Partners for Water and Sanitation

Note on project reports

The following report has been prepared by Partners for Water and Sanitation in response to a project Terms of Reference.

The content of the report is based on the opinion of the author(s) and does not necessarily represent the opinions of the wider PfWS partnership, or the project funders.

Any extracts from the report should only be used with prior permission of the report author(s).

Partners for Water and Sanitation and WaterAid Ethiopia

Joint Capacity building support to seven town water supply and sewerage service enterprises in Ethiopia

Submitted by:

Phil Merrin (United Utilities)
Marie Whaley (Northumbrian Water)

May 2010

Contents amendment record

This report has been issued and amended as follows:			
Revision	Description	Date	Signed
1.0	Draft for review	14/05/10	PM
1.0	Issued to PAWS	15/05/10	MPW
2.0	Revised draft with comments from WAE and MJ	28/06/10	MPW

Capacity building support to seven town water supply and sewerage service enterprises in Ethiopia

1 Introduction

The programme of Partners for Water and Sanitation support was agreed with WAE prior to the visit taking place. Two partners provided this support by visiting Ethiopia from 15th to 24th February 2010. During this time, an appraisal of the needs of five of the seven utility companies was made from field excursions made from the base in Addis Ababa. Detailed discussions between the utility managers and their staff, the Water Resources Development Fund (WRDF), Water Aid and Partners for Water and Sanitation ensued and these were used to organise a workshop for all seven of the towns with the objective of training in the formulation of a capacity building programme. The workshop took place between 22-24 February in Addis Ababa. The results of this work are documented in this report.

2 Scope of support visit & terms of reference

The Partners for Water and Sanitation technical support to WaterAid Ethiopia (WAE) is a collaborative capacity building exercise with the utilities of seven medium-sized towns in southern, central and west Ethiopia. The utilities incorporate Town Water Supply and Sewerage Service Enterprises (TWSSEs) and are to be found in the towns of Mizan Teferi, Wolkite, Butajira, Hossaena, Assosa, Burayu and Sebeta.

Enterprises have only started operating recently, or are still being developed with the support of the Government and the World Bank. The sustainable and reliable provision of water supply and sewerage services can only be ensured if ownership, oversight and operations are decentralized to a town level.

It is envisaged that oversight of these enterprises will be carried out by Water Boards. Members of the water boards and many utility managers, department heads and staff are new to the sector and lack the relevant skills to understand the needs and requirements of the utilities going forward. Therefore, the need for support has been identified in order to understand how best to prioritise their responsibilities and build capacity into each utility. It is generally acknowledged by the utilities that there is a lack of available information about such issues as distribution plans, connection patterns, accurate daily water production figures, supply/demand assessments, water quality, metering and customer billing systems; each of these requiring assistance and systems put in place to address the problem areas identified.

Some of the utilities lack skilled operators to perform routine tasks, as well as specialists to formulate and guide efficiency improvement programmes, while handling technical and financial aspects as the system expands. The challenge is to perform these functions with a small revenue base and limited human resources. Innovative ways need to be found to equitably share the limited services of relatively expensive specialists between towns.

The scope of the support visit between WAE and Partners for Water and Sanitation is to build the knowledge and capacity of staff within the seven TWSSEs who will lead in the management & implementation of projects. It was agreed prior to the visit that the support would focus on:

a) Training to transfer technical skills and knowledge to staff of the TWSSEs in project planning and formulation, management, operation and maintenance, monitoring and evaluation, for running efficient and effective urban water/wastewater services.
b) Capacity building programme formulation and discussions to be held with WAE, the WRDF and staff of the TWSSEs and Water Boards to help formulate a two to three year capacity building programme.

As detailed in the project terms of reference (Section 2) the aim of the support from Partners for Water and Sanitation is to:

1. To support the TWSSEs in building their capacity in project formulation and planning, management, operation and maintenance, monitoring and evaluation – through skills transfer that is tailored to their specific needs.
2. To support the TWSSEs, together with key stakeholders (including WaterAid Ethiopia and the WRDF), in formulating a 2-3 year joint capacity building programme.

3 Purpose of site visits

3.1 Introductory discussions with WAE (15 February)

Field visits to five of the seven towns in the project had previously been arranged between Partners for Water and Sanitation prior to commencement of the visit. The purpose of these visits was to identify capacity building needs of each of the individual utility companies, in order that the workshop sessions could be structured to meet the expectations of the visit. Prior to these visits taking place (16-19 February), introductory discussions between Partners for Water and Sanitation and WAE took place in Addis Ababa in order to more fully understand the objectives of the project.

3.1.1 Summary of WAE priorities

- To understand what capacity building is required for each town
- To try and link urban water supply and urban sanitation projects over next three years

3.1.2 Priority questions

A proforma of questions was assembled prior to the field visits taking place; the purpose of which was to maximise the amount of information and data that could be taken from each of the utility operations in limited time. These questions were used as a basis for each of the interview sessions that took place over the course of the week

DATA: What data is being collected, by who, where is it, how is it used? E.g. water quality, performance data, customer billing data

MAPS & INFORMATION SYSTEMS: What are the locations of all of the utility infrastructure? Are there accurate plans, maps of assets, who maintains these plans?

SUPPORT: What level of support is carried out from within the company and what is brought in from external resources?

WATER RESOURCES MANAGEMENT: How are flows and volumes of water in distribution measured? How many people are served by each utility? What monitoring is carried out? What assessment of supply and demand factors is done?

