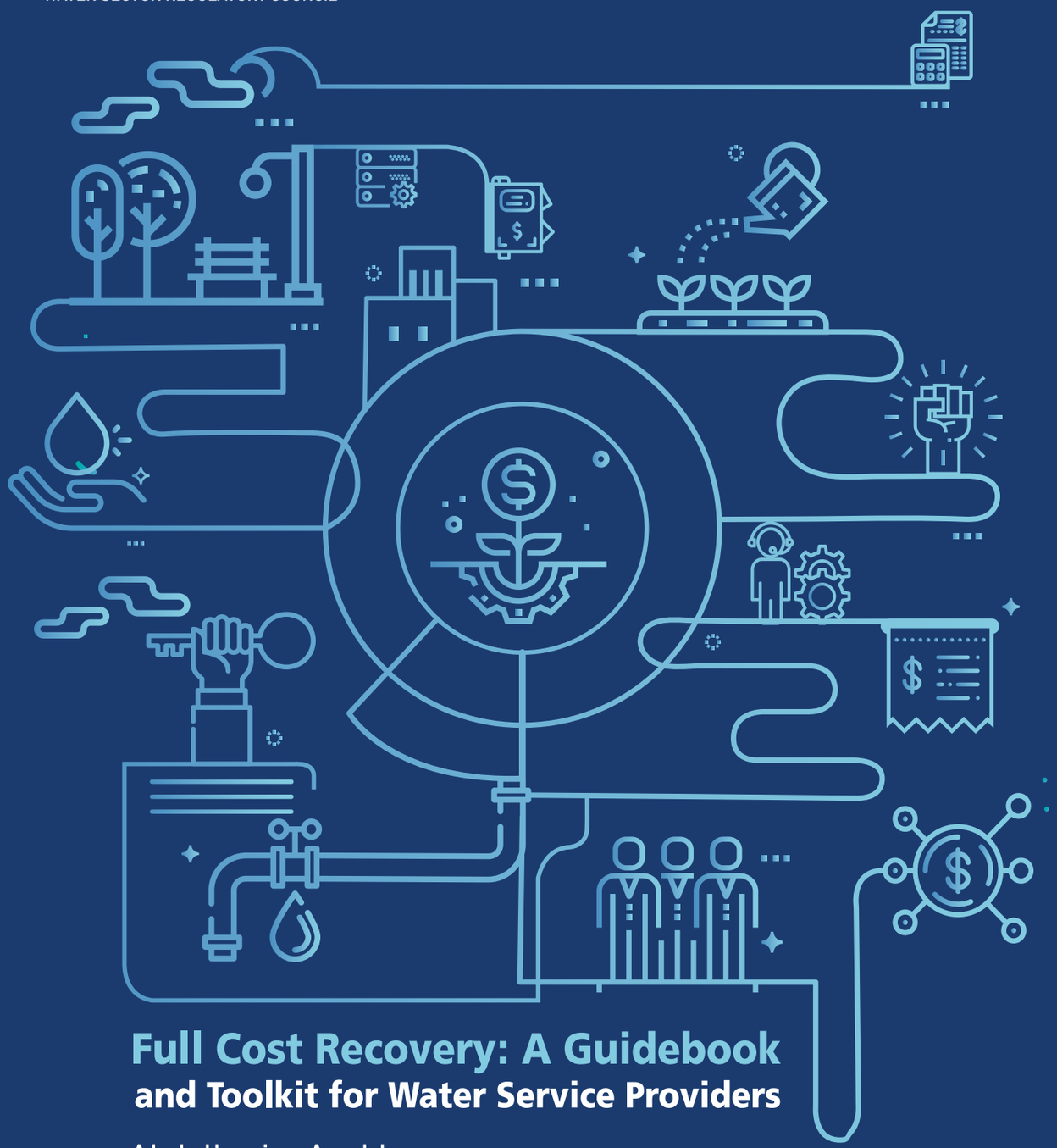
WSRC

مجلس تنظيم قطاع المياه

WATER SECTOR REGULATORY COUNCIL



Full Cost Recovery: A Guidebook and Toolkit for Water Service Providers

Abdelkarim Asa'd

August, 2018

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You can download the guidebook through the following link:

https://buff.ly/2ML0p6C

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Forward

As the Decree-by-Law NO. 14 of 2014 stands, the Water Sector Regulatory Council (WSRC) has been established and dedicated to «monitor all matters related to the operation of water Service Providers, including production, transportation, distribution, consumption and wastewater management, with the aim of ensuring water and wastewater service quality and efficiency to consumers in Palestine at affordable prices.»

