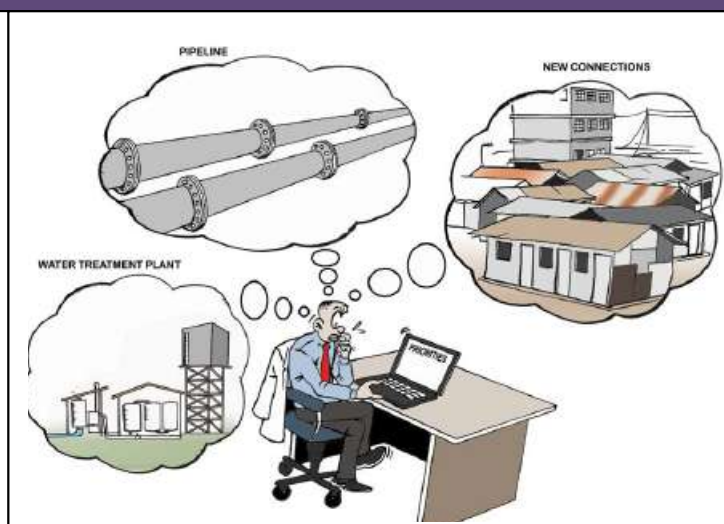




# RURAL PIPED SYSTEM WATER SUPPLY OPERATION AND MAINTENANCE MANAGEMENT



## Part A: Module D, Session D

### A Trainer's Manual for Human Power and Capacity Building for Rural Piped System



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**PART - A: TECHNICAL OPERATION & MAINTENANCE MANAGEMENT**

MODULE NO.	SESSION	SESSION TITLE	ESTIMATED TIME (Hours)
MODULE – A	Session – A	Facilitator’s Guide for Rural Water Supply Operation & Maintenance Management	4
	Session – B	Introduction to the training: objectives and expectations	2
	Session – C	Introduction of Rural Piped System and Pastoral areas Water Supply Technologies	2
MODULE – B	Session – A	Description of Water Sources for Water Supply	2
MODULE – C	Session - A	Introduction of Rural Piped System Operation and Maintenance	2
	Session - B	O&M Requirements for Water Sources to Water Supply	4
	Session - C	O&M Requirements for Intakes	4
	Session - D	O&M Requirements for Electro-Mechanical Equipment	32
	Session - E	O&M Requirements for Pipelines	8
	Session - F	O&M Requirements for Storage Tanks/Service Reservoir	4
	Session - G	O&M Requirements for Consumer Points	4
<b>Sub Total for this Module</b>			<b>58</b>
<b>MODULE – D</b>	Session -A	Spare Parts Supply and Management	36
	Session - B	Equipment and Tools Management	8
	Session - C	Asset Management	16
	<b>Session - D</b>	<b>Human Power and Capacity Building</b>	<b>8</b>
MODULE - E	Session – A	Water Audit and Leakage Detection	16
MODULE - F	Session – A	Water Quality Monitoring and Surveillance	24
MODULE - G	Session – A	O&M Requirements for Solar Energy	6
	Session –B	O&M Requirements for Wind Energy	4

MODULE - H	Session – A	O&M Requirements for Sand Dam	6
	Session – B	O&M Requirements for Haffir & Berkads	6
	Session – C	O&M Requirements for Rain Water Harvesting	4
	<b>TOTAL</b>		<b>202</b>



## MODULE - D: HUMAN POWER AND CAPACITY BUILDING FOR RPS

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## Acronyms and Abbreviations

HRD	Human Resources Development
RPS	Rural Piped System



# 1 SESSION – D: HUMAN POWER AND CAPACITY BUILDING FOR RPS

## 1.1. SESSION D1: HUMAN POWER REQUIREMENT FOR RPS

<b>Session Outline</b>	This session covers the following core main topics: <ul style="list-style-type: none"> <li>▪ Introduction to Human power for rural piped system,</li> <li>▪ Describe the need for human resources development,</li> <li>▪ Describe the organization structure of large and small RPSs</li> <li>▪ Jobs description of different sections of the Water Administration Office</li> </ul>
<b>Appropriate Facilitator</b>	The facilitator shall have B.A degree in Human Resources Development and has the experience in capacity building.
<b>1.1.1. Objective of this Session</b>	At the end of the session, the participants will able to: <ul style="list-style-type: none"> <li>▪ understand the REQUIREMENTS of human resource to run the water administration at different sections</li> <li>▪ understand the various job descriptions</li> </ul>
<b>Timing</b>	Approximately 4 hours
<b>Methodology</b>	<ul style="list-style-type: none"> <li>▪ Presentation, discussion and group exercises.</li> <li>▪ Demonstrate different recording and reporting formats for Equipment and tools management system.</li> </ul>
<b>Materials</b>	Flip charts, markers, pens, even overhead projector.

### Session Guide and Content

<b>1.1.2. Introduction</b>	<p>Sustainable operation and management of rural piped system water supply can only be achieved if appropriate organizational structures, management systems and qualified &amp; skilled human power are properly put in place.</p> <p>Generally, based on the selected rural piped system management models, the human power requirements are varies not only the model type but also the complexity and the schemes type governs in assigning human resources. Here, two types of rural pipes system management models are considered. These are large rural piped system which are managed by elected executive water boards, while the second model is small rural piped system, which are managed by umbrella WASHCO.</p> <p>Thus, the human resources requirements for these two models are presented in subsequent sections.</p> <p>Building the capacity of the water board, the water administration office staff, WASHCOs, operators and other staff is crucial. The capacity building involves in offering initial, refreshes trainings. Thus, the training</p>
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	<p>requires for different profession of the service office is addressed in this manual.</p>
<p><b>1.1.3. Need for Human Resources Development</b></p>	<p>Adequate and safe drinking water supplies and appropriate sanitation facilities form a sound basis for improvement in community health. Maximum health benefits will be achieved only when the water supply and sanitation facilities operate continuously and to full capacity in conformity with the acceptable standards of quantity and quality. If the O&amp;M tasks are to be carried out effectively and efficiently, there is a need for strengthening the technical, operational and managerial capabilities of the O&amp;M managers and staff.</p> <p>The management orientation shall change and the management shall become service oriented and be prepared to run the organization on a commercial basis. The management must be able to motivate the staff to perform better. It is essential that the organization responsible for O&amp;M has well qualified, experienced, efficient staff. Human resource development through training programmes, career plans and adequate salary system should be given special emphasis to improve the knowledge and skills of the staff.</p> <p>This objective is achieved by first developing proper job description and undertaking training schemes for the O&amp;M managers and personnel. This chapter covers the following topics on Human Resources Development in water supply service:</p> <ul style="list-style-type: none"> <li>▪ Job description</li> <li>▪ Training needs assessment</li> <li>▪ Training for capacity building</li> <li>▪ Training for refreshing skills</li> <li>▪ Training of trainers</li> <li>▪ Training in and outside institutions</li> <li>▪ Long term training needs</li> <li>▪ Short term training needs</li> <li>▪ On-the-job training</li> <li>▪ Quantification of training:             <ul style="list-style-type: none"> <li>○ Categories</li> <li>○ Number</li> <li>○ Frequency</li> <li>○ Duration</li> <li>○ Training Schedule</li> <li>○ Yearly programme</li> <li>○ Institutions</li> <li>○ Training budget</li> </ul> </li> </ul>
<p><b>1.1.4. Organizational Structure of Large Rural Piped System</b></p>	<p><b>1.1.4.1. Structure of Large Rural Piped System</b></p> <p>The Large rural pipe system has been commonly managed by Executive Water Board is established by motivation two or more WASHCO who got access to potable water from the same sources but basically reside in different kebeles. The executive water boards are elected by the General</p>