BILLING: How are bills issued and payments received? What is the charging structure for customers?

SANITATION: What facilities exist in each town and what are the plans for development? Who is playing what role with regards to sanitation?

MAINTENANCE: How is this carried out and by whom?

STAFF NUMBERS: How many staff are employed by each utility.

Data taken from interviews was collected from each town during the field visits and this information was used to plan the programme formulation workshop sessions. A summary of some of the main issues highlighted during the discussions with the staff of each town is given below:

3.2 Sequence of field visits

It was only possible to visit five of the seven towns during the support visit. The towns visited were as follows. Details collected about each town during the visits are summarised in the section below.

	16 February 2010	16 February 2010	16 February 2010	16 February 2010
Am	Sebeta	Wolkite	Hosanna	Butajira
Pm	Burayu			

3.2.1 Sebeta

- Sebeta town located close to Addis (25 Km to the south west) is supplied by water from a spring source, supplemented by groundwater abstracted from boreholes. It was apparent from the visit that the demand requirements of the town exceed the available supplies, however it was noted that the yield of the spring was unquantified and no accurate data on borehole production could be used to verify this. No abstraction data from the water sources was available for inspection during the visit.
- Population projections have been made by consultants working on behalf of the water resources bureau.
- There is a proposed borehole well-field due to be constructed within the next two years which has been planned by the Oromiya Water Resources Bureau (WRB). This will enable full water resources coverage after 10 years.
- The yield of the spring has been noted to have reduced over recent years and the reason for this is considered to be because of a reduction in recharge and/or that a local factory with its own private groundwater supply has reduced the flow to the spring
- Approximately 1/3 of the water abstracted is lost to leakage and the water supply infrastructure only amounts to about 40% coverage of the population

- Water quality from the sources is apparently good, though it was highlighted that a lack of laboratory facilities and interpretation by skilled staff meant that this could not be verified. No water quality data were available for inspection during the visit.
- There is a lack of skilled staff in the utility with about 56 staff members in total, comprising 25 in the technical team including 3 operations staff, 4 plumbers together with finance (3) and logistics staff. 5 meter readers are employed by the utility.
- A good inventory of assets was kept by the utility and also a list of field equipment.
- 40% of customers receive bills and there is a need to increase the penetration of billing to more customers.
- There is some planning for basic sanitation (pit latrines) and this is traditionally under the jurisdiction of the towns' mayor. Utilities have legal responsibilities to act.

3.2.2 Burayu

- All discussions with the staff at Burayu took place by interpretation.
- This is a new utility designated in Oramiya region which serves a large population of about 120,000 people a large proportion of which have migrated from Addis. The population has doubled over recent years and demand remains unquantified.
- The local reservoir (Gafersa Dam) is used only for Addis Ababa city water supplies and so Burayu utility utilises groundwater supplies (6No.) and also a spring source. Some boreholes are not operational and all boreholes are quoted as yielding between 10 and 28 L/s though it is not clear whether this represents the individual yields of the boreholes or the combined yield. It is also not clear whether the yields quoted are short term (daily) yields or represent long term (e.g. annual) yields and whether they are sustainable. No abstraction data from the water sources was available for inspection during the visits and no accurate supply/demand assessments have been completed.
- The Oromiya WRB is advising the utility on the yields of the boreholes and whether these have changed since first constructed. However, with no data recorded on the available yields of the boreholes, it is likely that this may remain unquantified and will not assist in the long term planning of water resources for the utility.
- Water supply coverage is estimated at 35% but this may rise to 95%. This will be included as part of the utilities' business plan which is under development. Many organisations are involved in this process, including the water resources development fund, ministry of water resources and the town administration.
- Satisfying demand is a major issue, with a large migratory population which is likely to increase further over time. Leakage is quoted at being <10% but no figures were available to verify this.
- There are major network constraints and some areas of the town (including the major industrial areas) do not have water supplies. There are 42km of pipeline and this is not fully utilised.
- Water quality sampling is carried out every 3 months but no data were available for analysis,
- There is concern that industrial pollution may be affecting the water quality at a number of the water sources and it is proposed (in conjunction with the water resources bureau) to set up protection zones around the borehole sources.
- There are 38 staff, including 6 water meter readers, 3 plumbers, 2 operators, 1 water quality technician and 1 apprentice.
- Maintenance is carried out with limited spares and these are stored at the operational sites because the office complex is limited in size and is only rented.
- There is no trained manpower that can manage the billing system, neither are there any skills in the company in general finance nor human resources.