The Decree vested a suite of powers in the Council, including approving water prices based on well-thought grounds, among others, full cost recovery. Article 3 of the Tariff Regulations of 2013 provides,

'Water and wastewater service providers shall set prices in accordance with the Tariff Criteria on the grounds below:

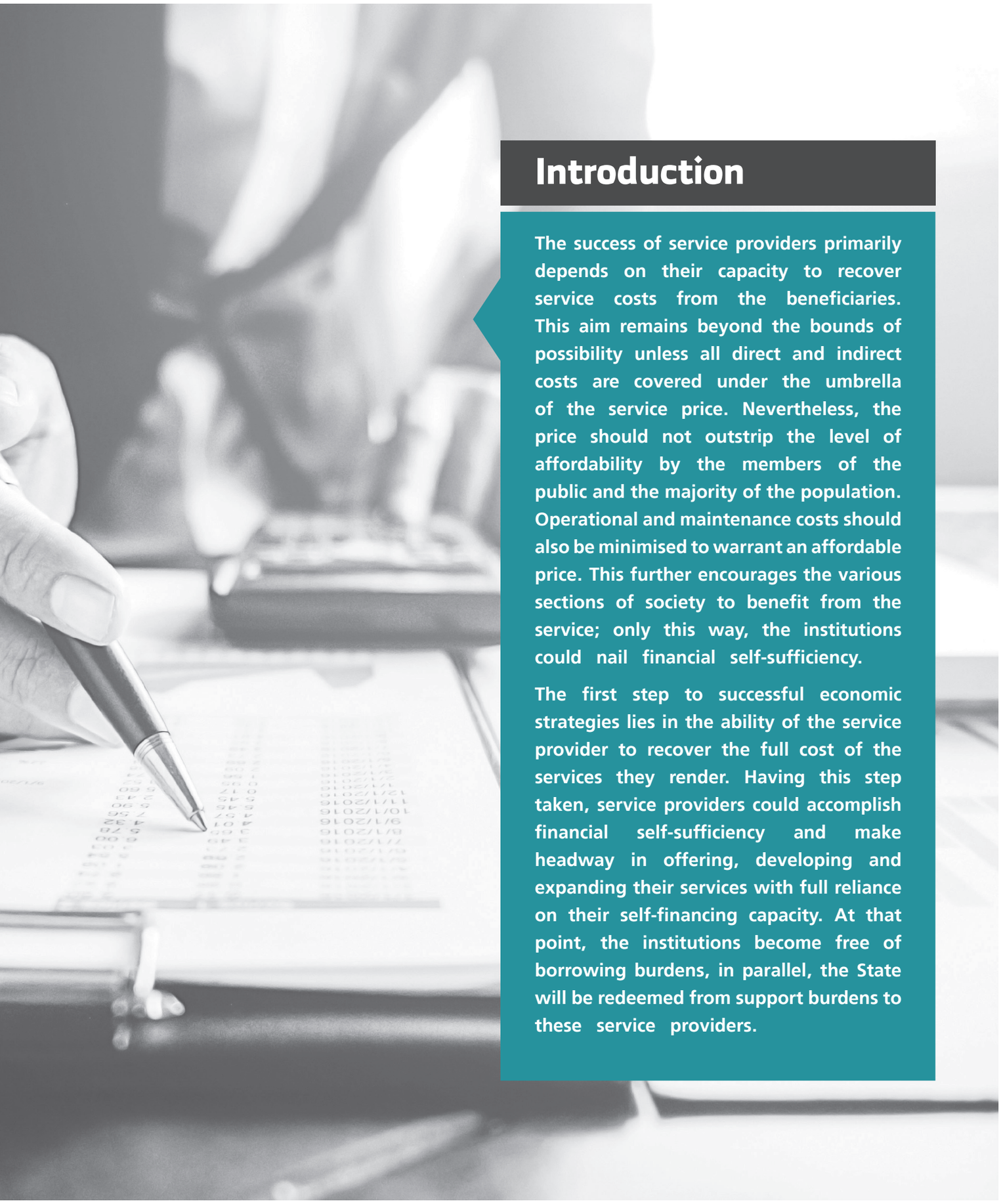
- Cost recovery: The approved tariff shall include cost recovery by the water and wastewater service providers. Full cost recovery shall be made by securing revenue that covers operational and maintenance costs, and the allocations of actual fixed asset depreciation, loans, interests, and development investments;
- Social justice: Tariff structure shall ensure a price that limited-income households could afford to meet their basic consumption needs;
- Economic efficiency: Tariff structure shall provide an economically efficient price for the high levels of water consumption to encourage the conservation of water resources.'