Assembly. The general assembly selected by the individual WASHCOs. This model is applied for multi-village rural piped system as described in the assessment report. When developing the RPS management models, the existing scheme management models were assessed and a common two models have been adapted as presented in Figure 4.1 and 4.2.

The organization structure of for large rural piped system is presented in Figure 4.1.

#### **1.1.4.2. Staffing Requirements**

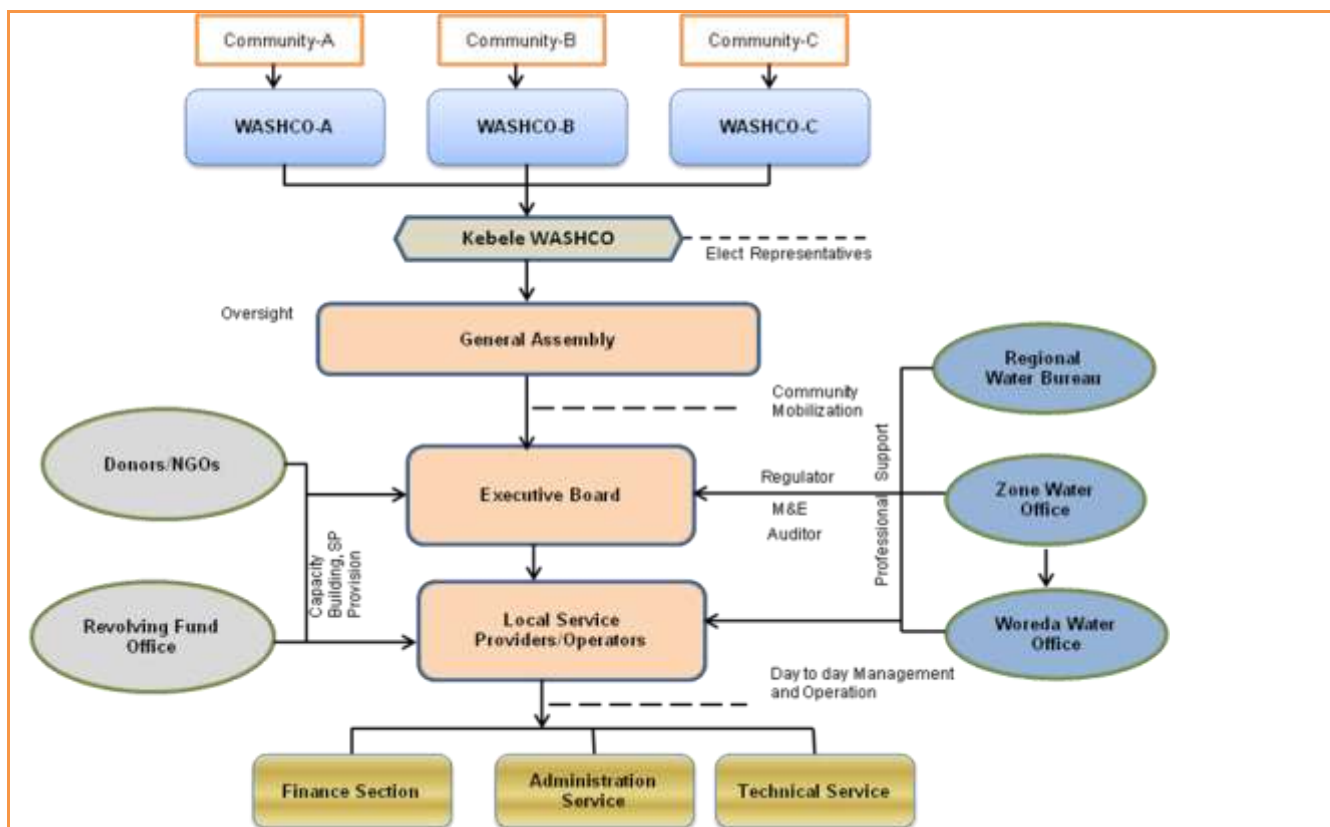
Human resource is an important asset to any development. It is noted that effective human resource management would contribute to sustainability of RPS. The ability to retain attracts and qualified, experienced and skilled employees enhance sustainability of RPS O&MM.

Thus, Executive Board member shall appoint the general manager and the water administration office recruit and employ the necessary manpower to support sustainability of water supply schemes as per the organizational structure. The Executive Board is responsible to determine the remuneration of employees pertinent to the country's labour law. The overall human resource management shall be done pursuant to the country's labour law No. 377/96. The labour law contains responsibilities and duties of human resources staff regarding employment relation issues.

The staffing plan of the large RPS have been done by adopting standards of magnitude of RPS, Income and expenditure, short-term and medium term needs and nucleus manning to cater to future expansion and improvement of the service. Accordingly, efforts have to be made to reach the management model manpower requirement to fully relinquish its functions. The specifications for all jobs have to be compared with specifications for similar jobs in sufficiently similar circumstances in other organizations and therefore, reflect present salary scale situations in general. Titles have also been carefully named for jobs to reflect the nature, scope and level in comparison to other jobs.

**Figure 1-1: Service Delivery Management Model for Large Rural Piped System**





**Table 1-1: Staff Requirement & Proposed Job Title for large RPS**

No.	Proposed Job Title Names	Proposed Manpower (No. of Post Holders)
<b>1.</b>	<b>Office of General Manager</b>	
1.1	General Manager	1
1.2	Secretary	1
<b>2.</b>	<b>Finance and Procurement Section</b>	
2.1	Head, Procurement and Finance Dep't	1
2.2	Procurement officer	1
2.3	Senior Accountant	1
2.4	Accountant	1
2.5	Cashier	1
2.6	Storekeeper	1
2.7	Storekeeper Clerk	1
<b>3</b>	<b>Administration Section</b>	
3.1	Head, Human Resource Development Process	1
3.2	Head, Central Archive	1
3.3	Archive Clerk	1
3.4	Guard	1
3.5	Cleaner	1
3.6	Gardner	1

	3.7	Officer Boy (Messenger)	1
	3.8	Driver	1
<b>4</b>	<b>Technical Section</b>		
	4.1	Technical Head	1
	4.2	Plumbers	As required
	4.3	Mechanics	2
	4.4	Electricians	2
	4.5	Welder	1
	4.6	Meter readers	As required
<b>5.</b>	<b>Planning, Monitoring and Evaluation Unit</b>		
	5.1	Head, Planning, Monitoring and Evaluation unit	1
	5.2	Economist	1
	5.3	Monitoring and Evaluation Officer	1
<b>6.</b>	<b>Customer Relations Unit</b>		
	6.1	Head, customer Relation Unit	1
	6.2	Communication officer	1
	<b>6.3</b>	<b>Liaison Officer</b>	1

**1.1.5. Job Descriptions for Large RPS**

**1.1.5.1. Responsibilities of Executive Water Boards**

The Executive Water Board (EWB) shall define the role of the Rural Piped System management and set out strategies for long term objectives. They should be in close contact with other agencies involved in infrastructure services and work for coordination with government and private agencies in design, construction, O&M, monitoring and evaluation of the functioning of the RPS.