3.2.3 Wolkite

- The town is currently fed by a number of boreholes (5) and a spring. 3 of these boreholes are in regular use, the other 2 are intermittent and not used. The combined yield of the three operational boreholes is estimated at 15 L/s and the 2 faulty boreholes at 7 L/s. All boreholes are metered but no actual production data were available for inspection.
- The boreholes are up to 160m deep and were constructed between 4 and 10 years ago.
- Water is pumped into a storage reservoir and then into distribution.
- Consumption is estimated at 20 L per capita per day and a new water supply project will increase coverage from 32% to 90% across the town.
- Due to an anticipated water resources deficit, a project to construct a 26km pipeline linking to a spring source has been commissioned and is under construction. This has been funded from a loan taken from the water resources development fund. The yield of the spring source is estimated at 160 L/s and this is 4 x greater than the current demand requirements. Once commissioned, the existing boreholes will be for standby purposes only.
- The demand for the town is estimated to be at 32 L/s serving a population of 50,000 people. There is a high consumption due to a transient population as the town is located along a major bus route from the south - west of the country to Addis.
- Leakage was highlighted as being a significant problem in the town due to differential settlement problems. No estimates of leakage were given and this remains unquantified. There is a leakage monitoring plan but this has not developed further than from a concept phase. Assistance was requested for development of a leakage plan and on leakage detection skills.
- There are no plans of the water supply network and neither are there any plans to rehabilitate the network in the future.
- There are 40 employees in the utility (10 on contract) and the majority of these are not highly skilled and qualification is to diploma level only. Only small amounts of training have been given and this has been on technical and financial issues. There is a requirement for equipment and tools for the utility as well as vehicles.
- The billing system is not well adapted to the requirements of the utility and there are 3000 metered customers receiving their water from 200 poorly performing meters.
- Advice is requested on how the utility can deal with illegal connections as this is seen as a major issue for the utility.
- Water quality analyses are carried out in the network at the 40 water points in the town.
- Tariff collection has been delegated to the womens' association and the bills are collected each month.

3.2.4 Hosanna

- The utility was formed in 1978 and there are currently 5,000 metered customers out of a total population estimated at 74,000.
- The water supply system is currently in two discrete parts. One part of the town is fed by a series of 3 boreholes, the other part of town is fed by water from an impounding reservoir and a borehole. These water sources yield between 35 and 30 L/s and supply about 47% of the town. Current demand is estimated at between 25 and 30 L per capita per day.
- Some of the boreholes have been abandoned due to poor yield.
- The interview revealed that the utility feels that there is a critical water shortage. There is also a high leakage rate (27-30%) and with no leak detection capacity within the utility and even if the overall leakage rates were reduced, new water sources would still be required.

- Due to the lack of availability of water resource, the water supply is fed on a relay system.
- Intermittent power supplies to the utility also represent a significant problem as does the availability of standby equipment and reserve components.
- The existing water network constrains the supply to the town. Some customers are fed of the principal mains into the town and receive good, reliable pressurised supplies. Other customers on the higher ground around the town can receive little or no water for extended periods of time.
- There is no existing district meter area (DMA) capacity at present to isolate parts of the network.
- Network maintenance is carried out intermittently when it becomes damaged or when new roads are constructed.
- There is a proposal to construct a new set of water mains as part of a forthcoming project.
- There are 80 staff members, which includes 24 operators. The majority of the staff are not well skilled and there is a lack of basic IT skills. Training needs are satisfied by on the job training.
- The billing system has been computerised within the last 2 years but the accounting system is still performed manually.
- There is a lack of water quality monitoring equipment and chemicals. Consequently, the utility does often not know whether the water quality is meeting regulatory standards (presumably WHO). The water quality from the boreholes is good.
- Water quality samples are taken by the regional water resources bureau.
- There is no maintenance capacity to repair pumps – fix on fail approach. There are no skilled engineers to understand why pumps fail and consequently, no data is collected on pump failure rates.
- Principal water meters on the outlet of the main water treatment works are read daily. Therefore, a good understanding of the total production volumes by the utility is known.
- Customer meters are read once a month. Some of the meters are known to under estimate flows. Some of the meters are greater than 25 years old but are only replaced when they fail.
- Customers that consume a large volume of water have their meters replaced immediately they start to malfunction or break.
- There is not a perceived problem with illegal connections to the water supply network.
- There are some upcoming proposals for sanitation in a project plan but these have not been taken forward to design due to financial constraints.
- The project plan details a series of proposed options, to include the procurement of tankers which would take sewage to a sludge drying bed facility c.7km downstream of the town on the major river. The effects of this on other water users further downstream of the sludge facility have been considered.

3.2.5 Butajira

- The demand requirements for the town exceed the amount of water available for supply
- The water supply system for the town comprises a number of boreholes (4 in total). Two of these boreholes yield between 8 and 14 L/s each. The other two have a poor yield (2 L/s) and also poor water quality and so are not used very much. One of the boreholes also has an oversized pump.
- The groundwater is abstracted from both shallow (alluvial) and deep (volcanic) aquifers
- The boreholes operate 17 hours per day in order to meet demand requirements. The borehole supply meters are read every day and entered onto record forms.
- The daily production figure is 1200 cubic metres but leakage losses are estimated at 28%.

- There are two service reservoirs which are 100 and 200 cubic metres in capacity. The larger of the two reservoirs is not used.
- There are 2800 metered customers and most of these meters are less than 5 years old.
- There is a proposal to construct 3 new borehole sources, replace old network pipe infrastructure, to lay new water mains and to construct two new service reservoirs of 500 and 350 cubic metre capacity
- The potential impacts of the new town groundwater supplies may affect existing water users (e.g. rural supply boreholes) and this needs to be assessed in more detail
- There is no plan to maintain the existing network system. Bursts will continue to be fixed on fail
- No capacity building costs have been included in the design scope for the new water supply scheme
- No water quality sampling is carried out and the chemists from the zonal water department do not visit to take samples. The utility does not know whether there are any water quality supply problems.
- There are 31 employees, of which 9 are qualified to diploma level and 2 are qualified to postgraduate level.
- There is a lack of technical skills within the utility including: measuring and evaluation of leakage, asset management, technical and financial skills.
- Illegal connections may be an issue
- The billing system is considered to be poor and needs to be updated