In this spirit, the WSRC monitors the performance of water and wastewater service providers, wielding a range of technical, financial and quality indicators to ensure that the costs of water and wastewater production, transportation, distribution and treatment serve the interests of all stakeholders and that the performance of service providers goes in line with the relevant national strategies.

This Guide is tailored to help water and wastewater service providers embrace the best practices to achieve full cost recovery. The Guide is informed and rock-bedded on an applied all-embracing study on this issue by:

Abdelkarim Asa'd, the Chairman of the WSRC

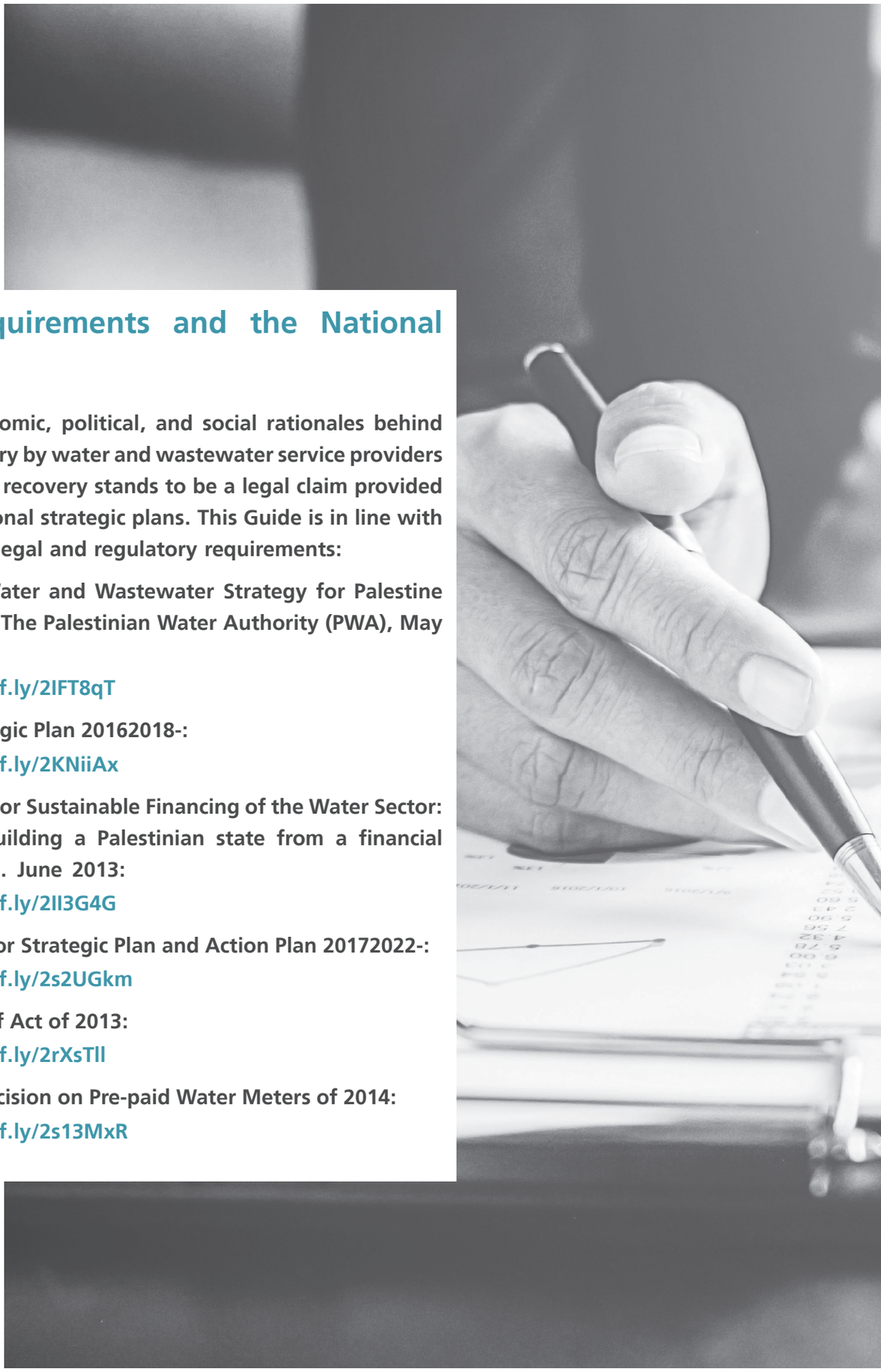
To facilitate the core content of this study, Ramez al-Madhoun, a WSRC Advisor, adapted the study into a plain hands-on guide for the benefit of water service providers.