Their responsibilities will be to:

- Establish delivery mechanisms and type and level of service for water supply to the population in their service area and determine priorities and define areas for expansion of coverage.
- Ensure rules, regulations and directives passed by the regional government bureaus and Zone/Woreda Water Offices to being observed and adhered to by the Water Administration Office of the RPS.
- Determine and administer staffing structure, service conditions, job descriptions, salary levels, performance standards, staff training and promotions.
- Ensure efficient use of funds and control construction and O&M costs.
- Set targets for achieving excellence in quality, quantity, continuity, cost, and set tariff levels keeping in view the social equity and RPS's need for financial self-sufficiency.
- Review and amend this O&M manuals in accordance with instructions received from the Bureaus and Zonal Offices.
- Ensure and safeguard the smooth function of the financial and

materials assets of the schemes.

- Ensure that the financial activity of the scheme is annually audited and approved.
- Review and approve the accounting and manpower management manual of the scheme.
- Initiate actions for water supply safety plan and conservation of water.
- Work with other water users such as agriculture, industry and other drinking water supply services for managing the water resources by proper water allocations amongst all users.
- Ensure quality control in the purchase and installation of materials and equipment and thus ensure prolonged useful life of materials and equipment through preventive maintenance.
- Receive and approve large scale procurement and purchases of equipment, materials and spare parts of the scheme.
- Review monitoring and evaluation reports of the scheme.
- Ensure timely reporting of activities to Region bureau and Zone/Woreda Water Offices.
- To examine and approve contractual agreements between the Water Administration Office and the Contractors and skilled laborers for minor scheme maintenance works.

#### **1.1.5.2. Job Title: The Water Administration Office Manager**

The Manager of the water service office is accountable for the executive water board and has the following duties and responsibilities:

- Communicating any matter and representing to the third party,
- Preparing the short and long term plan and also preparing the annual work plan and the associated budget, and provide to EWB for approval,
- Lead the day to day activities of the service office,
- Prepare quarterly and annual reports of the service office and provide to EWB for approval,
- Coordinating and facilitating in collection of revenue for expansion of water supply project,
- Open Bank account and run the account,
- Employee staff, decide salary and dismiss whenever necessary,
- Follow the performance of the employee based on the guideline,
- Ensure whether the community get better service,
- Follow the service office legal issue,
- Facilitate for increasing the revenue from water sale and other incomes of the service office,
- Arrange regular meeting with the staff and discuss on the improvement of RPS,
- To coordinate with external organisations, such as EEU, Woreda Administration, Municipality, Roads Health and others for resolving

	<p>interface problems,</p> <ul style="list-style-type: none"> <li>▪ To undertake performance review of the subordinate units, and provide direction and guidance to the heads of the units, in achieving the performance targets pertaining to the following elements: a) inspection of level of service delivery; (b) service interruptions; (c) quality assurance,</li> <li>▪ To undertake periodic review of manpower availability at the concerned service sub-divisions and sections and effect staff transfers if necessary to conform to requirements.</li> <li>▪ And others.</li> </ul>
<p><b>1.1.6. Technical Section</b></p>	<p><b>1.1.6.1. Categories of Staff</b></p> <p>The staff category under this section varies from scheme to scheme due to the complexity and the magnitude of the rural pipe system. Nevertheless, a minimum staff requirement is presented in Table 4.1 above.</p> <p><b>1.1.6.2. Job Description</b></p> <p><b>1. Job Title: Technical Head:</b></p> <p>The technical head is accountable for the Water Administration Office manager.</p> <p>He/she will be fully responsible any technical matters of the schemes.</p> <p>Detailed duties and responsibilities:</p> <ul style="list-style-type: none"> <li>▪ To conduct and control the day to day technical activities of the schemes from its sources to the taps, such as: Operation and maintenance of pipelines and appurtenant structures, electro-mechanical equipment, devices and instruments.</li> <li>▪ To conduct preventive, minor and major maintenance on all electro-mechanical equipment in the water supply system as required,</li> <li>▪ To follow the daily operation condition of the pumping station, pipelines and take remedial actions as required,</li> <li>▪ To cause preparation of normal/emergency operation schedules of each source and ensure implementation.</li> <li>▪ To undertake periodic inspection of: sources, pipelines, reservoirs, pumping stations, etc., to ensure implementation of prescribed norms.</li> <li>▪ Safety and security of properties materials, tools. plants and equipment by servicing schedules for various machines, tools, plants and equipment;</li> <li>▪ To ensure preparation and periodic updating of plans of the service area-subdivisions/ zones and sections/reservoirs.</li> <li>▪ To arrange for shoes, raincoats, uniforms and safety gear etc., for operation and maintenance staff as per the requirement.</li> <li>▪ To organize and mobilize the technical staff under him to perform effective and efficient technical activities,</li> </ul>

- To participate in preparing annual operation and maintenance budget,
- To participate in preparing and submitting annual and quarter technical action plan,
- To conduct asset management: asset inventory, asset valuation, asset rehabilitation and replacement,
- Assess and identify the expansion of the water supply system.
- To cause timely detection and rectification of leakages in the concerned service area.
- To ensure implementation of procedures for detection and monitoring pollution cases and to undertake appropriate measures for immediate rectification of both repairs.
- To ensure balance between the available capacity of the system demand and sanctions for new service connections.
- To undertake scheduling of meter reading in the service area, ensure billing, prompt ledger entries and service of bills to consumers.
- To organize consumer meets in service area, identify consumer problems and deficiencies in service delivery and ensure corrective follow up action.
- To take part in water quality control, water sampling etc.


## 2. Job Title - Technicians:

To guide, monitor and control various categories of technical staff in performance of highly skilled level of work.