4 Information transfer

The information collated during the site visits confirmed that the range of issues the Utilities need to address is wide, spreading from basic equipment needs to the lack of strategic planning methodologies. The agenda for a workshop with the Utilities was developed to provide assistance and transfer of knowledge over three days in two key areas:

- Present and share examples of planning approaches to meet service objectives
- Provide training in programme formulation and lead the process to:
    - assist in setting goals, defining projects and their objectives
    - define the gaps or barriers to meeting the projects objectives using a risk-based approach to prioritise them
    - identify the actions required to address the high and medium risks and develop an action plan made of the ‘quick-wins’ (short-term actions) and a programme of 3 to 5-year actions

4.1 Planning examples

To achieve and maintain the levels of service that customers require, water companies have to plan large programmes of activities throughout their operations. Business planning is therefore a core activity and is carried out mainly over three time horizons: 25-year (long-term), 3 to 5-year (medium-term) and 1-year (short-term). Operational planning is managed at a much smaller time interval e.g. daily or less and drives the delivery of schedules of interventions, such as answering customers’ queries or repairing assets.

Northumbrian Water and United Utilities presented an overview of the structure of the Water Industry in England and Wales, giving examples for the water and sanitation services of the type of assets to manage, the numbers of customers served and staffing numbers.

When planning to achieve a goal it is important to define the set of indicators that will be used to measure performance. The example of service indicators used in England and Wales was presented together with a reference to the reporting process in the context of a regulated industry (see setting goals and objectives).

The overall presentation of the Water UK industry presented the opportunity to discuss privatisation, the age of assets, the issues associated with planning for growth, how to deal with pollution from trade and industries and tariff structure (in particular cost recovery).

A short presentation on planning methodologies set out the need to:
- set out achievable service objectives and targets clear to all
- understand the risks and needs
- develop plans to address the risks in a prioritised fashion using capital (investment) or operational intervention
- organise the interventions in the most efficient way
- monitor the delivery of the plans continuously

Using the example of the Water Industry in England and Wales, examples were given of scope and content of a Strategic Plan (25-year), a 5-year Plan defining actions to meet service targets and Operational Plans (1-year view) using investment or operational scheduling.

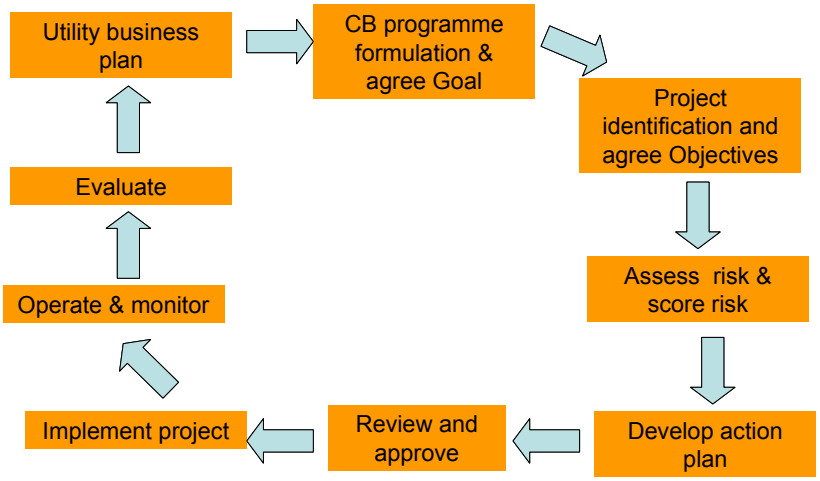
The presentations and debate re-iterated the need for data, stored in appropriate systems to support the development of objectives and plans.

The introductory presentations given on the Water UK Industry and planning approaches are attached in Appendix 3.

4.2 Programme formulation

To assist in the development of a plan driving capacity building in the Utilities we chose to introduce the programme formulation methodology, which establishes the main stages of planning and sets out the programme cycle view.

The overview of programme formulation is given below.



For the purpose of the workshop, the training sessions on programme formulation were divided in separate sessions:

- session1 : setting goals, defining projects and projects objectives
- session2: assess risk to meeting the objectives, quantify the risks and prioritise them
- session 3: develop actions plans to address selected risks

In session 1 it was agreed to define a common goal for the programme of support to the Towns and Utilities. To facilitate the definition of the projects a review of the issues identified by the Utilities themselves and during the site visits was carried out. This review identified 5 common themes, or projects, required to build sustainable capacity within the Utilities. The projects follow a source to tap approach and cover the strategic needs areas of Performance Improvement, Technical Support and Developing Knowledge (or Awareness). The five projects identified for capacity building were: Supply Demand management, Network Management, Metering and Billing, Technical Support and Sanitation Development. The principles of SMART objectives were presented using examples and briefly discussed. See Chapter 5.

In session 2 the risk-based methodology was applied by each Utility to their own issues
Although the goal and projects objectives were common to all Utilities, the risk identification and scoring was carried out by each Utility individually to identify their own risk and priorities. The principles of risk-based assessment was introduced using the example of Water Safety Plans and a simple scoring matrix was developed to support the practical scoring of risks during the workshop.
The outputs of the session 2 were thus relevant to each Utility and allowed the development of tailored action plans rather than generic ones. See Chapter 6.

In session 3 the list of priority actions to address high and medium risks were issued by Utility, using three level of priority. The priority of the projects varied from one Utility to the other according to their current capacity and issues. The differences were reviewed and discussed between Utilities to establish the understanding of potential assistance between towns as a quick win.
In the ultimate part of the session we examined how to programme actions in time to ensure effective delivery and to integrate procurement constraints.

