered somewhere.

Activity 15 - Start Operation.

Operation can only start once the user agreements are in place and once the funding for the quick-fixes has been secured. A key part of operation will be to implement a monitoring and evaluation system that covers technical, financial and customer performance as specified in the Business Plan. It is important that the Town Water Board take a particularly active role in monitoring the initial operation against the Business Plan and ensuring that any problems or divergence from the Business Plan are addressed by the Operator.

Appendix 1 - Process Flow Chart

High Level Process for Establishing a Management System for a Town with an Existing Water Supply System



Appendix 2 – Example Programme for a Management System in an Individual Town

Stage & Activity — Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Planning the Management System																		
1. Decision to set up a management system																		
2. Produce and agree Concept Plan																		
3. User participation																		
4. Enact Bye-Laws																		
5. Establish oversight and user organisations																		
6. Establish Town Water Board																		
Setting up the Management System																		
7A. Organisational Design (Water Board)																		
8A. Recruitement & Set Up Water Dept																		
7B. Write tender documents (Private Operator)																		
8B. Procure private operator (Private Operator)																		
Establishing the Management System																		
9. Produce Business Plan																		
10. Establish Detailed processes and systems																		
11. Technical review of system and identify quick fixes																		
12. Fund, specify and procure quick fixes																		
13. Implement quick fixes																		>
14. Wrire O&M Manual																		
15. Start operation and maintenance																		>