### Mechanical

- To undertake operations and maintenance of laying, jointing and testing of pipelines including specials, valves, meters etc.
- To undertake operations and maintenance pertaining to filter beds, washing of beds, valves, flash mixers, flocculators /clarifier machinery and alum mixing machinery, wash water pump sets, flow meters, pressure gauges and chlorination equipment.
- To undertake maintenance of cranes, air tech machines, bucket machines, tackles, winches and hoists,
- To undertake operation and maintenance of welding machines and accessories and Oxygen cutting torches,
- To undertake operation and maintenance of hand tools for drilling, threading, fitting, pipe bending and maintenance of log book.
- To safeguard and properly handle instruments and materials of the scheme and timely service, lubricate and clean the equipment.
- To keep clean and safe the motor house, materials, tools and instruments of the scheme,
- To follow the O&M manual and manufacturer's instructions.

### Electrical

-  To undertake recording and mounting, removal, dismantling,

repairing, servicing and re-assembly of switches, switchgears, starter, motors, blowers, generators, compressors and battery charge equipment.

- To conduct day to day technical service and maintenance on pumps, motors, switch board and generators in the water supply system,
- To undertake operation and maintenance pertaining to transformers, Boosters, fault rectification, jointing of HV underground cables, drawing overhead service lines to undertake operation and maintenance of mugger's insulation testers, continuity tests, frequency meters, and power factor meters.
- To undertake maintenance of log book and to undertake operation and maintenance of equipment,
- To follow up the daily operation record and reporting from all pumping stations,
- To prepare and submit monthly and quarterly report to the technical head,
- To participate in preparing yearly operation and maintenance budget,
- To analyze the status of pumping equipment at all levels and request replacement.

### **3. Job Title - Plumber:**

Report to: Technical section Head

Basic duties and responsibilities:

- To install, inspect and maintain pipelines as per the directive given.
- To carry out maintenance when instructed,
- To inspect the water meters, valves and other equipment and make timely preventive maintenance,
- To make timely report of his performance,
- To carry out other relevant duties when instructed,
- Keep and clean all devices, materials and instruments to have a good conditions,

### **4. Job Title – Unskilled Employee:**

Report to: Technical Head

All types of manual work not requiring any special training or aptitude and independent judgment. The tasks under the category are simple and entail physical labour of varying intensities.

Operations pertaining to excavation, de-watering, de-silting, assisting the skilled workers in carrying, handling, loading, stacking of materials, tools and equipment, general purpose cleaning including machines, tools, equipment, pipelines, couplings, water meters, filters and valves etc.

Dusting, sweeping and washing.

Gardening, maintaining, spraying and dusting of pesticides etc., cleaning, preparing test ware, waste disposal and general assistance to lab technicians.



	Performing the relevant technical functions in the workshop, assisting the skilled worker in operation of valves and cleaning of water pumps
<b>1.1.7. Financial Section</b>	<p><b>1.1.7.1. Job Description</b></p> <p><b>1. Job Title: Finance and Procurement Head:</b></p> <p>The Finance and Procurement head is accountable for the Water Administration Office Manager.</p> <p>He/she will be fully responsible any Finance and Procurement matters of the schemes.</p> <p>Detailed duties and responsibilities:</p> <ul style="list-style-type: none"><li>▪ To cause maintenance of proper accounts and other records in relation thereto to be kept, and cause preparation of annual and periodical statements of accounts (balance sheets, revenue and expenditure account, and schedules) in such forms as may be prescribed by regulations.</li><li>▪ To cause timely preparation and presentation of annual, quarterly and monthly accounting reports like balance sheets, income and expenditure accounts, funds flow statements etc.</li><li>▪ To ensure implementation of accounts system and procedures and timely preparation of periodical accounting statements and reports to the Executive Water Board through the Manager.</li><li>▪ To design and implement financial procedures and policies.</li><li>▪ To cause quarterly/monthly/financial reports and forecasts.</li><li>▪ To organize effective systems of pre-audit and payments and to arrange receipts of recoverable and to cause proper accounting of cash and bank transactions.</li><li>▪ To liaise with Government and various lending agencies and ensure compliance with the requirements of Government and lending institutions.</li></ul> <p><b>2. Job Title – Senior Accountant:</b></p> <p>The Accountant is accountable for the Finance Head.</p> <p>He/she will be fully responsible any accounting activities of the water administration office.</p> <p>Detailed duties and responsibilities:</p> <ul style="list-style-type: none"><li>▪ Maintaining cash book and bank books.</li><li>▪ Sending copy of cash/bank book to WAO.</li><li>▪ Prompt posting of ledgers (day by day).</li><li>▪ Posting of sub-ledgers within set date.</li><li>▪ Bank reconciliation statements.</li><li>▪ Action on the reconciled items.</li><li>▪ Monthly trial balance.</li><li>▪ Monthly balance-sheet income &amp; expenditure account.</li><li>▪ Monthly cash forecast (for the next month).</li></ul>

- Cash flow statement.
- Monthly work wise schedules.
- Monthly schedule of sub-ledgers.
- Monthly requisition of funds (for the next month).
- Monthly statements of receipts, payments, income & expenditure comparing actual figures with budget.

### 3. Job Title – Junior Accountant:

The Accountant is accountable for the Finance Head.

He/she will be fully responsible any material and revenue accounting activities of the water administration office.

Detailed duties and responsibilities:

- Arranging data entry of stores receipts, issues and uses of stock points and sections,
- Custody and issue of stationery of stores accounting forms and reconciling the data entered with stationery issued,
- Reconciliation of materials accounts and communication with sections regarding un-reconciled balances and effecting rectification.
- Ensuring implementation of stock valuation procedures for closing stocks and for stocks issued to works and consumption,
- Preparation and submission of materials at site accounts and reports.
- Collection of data from bill/cash collection counters at specified intervals and incorporation in the common data base,
- Arrange for checking of cash collections counter-wise with remittances in the banks.
- Preparation of consolidated revenue accounts including ledgers, demands, debtors statements.
- Quantitative billing analysis and reconciliation.
- Preparation and submission of analyzed divisions reports to managing director and concerned officers,
- Monitoring collection of dues from major consumers and pursuing divisions for collections and demands,
- Compilation of statements of collection counters and reconciliation with bank account, arranging data entry, computerized reconciliation and feed back to systems of collection counters.
- Prompt reporting to the management of any deviations from the norms of demand, collection, billing and balances and of any abnormalities.



### **3. Jib Title: Cashier**

Report to: Finance Head

Basic duties and responsibilities:

- Collects cash with the prepared cash collecting receipts.
- When the Finance head orders and/or approves and prepares cash collecting and payment bills, the cashier performs accordingly.
- Deposits the collected cash in the nearest bank or similar institutes that gives same service within 24 hours to one week.
- Presents the cash receipt of the bank to the secretary. Keeps safely receipt.
- Presents the receipts and cash in hand for recording, inspection and auditing purpose.
- Effect payments when approved by finance head.
- To carry out the duties and responsibilities as instructed.