5 Setting goals and objectives - methodology

The overview of programme formulation above sets out the steps to follow for the development, delivery and review of a programme, such as the capacity building programme.

The process requires the agreement of the programme needs and the definition of its goal at the earliest step to bring purpose and clarity.

5.1 Setting the goal

The goal is the higher objective that will govern the programme. The projects and objectives set within the programme will all support the attainment of the goal.

To define the goal of the programme we need to define the need and expectations of the Utilities. The goal then becomes a shared statement agreed by all.

The programme sets out to address the need for the Utilities of 7 towns to assess their capacity potential and develop it so that they can become more autonomous and improve efficiency in the long term.

The Utility of each of the 7 towns have already a good understanding of their current capabilities and skills but no entire certainty or clarity on

- how their current capacity addresses their business risks and,
- how to progress the development of capacity where it is required.

Water Aid Ethiopia and Partners for Water and Sanitation can provide assistance using their expertise and partners.

Using the assessment the Utilities carried out, the outputs from the site visit and the list of expectation gathered at the start of the workshop we able to define a draft statement for the goal, which was discussed in a panel discussion. The agreed goal was defined as:

"To support the Utilities of the seven TWSSEs in building their capacity in managing effectively and efficiently the water and sanitation service"

5.2 Project identification and defining the objectives

The previous review of the Utilities needs and issues together with the information collected during the interviews held on site and site visits helped to group the needs in six themes:

- Supply demand management
- Network management
- Metering and billing
- Technical training
- Sanitation services development
- Materials and equipment supply

The last scheme, although identified, was considered 'out of scope' of support in this capacity building programme.

The first five themes were reviewed and agreed and formed the basis for the projects.
To define objectives for each of the projects we reviewed the principles required to make objectives SMART (Specific, Measurable, Achievable, Realistic and Time limited).

In an interactive session the group examined several cases to assess if the examples of objectives proposed were meeting the 'SMART' criteria or not. More detail on the examples used is provided in the presentations attached in Appendix 3.

Then in a panel discussion we discussed and agreed the following project objectives for each project.

Supply/Demand – project objectives

- To support the delivery of an increased coverage of water supply
- To support the optimisation of the existing water supply assets (including wellhead/groundwater protection)
- To develop the skills in understanding of the supply/demand calculations and how the balance can change over time

Network management support – project objectives

- To develop the skills and techniques required for the assessment of water losses (leakage, unaccounted-for water)
- To introduce best practice for the efficient management of the existing and future network
- To support the identification of network management data required for effective performance monitoring of the network

Metering and billing support – project objectives

- To develop the skills and techniques required for the assessment of water losses (leakage, unaccounted-for water)
- To introduce best practice for the efficient management of the existing and future network
- To support the identification of network management data required for effective performance monitoring of the network

Technical training support – project objectives

- To train the workforce in computer literacy
- To provide best practice guidelines for data collection, analysis, storage and management (e.g. water quality, network condition)
- To provide training on best practice asset management, water quality and how to prioritise maintenance activities

Sanitation development support – project objectives

- To train the workforce in computer literacy
- To provide best practice guidelines for data collection, analysis, storage and management (e.g. water quality, network condition)
- To provide training on best practice asset management, water quality and how to prioritise maintenance activities

6 Assessing risk

Following on from the setting of goals and objectives workshop session on Day 2, the participants were introduced to the concept of assessing risks as a way of prioritising the objectives and the issues raised. An example from the UK Water Industry was used to demonstrate the concept of assessing risk – the drinking water safety plan methodology adapted from the WHO.

In this example, it is necessary to identify hazards to drinking water quality and then the risk associated with the hazard reaching the drinking water supply. The way in which the risks are prioritised in through a simple scoring mechanism where the risk score is represented by the product of the likelihood and consequence scores. The resultant matrix then indicates which are the high, medium and low risk hazards. Corrective actions to rectify the identified risk can then be considered (termed control measures) following by a period of monitoring to assess how the risk score has changed. Reassessment of the risk score can then be carried out in the same way.

A series of real life examples were then discussed so that the workshop participants could understand the process of identifying hazards.

This risk assessment exercise was then transferred into the capacity building programme using the following references:

1. Programme goal is to build capacity; the DWSP goal is to protect human health;
2. Identify hazards to human health; Identify issues to capacity in Utilities
3. Quantify risk of hazard occurring; Quantify risk of issues occurring
4. Develop control measures (action plan); Develop actions and action plan

Following on from this introductory session, the utilities were asked to use the same approach to assessing risk for their own utilities for each of the five project areas that had previously been identified earlier in the day (i.e. supply demand, network management, metering and billing, technical training, sanitation development). Under each of these project headings, the objectives were listed and under each of the objectives, a series of statements were given to the workshop to be evaluated using the risk assessment approach. It was not intended that the statements represented all of the possible issues associated with each objective, but due to time constraints, it was considered necessary to provide the workshop participants with this starting list so that they could proceed with evaluating the priority issues using the risk assessment methodology.

The overall risk scores were collated by the Partners at the end of day 2 and these were collated for presentation (see attached results spreadsheet in Appendix 3)

7 Development of action plan methodology

The development of an action plan forms part of the programme formulation methodology. In the workshop we discussed the need to develop actions to address high and medium risks, but also the ability to accept an underlying level of risk, which is the operational risk.

The risk scores were grouped by projects, which allowed the prioritisation of the projects.