### **4. Jib Title: Water Sellers**

Report to: Finance Head

Basic duties and responsibilities:

- To properly sell water to the customers at public water points and timely and regularly hand over the collected money as per the directives given:
- To sell water as per the schedule decided by the office,
- To cooperate and closely work with the WASHCOs,
- To ensure the safety of the money collected and the prosperity of the scheme under their supervision,
- To make timely report,
- To carry out the duties and responsibilities as instructed.

#### **1.1.8. Administrative Section**

##### **1.1.8.1. Job Description**

#### **1. Job Title: Administrative Head**

Report to: Manager

Duties and responsibilities:

- a)** The administrative head manages the overall daily office operations. He/she may oversee a number of departments including

human resources, facilities management and finance. The job requires implementing organizational strategies and policies, plan the use of materials and human resources and manage the administrative staff.

- The responsibilities of an administration head in general, works to improve processes and policies, manage administrative staff and play a role in long-term organizational planning. Specific duties may fall into a variety of categories such as:
  - Office management: manages the overall daily office operations, negotiates contracts, manages vendor relationships, primary liaison to building landlord and oversees office operating procedures.
  - Human resources: works with human resources staff on hiring of personnel, maintaining personnel records, monitoring insurance coverage and ensuring personnel policies are up-to-date.
  - To take responsibility for the delegation of recruiting, supporting, and managing staff, formally and informally, with appropriate record keeping, according to the needs of the unit and within the procedure laid down by the Company
  - To ensure that the required standards and procedures of staff selection, appointment and induction training are undertaken

## 2. Job Title: Store Keeper

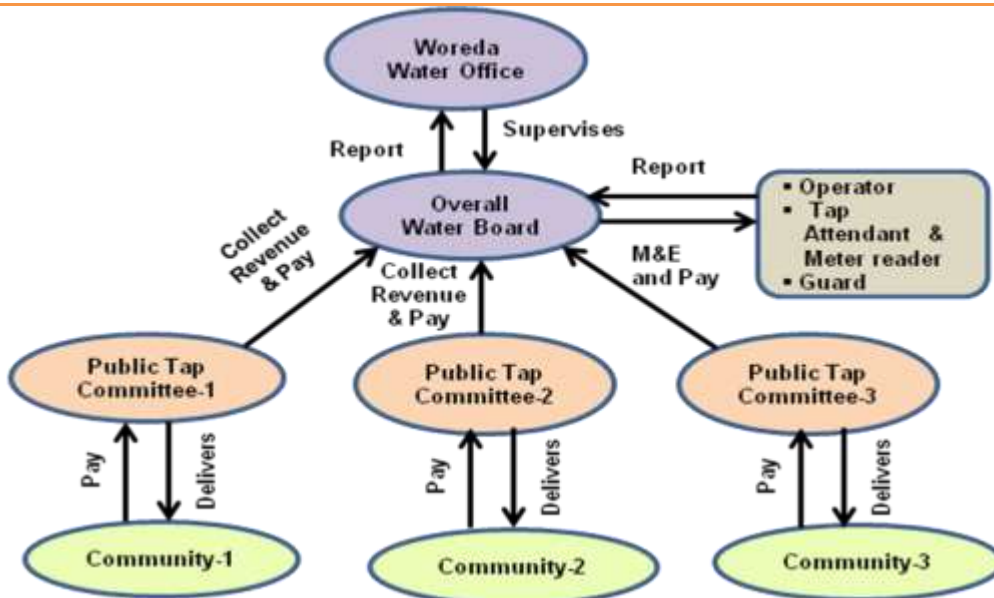
Report to: Administrative Head

Basic duties and responsibilities:

- To safely guard and manage the materials and equipment of the service office as per the regulation given in the spare part and equipment manual.
- Receive all incoming materials and ensure that the quantities are correct according to invoice.
- Ensure that the daily goods receipts are properly maintained.
- Arrange for inspection of materials received.
- Ensure that receiving reports are prepared and distributed without delay.
- Ensure that materials are properly stored against deterioration, theft, etc., and that they are readily available for issue,
- Issue materials against authorized requests for the maintenance of water supply facilities and to other Sections.
- Maintain accurate records (bin cards) of materials received, issued and in storage, and ensure that the

	<div> <p><b>3. Job Title: Driver</b></p> <p>Report to: Administrative Head</p> <p>Basic duties and responsibilities:</p> <ul style="list-style-type: none"> <li>▪ To safely handle and drive the vehicle and make use only for the activities of the service office,</li> <li>▪ To carry out timely service of the vehicle, change oil, filters etc</li> <li>▪ To clean and timely lubricate the vehicle,</li> <li>▪ To drive as per the instruction given by the authority.</li> <li>▪ To carry out other relevant duties as instructed.</li> </ul> </div> <div> <p><b>4. Job Title: Guard</b></p> <p>Report to: Administrative Head</p> <p>Basic duties and responsibilities:</p> <ul style="list-style-type: none"> <li>▪ To safeguard motor, water pumps, pump house, generator house, service reservoirs, treatment plant and other properties of the service office from any vandalism and robbery,</li> <li>▪ To safeguard all materials and equipment of the scheme,</li> <li>▪ To work day and night by shift as directed by the Administrative head,</li> <li>▪ To make a timely report to the office and the legal government organ whenever problems occurred to properties of the service office.</li> <li>▪ To carry out other relevant duties when instructed.</li> </ul> </div>
<p><b>1.1.9. Organizational Structure of Small Rural Piped System</b></p>	<p><b>1.1.9.1. Structure of Small Rural Piped System</b></p> <p>Small rural piped system is a system consists of serving 2 to 3 villages with 2 to 3 public water point from one water sources. Umbrella Water Board – Tap Committee Service Delivery Model is recommended for the management of small rural piped system schemes. The Umbrella model has a scheme operator who is responsible for management. The scheme operator is normally a locally selected individual, who is trained to perform the daily running of the scheme such as switching on and off pumps and generators, doing routing maintenance checks, fixing small pipe leaks and replacing taps.</p>

**Figure 1-2: Proposed Service Delivery Management Model for Small RPS**



### 1.1.9.2. Job Descriptions for Small RPS

#### Responsibilities of Umbrella WASHCO's

Job Title: Operator

#### Report to: WASHCO Chairperson

Duties and Responsibilities:

- To undertake routine and minor maintenance of the water scheme.
- To prepare operational and maintenance report of the scheme and submit the report to the committee and Project Office.
- To keep the equipment operation follow-up card at the proper place and avail on request to the body that needs the information.
- To report any break down or damage on time to the concerned body.
- To operate the water points on time for proper utilization.
- To keep and utilize the maintenance toolkits.
- To keep operational and maintenance record of the scheme.
- To show the beneficiary how to use the scheme properly.



### **Report to: Woreda Water Office**

#### Duties and Responsibilities:

- To manage the RPS operation, monitor and evaluate the general status in their kebele/village.
- To prepare quarter and annual reports on the performance and financial situation of the scheme and submit to the Woreda Office and report to the general meeting of the beneficiary community.
- To effect O&M expenditure properly.
- To take full responsibility of the overall scheme administration and management in their village or kebele.
- To open and operate bank accounts in the name of the scheme.
- To mobilize the community for community participation.
- To adopt a simple but efficient book keeping system.
- To report major breakdown that are beyond the capacity of the committee to the Woreda Office.
- To resolve conflict that may arise between the beneficiary households.
- To decide on the opening and closing time of the water in consultation with the community.
- To develop links with and get support from concerned stakeholders for operation and maintenance work.
- To collect and manage revenues as per the tariff rate.
- To propose tariffs /contributions.
- To manage procurements (service, works and good).
- To decide upon modifications and extension of RPS system in cooperation with the Woreda Water Office.
- To prepare quarter and annual reports on the performance and financial situation of the scheme and submit to the Project Office and report to the general meeting of the beneficiary community.
- Effect O&M expenditure properly.



## 1.2. SESSION D2: CAPACITY BUILDING FOR RPS

<b>Session Outline</b>	This session covers the following main topics: <ul style="list-style-type: none"> <li>▪ The need to conduct training need assessment</li> <li>▪ Training need identification</li> <li>▪ Training of Trainers</li> <li>▪ Training in Outside of the Institutions (Water Administration Office),</li> <li>▪ Long and Short terms training needs,</li> <li>▪ The requirement of On – the – jobs trainings,</li> <li>▪ Quantification of training,</li> <li>▪ Provision of incentive for efficient performance,</li> <li>▪ Training schedule and yearly program,</li> <li>▪ Selection of training institutions, and</li> <li>▪ Need for allocation of budget for training.</li> </ul>
<b>1.2.1. Objectives of this Session</b>	At the end of this session, the participants able to: <ul style="list-style-type: none"> <li>▪ Understand the requirements of regular and refresher training for water administration staff and water board members,</li> <li>▪ Understand the selection, identification and budget allocation of various training.</li> </ul>
<b>Timing for this Session</b>	2 hours
<b>Session Content</b>	
<b>1.2.2. Training Need Assessment</b>	The training needs assessment shows defects in current operation and maintenance and supply functions such as lack of planned maintenance activities, non-recording of daily operation data, uncoordinated and unrecorded maintenance work, non-recognition of the importance of collecting and analyzing operation and maintenance costs, no existence of supply control activities etc.  The training to be organized will therefore focus on improving the above defects and enhancing the productivity and efficiency of the operation and maintenance activities. As the water bureaux and zone/wored water offices play minor roles in the operation and maintenance activities, especially as they are not providing any assistance in actual repair activities, the training program will focus on the staff of the rural pipes system service sections.  The technical management training program has the following four major components: <ul style="list-style-type: none"> <li>▪ Orientation training for water board members/WASHCOs and head of water administration,</li> <li>▪ Skill upgrading training for operators/technicians,</li> </ul>





	<ul style="list-style-type: none"> <li>▪ On-the-job training for operators, Regular refresh training</li> </ul>
<p><b>1.2.3. Trainings</b></p>	<p>Training is a planned process to modify attitude, knowledge or skill through learning experience to achieve effective performance in activity and to develop abilities of the individual to satisfy the current and future needs of the WAO.</p> <p>The personnel who are already available or chosen to carry out the actions contained in the O&amp;M programme may have to be trained through special courses or by “on the job training” to ensure that these personnel are thoroughly trained to carry out the actions listed in the plan of maintenance. This training is essential to prevent experimentation by operating personnel to interfere with equipment since often these operating personnel may not be capable to take up the required maintenance. On the job training is preferred to classroom training.</p> <p>The supervisors can be trained initially; they can later train their operators. A systematic plan of action of any training programme includes:</p> <ul style="list-style-type: none"> <li>▪ Identification and assessment of the need for planned training.</li> <li>▪ Defined training objectives.</li> <li>▪ Appropriate strategy for training.</li> <li>▪ Provision for assessing effectiveness of training.</li> </ul>
<p><b>1.2.4. Training Need Identification</b></p>	<p><b>1.2.4.1. Objectives of Training Need Identification</b></p> <p>The objectives of training needs identification are:</p> <ul style="list-style-type: none"> <li>▪ To identify a profile of the training needs and interests of the employees,</li> <li>▪ To gather information on the climate, culture and communication links of the work place,</li> </ul> <p>To make recommendations for a training initiative that would be the basis for a strategic plan for employee development.</p> <p><b>1.2.4.2. Process of Identification of Training Needs</b></p> <p>The basic process of identifying training needs involves the following steps:</p> <ul style="list-style-type: none"> <li>▪ Determine what is required or expected in the job,</li> <li>▪ Determine the degree to which this requirement is being met,</li> <li>▪ Determine whether training can bridge the gap between what is required in the job and the present knowledge, skills, attitudes or behaviour of the employees.</li> </ul> <p><b>1.2.4.3. Data Collection</b></p> <p>Data on the assessment of training needs can be collected in the following ways:</p> <ul style="list-style-type: none"> <li>▪ Discussions with the water bureau/zone or woreda water offices, water</li> </ul>



boards, management and employees,

- Observing the employees, their work, work flow and relationships,
- Review of records and reports, particularly the reports if any which provide the reaction of the consumers to the services provided by the WAO, organization structure, by-law, records of past trainings etc.

**1.2.4.4. Analysis of Data**

The analysis of the data is carried out with a view to make the assessment of training needs for various levels as below:

- Needs for the organization as a whole – corporate needs
- Needs for departments/teams within the organization – group needs
- Needs for individual employees – individual needs

There is a need for a i) Job analysis and ii) A person analysis for carrying out a training need analysis.

**Job Analysis**

The information is obtained on the following aspects:

- Problems faced by jobholders in learning basic skills and applying them successfully in work,
- Weakness in performance of existing jobholders due to gap in knowledge, lack of skills or motivation,
- Areas where competence levels are not up to standards required,
- Areas where future changes in work process or methods or job responsibilities indicate training needs,
- How training is carried out at present.

A job analysis work sheet is shown below:

What has to be done?	Why?	How?	How well?
To:- _____	In order to.....	With whom? Where? Process pr procedure? What equipment or facilities?	Quantity? Output required? Result needed? Quality?

**Person Analysis**

The information obtained from person analysis is:

- Details of job holders with adequate knowledge and skill for the job,
- Effectiveness of a person in putting his work to practice.
- Behavioural changes and work efficiency of job holders after attending training programmes,
- Level of job satisfaction.

A person analysis work sheet is shown below:

Personal particulars	Detailed Information		
	Essential	Useful	Not necessary
Educational/Training/Experience			
Sex, Age			
Occupation			
Affiliation/ Special interest/ Aptitudes			
Languages			
Attitudes,			
Knowledge of subject			
Authority			

#### Presentations of results of the training need analysis

From the training need analysis described above; the present knowledge and skill of jobholders of the organization can be arrived at. A table showing results of training needs is shown below:

No.	Job Requirements	Trainee's current knowledge and skills				
		Excellent	Good	Fair	Poor	Nil
1						
2						
3						
4						
5						

Training needs are identified from the above information, taking the identified training needs as indicators; training objectives can be listed out to arrange the training.