We aggregated all risk scores to identify the areas of high-risk across all Utilities. The results in number of risks are presented in the table below and show that the priority for development of capacity should be given to sanitation. The following high-priority is network management where a lot of risks associated with the lack of equipment and expertise in leakage management were identified.

Number of Risks	Supply Demand	Network	Billing	Technical	Sanitation
High	31	50	39	42	71
Medium	20	9	13	10	5
Low	12	4	11	4	2

The risk scoring of all capacity building issues also assists in the identification of those low-risk areas where no immediate action is required and the risk level is only monitored on on-going basis.

Each Utility was invited to review the projects risk and using a list developed as a guide, they identified the potential actions that will address the risk.

As an example of programme of actions Assossa presented their action plan by project. The actions provided a good case study for all types of actions that should be considered for building capacity.

In the area of performance improvement actions such as data collection, the development of guidelines, the monitoring and reporting of current performance using performance indicators were included in the plan.
In the area of technical support, the acquisition of systems, the raising of funds to address asset issues, the recruitment of qualified staff through hiring were included in the plan.
In the area of the development of knowledge, actions such as the review of historic information, the development of skills using training and improved communication plans were included in the plan.

The action plans for each town are included in Appendix 5

Following discussion of the Assossa example an overview presentation of programming actions using a time line was given. The purpose of programming was discussed.
The recommendations made at the workshop were:

- to identify 'quick wins' as actions that can be addressed in the short term, delivering the capacity benefit immediately,
- to programme other actions over a period of time of 3 to 5 years to take account of deliverability, procurement constraints, and realise synergies benefits where possible

The presentations for programming are included in Appendix 3.

8 Recommendations

The goal of the capacity building programme with the TWSSEs is to provide guidance and support to strengthen their knowledge in order that they can become self reliant and develop each of their town water supply utilities. A need for understanding the constraints of development of sanitation has also been identified as a priority.

The following provides a list of findings and recommendations.

Approach to capacity building

The collaborative approach with a pilot unit of seven medium size towns proves effective. The towns selected are pro-active in the management of their capacity issues, willing to share information and use support.

The selection of a cross section of towns at various stages of development in their investment plans, management of issues and with different types of issues (e.g. management of trade effluent, customer communication) provides the platform for knowledge sharing between the towns and should be encouraged through the creation of a more structured network.

Communication and exchange of best practices can realise a quick-win in capacity building and should be proactively promoted.

We recommend, that following this initial mission, programmes of assistance are developed using the recommendations below. The ownership of these programmes should rest with the Utilities. The delivery of assistance should be managed through WAE and PfWS with support from UK Partners where appropriate.

Capacity building issues

The review of issues through site visits clearly identified generic issues that require actions to build capacity within the Utilities. These areas are, in order of priority:

- Sanitation,
- Network Management,
- Technical Support,
- Billing and Metering and,
- Supply/Demand.

For each of these areas a number of quick-wins and programmes of actions over 3 to 5 years were developed.

Some actions are specific to a Utility, the majority are common.

We recommend that further analysis is carried out by the Utilities to identify the actions where support from WAE is required.

We anticipate that the following support may be required and should be delivered through WAE with support from UK partners on a project by project basis:

- Sanitation: management of trade and environmental protection principles. How to collect effectively and efficiently sewerage to minimise the impact of the discharge and protect the natural environment

- Sanitation: principles of hygiene and sanitation. Deliver training for staff and guidance on how to train the community to raise awareness
- Sanitation: data needs and performance indicators. Deliver training on the data and indicators required for the efficient management of sanitation infrastructure and service
- Network management: data needs and asset performance indicators for asset management. Deliver training or provide best practice for the collection and management of data on network condition and performance.
- Network management: network condition. Deliver technical assistance in rapid network diagnosis to establish current network condition and support the development of a network asset management plan (including investment needs)
- Network management: leakage. Deliver training in leakage detection.
- Billing and metering: data collection, storage and analysis. Provide training in the identification of data required for the efficient management of customers, and billing
- Billing and metering: billing systems. Provide guidance on billing systems suited to the size and type of customer base and deliver training (if available) in the operation of the software chosen.
- Billing and metering: communication. Provide guidance (in the way of review) in the development of customers communication plans.
- Billing and metering: metering. Review technical information to assist in the selection of meters and metering strategy. Provide metering best practice.
- Technical training. Deliver technical training to operational staff in the following areas:
    - Asset data collection and storage
    - Asset management
    - Water quality
    - Maintenance scheduling
    - Meter calibration and maintenance
- Supply/Demand: S/D balance. Provide training in S/D calculation.

Monitoring progress in the development of capacity

We recognise that the above actions form an ambitious programme of development and assistance and we recommend that a monitoring process is developed to encourage, recognise and promote progress in the development of the Utilities' capacity.

We recommend that progress is monitored regularly and frequently by a steering group of partners to identify where actions deliver the expected benefit or not and to review the programmes of actions accordingly.