#### Training for Enhancement / Refreshing Skill

The purpose of any training programme is to provide individuals with skills necessary for them to perform their assigned duties effectively and efficiently. After ascertaining the skills of the job holders, it has to be decided as to whether trainings to enhance the skills or refreshing the skills are to be arranged.

- *Employees creative model:*

	<ul style="list-style-type: none"> <li>○ Organizations provide trainings for enhancement of skills to encourage personal advancement.</li> <li>▪ <i>WAO strategy model:</i> <ul style="list-style-type: none"> <li>○ Basic skills are identified as a critical component in achieving corporate goals, for refreshing the skills of work for increasing production and efficiency.</li> </ul> </li> <li>▪ <i>Problem centered model:</i></li> </ul> <p>The need for basic skills training was identified as a specific issue or difficulty faced by the WAO.</p>
<p><b>1.2.5. Training of Trainers</b></p>	<p>Training of trainers plays a key role in how effectively a trainer can operate to satisfy the need of the trainees. Trainer’s training is a specific programme set out to enable new trainers to learn the basic techniques and approaches of training or to enable existing trainers to develop the training skills they already possess. Some of the specific objectives of trainer’s training in water supply sector is:</p> <ul style="list-style-type: none"> <li>▪ To explain the necessity and objectives of training in water supply, operation and maintenance,</li> <li>▪ To practice participatory learning activities,</li> <li>▪ To carry out systematic training needs identification or training needs assessment,</li> <li>▪ To demonstrate appropriate technology for urban and rural water supply,</li> <li>▪ To prepare and review curriculum for various categories of trainees,</li> <li>▪ To select and use appropriate audio visual aids in training programmes.</li> </ul> <p>With the new or improved skills of trainers, they (trainers) are able to arrange training programmes to enable others (trainees) to develop skills, knowledge and attitudes.</p> <p>(Some specific training needs for rural piped system service is presented in Annex-B).</p>
<p><b>1.2.6. Training in Outside of the Institution</b></p>	<p>Off-the-job training can take place in institutions outside the organization, which are specially equipped and staffed for training.</p> <ul style="list-style-type: none"> <li>▪ It is the best way to acquire knowledge on advanced or latest office procedures, planning and monitoring, project implementations methods, quality assurance methods and proper maintenance of schemes,</li> <li>▪ Use of systematic training techniques, special equipment and trained trainers,</li> <li>▪ Basic skills and knowledge can be acquired quickly and often economically,</li> <li>▪ Training courses cover standard theory and practice which are easily translated from general to be particular.</li> </ul> <p>Useful to implant highly specialized knowledge and advanced skills.</p>
<p><b>1.2.7. Long-Term</b></p>	<p>Long-term training needs will largely be addressed by deputing staff to</p>

<p><b>Training Needs</b></p>	<p>undergo formal educational programmes in water supply and sanitations (regular/distance learning) as well as specifying recruitment criteria for new entrants.</p> <ul style="list-style-type: none"> <li>▪ Universities, Technical Colleges, Public/Private Sector institutes offer formal programmes leading to degree/diploma in water supply,</li> <li>▪ Evaluations of short-term training programmes will lead to assessment of long term training needs,</li> <li>▪ Existing staff of organization can undergo formal programmes by distant learning.</li> <li>▪ Long-term training needs addresses the future demands of the organization.</li> </ul>								
<p><b>1.2.8. Short-Term Training Needs</b></p>	<p>Short-term training needs are for the existing staffs of the organization that are likely to be met by short courses or other similar interventions.</p> <ul style="list-style-type: none"> <li>▪ Specific training needs identified can be met by appropriate short-term training programmes,</li> <li>▪ This improves competence of employees.</li> <li>▪ Proper job analysis and training analysis can identify short-term training needs. Short-term training needs can mostly be attended to by means of in-house training programmes.</li> </ul>								
<p><b>1.2.9. On the Job Training</b></p>	<p>Depending on the place or location where training takes place, training can be called on-the-job training if the trainee gets training while working on the job assigned to him. The trainee in the physical and social environment of the work place is simultaneously involved in the process of acquiring knowledge.</p> <ul style="list-style-type: none"> <li>▪ The trainee requires little specialized attention in terms of extra equipment and manpower,</li> <li>▪ It helps to develop and practice specific managerial/technical/administrative skills needed in operation and maintenance of water supply system.</li> <li>▪ The trainee works, learns and develops expertise at the same time concepts and theory is put into practice immediately.</li> <li>▪ Gives guidance to supervisors and instructs new employees in performing their tasks.</li> <li>▪ It is considered to be an acceptable means to train officials in new developments and new systems when they are introduced.</li> </ul> <p>For example, a mechanic/plumber may be given field experience in Pump Houses and small water supply schemes to operate and maintain them. This helps them –</p> <table border="1"> <tr> <td>To skill development</td> <td>Learns how to do it</td> </tr> <tr> <td>Practical knowledge</td> <td>Learns when to do it</td> </tr> <tr> <td>Education</td> <td>Learns what to do</td> </tr> <tr> <td>Hands on experience</td> <td>Know the impact</td> </tr> </table>	To skill development	Learns how to do it	Practical knowledge	Learns when to do it	Education	Learns what to do	Hands on experience	Know the impact
To skill development	Learns how to do it								
Practical knowledge	Learns when to do it								
Education	Learns what to do								
Hands on experience	Know the impact								



<p><b>1.2.10. Quantification of Training</b></p>	<p>The training programmes can be quantified in terms of category of staff being trained, the number of staff members who also can be accommodated in a training programme, how often this training has to be given (frequency) and the duration of each course.</p> <p style="text-align: center;"><b>Category of Trainees</b></p> <ul style="list-style-type: none"> <li>▪ Water Board members,</li> <li>▪ Managers,</li> <li>▪ Technical staff,</li> <li>▪ Finance staff.</li> <li>▪ Administration and establishment staff.</li> <li>▪ Training for grass root level personnel.</li> </ul> <p style="text-align: center;"><b>Category of the training Course</b></p> <ul style="list-style-type: none"> <li>▪ Board members orientation and refreshing trainings</li> <li>▪ Technical Training,</li> <li>▪ Supervisory Training</li> <li>▪ Finance management.</li> <li>▪ Operation and Maintenance electro-mechanical equipment,</li> <li>▪ Distribution system maintenance</li> <li>▪ Asset Management,</li> <li>▪ Supply and equipment management</li> <li>▪ Customer Relations.</li> <li>▪ Computer application/IT.</li> </ul> <p><b>Number, Frequency and Duration</b></p> <p>The number of trainees in a particular training course, how frequently that course is offered and duration of the course are factors used to quantify the training programmes.</p>
<p><b>1.2.11. Incentives for Efficient Performance</b></p>	<p>There is a need to provide for incentives and awards to recognize and encourage those employees whose performance has been found to be exceptionally efficient. This will enthruse other employees also to strive to improve their work efficiency. The HRD budget should provide for the incentives and awards.</p>
<p><b>1.2.12. Training Schedule and Yearly Programme</b></p>	<p>The change from a crisis type of O&amp;M to a planned O&amp;M can be undertaken gradually or in a relatively short period of time depending on the resources available. The change should be planned and coordinated with a schedule of training. The training schedule should ensure that each staff member gets training periodically and training should be made mandatory for all the staff members of the WAO/utility.</p> <p>A tentative action plan for the year (or yearly programme) can be prepared in advance. Each and every staff member will get training periodically and it shall be made mandatory. This action plan would give the yearly</p>



	<p>programme of various training courses. It gives the following:</p> <ul style="list-style-type: none"> <li>▪ Course group, title.</li> <li>▪ Category and number of participants.</li> <li>▪ Duration (including date on which training is to be held).</li> </ul>
<p><b>1.2.13. Training Institutions</b></p>	<p>External training facilities for a substantial proportion of the staff and personnel engaged in supply of drinking water are available at both the national and local level. Such training facilities are being used by many of the Water Authorities.</p>
<p><b>1.2.14. Need for Training Budget Allocation</b></p>	<p>It is preferable to have a separate Budget for HRD for each utility. While preparing budget for each training, one should plan and budget for the following items:</p> <ul style="list-style-type: none"> <li>▪ The professional/registration fee.</li> <li>▪ Travel expenses for the trainer/faculty.</li> <li>▪ Accommodation for Trainer(s).</li> <li>▪ Training Rooms.</li> <li>▪ Audio-Visual Equipment</li> <li>▪ Snacks &amp; tea (refreshment).</li> <li>▪ Travel expenses for trainees for field visit.</li> <li>▪ Stationery articles,</li> <li>▪ Computer time; stationery; etc. for computer aided training courses.</li> <li>▪ Incentives and awards for improvement in work efficiency.</li> </ul> <p>Budget for Training is frequently expressed as a percentage of the total payroll. On an average 2 to 2.5% is preferred, out of which 75% can be spent for in-house training and rest can be utilized for training in external institutions.</p>
<p><b>1.2.15. Session Summary</b></p>	<p>The facilitator shall summarize this session with briefing each section and ask feedbacks from the participants.</p>



# Annexes

## Annex A: Worksheet – Developing a Training Budget

Questions to be considered	Cost (Birr)	Comments
<b>Event Fees:</b>		
Is there a registration fee, course fee, tuition fees for the events?		
<b>Trainer’s or Consultant’s Fees:</b>		
What is the trainer’s or Consultant’s hourly, daily, weekly fees?		
Does the trainers or consultant charges for preparation time? If so, how much?		
<b>Materials:</b>		
Are there course materials associated with the training? How much does they cost? Does each trainee a copy, or can they share?		
Will the training require printings or photocopying of the materials, if so, how much will these service costs? Are they included in the trainer’s fee?		
Will the trainer need audio or visual aids (e.g overhead projector and slides, VCR), How much will it cost to purchase or rent these items?		
Will you need to purchase other assorted materials (e.g., name tags, paper and pens, files or computer stationery)? If, so, what will they cost?		
<b>How much will be refreshment cost? How will you pay for them?</b>		
<b>Space:</b>		
Where will you hold the training? What will the space cost?		
Will you provide on-site care? Are the necessary space and resources available? What will this cost?		
<b>Travel:</b>		
Will the training require staff to travel? Will they need to stay over? How much will this cost, including mileage, per diem, and lodging?		
If the trainers are from out of town, what will their travel, lodging, and per diem expenses total? Are their travel cost covered separately or included in the contract?		
If volunteers are included in the learning event, will they have transportation or parking expenses? Are they eligible for reimbursement?		
<b>Staff Time/Substitutes:</b>		
Will some employees involved in the training need to be replaced by substitute staff? How much will the substitutes cost?		
If follow-up training or assistance will be needed, what will <b>this cost?</b>		
<b>Others:</b>		
<b>Accommodations for the out station trainees</b>		





## Annex B: Training needs subjects/performance area identified for organizing training inputs

No.	Trainees	Training subject
1	Water Board members	<ol style="list-style-type: none"> <li>1. Organization and Management of the water supply system,</li> <li>2. Duties and responsibilities of the board</li> </ol>
2	WASHCOs	<ol style="list-style-type: none"> <li>1. Duties and responsibilities of the WASHCO's members,</li> <li>2. Scheme Management</li> </ol>
3	Manager	<ol style="list-style-type: none"> <li>1. Organization and Management</li> <li>2. Management Information System</li> <li>3. Financial management,</li> <li>4. Supply Management</li> </ol>
4	Technical Section Head	<ol style="list-style-type: none"> <li>1. Leakage detection and monitoring</li> <li>2. Management Information System</li> <li>3. Operation and Maintenance of pumps, generators and electro-mechanical equipment,</li> <li>4. Asset Management,</li> <li>5. Water Quality Management</li> <li>6. Water Supply Safety Plan</li> <li>7. Borehole maintenance and water level measurement</li> </ol>
5	Finance & Procurement Section Head	<ol style="list-style-type: none"> <li>1. Financial Management</li> <li>2. Accounting Policy &amp; procedural Manual</li> <li>3. Costing, budgeting and accounting.</li> <li>4. Spare part Supply and Management</li> <li>5. Procurement management</li> <li>6. Management Information System</li> </ol>
5	Administrative Section Head	<ol style="list-style-type: none"> <li>1. Human Resource Development</li> <li>2. Customer Relation</li> <li>3. Management Information System</li> </ol>
	Secretary	<ol style="list-style-type: none"> <li>1. Office management</li> <li>2. Management Information System</li> <li>3. MS office – Computer applications in office management.</li> </ol>
	Accountant	<ol style="list-style-type: none"> <li>1. Management accounting.</li> <li>2. Management Information System</li> <li>3. Bill collection and Management</li> </ol>
	Technicians	<ol style="list-style-type: none"> <li>1. Leakage detection and monitoring</li> <li>2. Laying, jointing testing and commissioning of pipelines.</li> <li>3. Operation and Maintenance of Electro-mechanicals equipment</li> </ol>
	Plumbers	<ol style="list-style-type: none"> <li>1. Maintenance of water supply system</li> <li>2. Leakage rectification and cleaning of pipelines.</li> <li>3. Laying, jointing testing and commissioning of pipelines.</li> </ol>

	Store Keeper	<ol style="list-style-type: none"><li>1. Material (stock accounting).</li><li>2. Purchasing and store management</li><li>3. Spare part Supply and Management</li><li>4. Equipment and Tools Management</li></ol>
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