9 Appendices

A1 Itinerary
A2 Workshop agenda
A3 Workshop presentations – in PowerPoint
A4 Action plan (separate Xcel spreadsheet)
A5 Workshop feed-back
A6 Attendees contact details

Appendix 1 – itinerary

Appendix 2 – workshop agenda

***Water Resources development Fund (WRDF), WaterAid Ethiopia (WAE) and Partners for Water and Sanitation* Joint Capacity Building Support to 7 Towns' Utilities**

Programme Formulation Workshop & Training support during 22nd to 24th February, 2010; at Addis Ababa; CRDA Training Centre; Ethiopia

Date	Time	Activities	Responsible person
DAY 1 – "WHERE ARE WE NOW?" Capacity Building support			
Monday 22nd February, 2010	8:30 – 9:00	Registration	WAE/PfWS
	9:00 – 9:10	Welcoming Address	Ato Gulilat
	9:10 – 9:20	Key note Address/Opening Speech	WRDF
	9:20 – 9:30	Understand expectations of the participants from this workshop/training	Participants
	9:30 – 10:10	Introductory presentation on the experience of UK Water Utility partners in service delivery, strategic planning and programme development to share knowledge and experience	Phil/Marie
	10:10-10:30	Presentation on the status (existing situation), planned activities, challenges & opportunities as well as the basic needs of the 7 towns WS utilities	WRDF (Ato Damtew)
	10:30-11:00	**Tea/Coffee Break**	
	11:00 – 11:10	Presentation on the specific status (existing situation) of **Mizan Teferi** town in line with planned & ongoing activities, challenges & opportunities as well as the basic needs of the utility,	Mizan Teferi Town's WSS Utility Manger
	11:10– 11:20	Presentation on the specific status (existing situation) of **Assossa** town in line with planned & ongoing activities, challenges & opportunities as well as the basic needs of the utility,	Assossa Town's WSS Utility Manger
	11:20 – 12:30	Discuss critical capacity building issues identified by the Utilities and also identify possible programme areas for support	Group work (all)
	12:30 - 13:30	**LUNCH BREAK**	
	13:30 - 14:00	Presentation of findings from group work	Group Reporters
	14:00- 14:20	Presentation on possible Options for Urban WaSH Capacity Building	Ato Gulilat
	14:20 - 14:30	The unique offering of Partners for Water and Sanitation's Capacity building opportunities through UK partners	Ato Melkamu
	14:30 – 15:30	Group Discussions to align or create link between the identified gaps and available options	Participants
	15:30 – 16:00	**Tea/Coffee Break**	
	16:30 – 17:00	Presentations of the Group Discussion findings	Group Reporters
	17:00 – 17:30	Summary and way forward of the day's discussions	Phil and Marie

Date	Time	Activities	Responsible person
DAY 2 – PRIORITISED PROGRAMME FORMULATION "WHAT ARE THE TOP PRIORITIES?"			
Tuesday 23rd February, 2010	8:30 – 9:00	Registration	WAE/PfWS
	9:00 -9:10	Recap of the day 1	Participants
	9:10 – 9:30	Programme formulation: Presentation of programmes for support in capacity building and Introduction to setting goals (presentation)	Marie
	9:30 – 9:50	Panel discussion: Agreement of Goal for programme	Participants
	9:50 – 10:10	Programme formulation: Introduction to setting objectives (presentation)	Phil
	10:10 – 10:50	Panel discussion: Agreement of Objectives for each programme area (projects)	Participants
	10:50 -11:20	**Tea/Coffee Break**	
	11:20 – 12.00	Programme formulation: Presentation of risk assessment methodology to prioritise issues and an example from the UK Water Industry	Phil
	12:00 – 12:15	Questions session	All
	12:15 – 13:15	**LUNCH BREAK**	
	13:15 – 13:30	Introduction to the afternoon session	Marie
	13:30 – 14:30	Group work: Risk identification and scoring – projects 1 - 3	Participants
	14:30 – 15:00	Group work: Risk identification and scoring – projects 4 and 5	Participants
	15:00 – 15:30	Group work feed-back session	Group reporter
	15:30 –16:00	**Tea/Coffee Break**	
	16:00 – 16.30	Presentations of Ethiopian experience: Network management: the future of Hossana Customer relationship: the experience of Butajira	Hosanna project coordinator Butajira Utility Manager
	16:30 – 16:45	Panel discussion: Risk scores	Phil/Marie
	16:45 – 17:00	Wrap up of day 2	Participant
DAY 3 – PROGRAMMES OF ACTIONS FOR CAPACITY BUILDING SUPPORT "WHERE DO WE WANT TO BE?"			
Wednesday 24th February, 2010	8:30 – 9:00	Registration	WAE/PfWS
	9:00 – 9:10	Recap of the day – 2	Participants
	9:10 – 9:30	Risk scores (Day 2 group work) - presentation	Phil and Marie
	9:30 – 9:45	Programme formulation: Presentation on planning to develop timeline of actions (training)	Phil and Marie
	9:45 - 10:30	Panel discussion: actions for support	Participants
	10:30 -11:00	**Tea/Coffee Break**	
	11.00 – 11:20	Identification of "quick wins" (short term actions) - brainstorm	Participants
	11:20 – 12:00	Panel discussion: Timing of actions to be taken forward	Participants
	12:00 – 12:30	Introduction to project monitoring	Phil and Marie
	12:30 – 13:30	**LUNCH BREAK**	
	13:30 – 15:00	Wrap up of the 3 days events	Phil and Marie
	15:00 – 15.30	Wrap up of the last ten days support events and putting the way forward	W/ro Ghrmawit, Ato Gulilat, Ato Jamal, Ato Damtew
	15:30 – 16.00	Evaluation of the last 3 days events and Closing ceremony	W/ro Ghrmawit
	16.00 – 16.30	**Tea/Coffee**	

Appendix 3 – workshop presentations

Issued separately in powerpoint

Appendix 4 – action plan

Issued separately – excel spreadsheet

Appendix 5 – workshop feedback

	Responses	Score (1-6)
Regarding relevance of course content	5.216667	
What I learnt in this course will help me improve my performance?	*20*	5.2
Material and issues were current and worthwhile	*20*	5.05
The course was relevant to my needs	*20*	5.4
Regarding the quality of course design	5.108333	
The structure and institutional modes of the course encouraged learning	*20*	5.25
The course objectives were fully addressed	*20*	5.1
The course actively and effectively engaged me through-out	*20*	5.25
The duration of the course was just right	*20*	4.9
Overall this was a high quality course	*20*	4.95
Relative to other training that I have attended I would rank this course as one of the best	*20*	5.2
Regarding the quality of the instructors	5.5375	
The instructors encouraged and responded well to questions	*20*	5.45
The instructors have knowledge in the course content	*20*	5.5
The instructors treated participants with respect	*20*	5.7
The instructors were well prepared and organised	*20*	5.5
The pace of instruction was just right	*20*	5.45
Comments		
Please comment on any of the statements in the previous sections, particularly those you disagree with.(e.g. if the duration of the course was right, was it too short or too long?) • No disagreement • It was not short and long. What matters is the objective. In my view the objective or goal was somewhat extremely well and met • It is enough for the time being but in the future the training time is not enough since it includes on the practical work • The numbers of days are too long. It can be done within two solid days •		
Where there any aspects of the course that you think should be improved? • Yes overall planning • Yes project planning scheme [Goal, purpose, activity, outputs and input and assumptions…] some are included but would be fine if all are included • Most of the participants are tired near the end so it is better to include refreshment programme rather than tea breaks inside the training. Visiting of one or two water supply enterprises • The material prepared for this training is the print out of the PowerPoint which is too general to give full information for the participants as a whole • Please consider equipment and tools support •		
Which parts of the course did you find useful? • Programme formulation • Sorting out risks		

• Setting goals and objective • Risk assessment methodologies • Formulation action plan • Each of them are useful since each of them are continuous on one another • Technical and financial right (billing) • Summary and group work • Billing and watering • Good practice of sharting from the UK water company, formulation of pgorgamme, risk priorities and identification of objectives • Water safety plan • A programme on urban sanitation improvement •
General comments • Please maintain the support • We have formulated a programme that would enhance our services delivery and hope we will achieve this and please maintain the wish. • The experience of UK utility guest trainer is very appreciative and please continue • I was really surprised during our training since no one has seen urban water and sanitation programmes. I have also a great hope that you would fill the serious gap of capacity building. • Please provide softcopies of the materials

Appendix 6 – attendees contact details

No	Name	Organisation	Responsibility	Contact details	
				Tele No	email
1	Ato Jamal Reshid	WRDF	Head, Inv. App M&E	0911 84 44 06	Jemalshafi@yahoo.com
2	Ato Habtamu Mekuria	Butajira TWSSE	Manager	0912 01 68 44	dayofzwork@gmail.com
3	Ato Fikre Aman	Mizan Aman Town	Mayor	0910 05 66 33	
4	Ato Tamirat Balher	Mizan Aman TWSSE	Manager	0917 82 61 23	
5	Ato Anteneh Alemayehu	Mizan Aman TWSSE	Head of O & M	0910 67 05 46	
6	Ato Meka Bedru	Wolkite TWSSE	manager	0911 90 81 10	
7	Ato Paulo's Abebe	Wolkite TWSSE	Head of O & M	0911 80 28 46	Pol.abebe@yahoo.com
8	w/ro Misrak Abebe	Wolkite Town	Mayor	0911 33 19 97	
9	Ato Mustefa Hussen	Butajira Town	Mayor	0911 80 27 27	
10	Ato Jemal siraj	Butajira TWSSE	Head of O & M	0913 43 64 63	Dayofzwork@gmail.com
11	Ato Ayub Hamid	Assossa Town	Manager	0911 83 97 07	
12	Ato Tesfahun Amare	Assossa TWSSE	Manager	0911 01 82 79	Amates2020@yahoo.com
13	Ato Gemerdin Abdulasiz	Assossa TWSSE	O & M Manager	0911 00 60 55	
14	Ato Mesfin Moges	Hosssana TWSSE	Manager	091106 71 4(9)6?	
15	Ato Lema Ashebo	Hosssana TWSSE	Project Coordinator	0911 56 60 90	Lemaashebo@yahoo.com
16	Ato Melese Zewge	Hosssana Town	Mayor	0912 16 74 14	
17	Ato Mamo Tolessa	Sebeta TWSSE	Manager	0911 22 49 98	
18	S/r Misirak Tadesse	Sebeta Town H/ off.	Board member	0911 42 65 67	
19	Ato Dereje Tolla	Sebeta TWSSE	Head of o & M	0911 87 94 53	
20	Ato Debela Gebisa	Burayu TWSSE	Manager	0911 42 78 81	
21	Ato Taye Gurara	Burayu TWSSE	Head of O & M	0911 90 13 52	
22	Ato Tesfahun Worku	Hossana TWSSE	Head of O & M	0911 54 73 92	Tesfahun21@yahoo.com
23	**Ato Debebe Muleta**	Oromiya WRB	Hydro geologist	0911 67 77 15	debebemul@yahoo.com
24	Ato Birhanu Genet	WAE	H & S Officer	0911 67 23 83	birhanug@wateratdet.org