Introduction

The success of service providers primarily depends on their capacity to recover service costs from the beneficiaries. This aim remains beyond the bounds of possibility unless all direct and indirect costs are covered under the umbrella of the service price. Nevertheless, the price should not outstrip the level of affordability by the members of the public and the majority of the population. Operational and maintenance costs should also be minimised to warrant an affordable price. This further encourages the various sections of society to benefit from the service; only this way, the institutions could nail financial self-sufficiency.

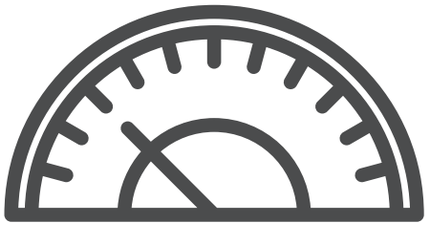
The first step to successful economic strategies lies in the ability of the service provider to recover the full cost of the services they render. Having this step taken, service providers could accomplish financial self-sufficiency and make headway in offering, developing and expanding their services with full reliance on their self-financing capacity. At that point, the institutions become free of borrowing burdens, in parallel, the State will be redeemed from support burdens to these service providers.

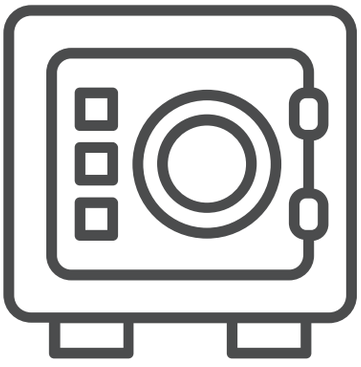


Legal Requirements and the National Strategy

All other economic, political, and social rationales behind full cost recovery by water and wastewater service providers aside, full cost recovery stands to be a legal claim provided for in the national strategic plans. This Guide is in line with the following legal and regulatory requirements:

- **National Water and Wastewater Strategy for Palestine 20162018-. The Palestinian Water Authority (PWA), May 2014:**
  https://buff.ly/2IFT8qT
- **PWA Strategic Plan 20162018-:**
  https://buff.ly/2KNiiAx
- **Strategies for Sustainable Financing of the Water Sector: Towards building a Palestinian state from a financial perspective. June 2013:**
  https://buff.ly/2II3G4G
- **Water Sector Strategic Plan and Action Plan 20172022-:**
  https://buff.ly/2s2UGkm
- **Water Tariff Act of 2013:**
  https://buff.ly/2rXsTll
- **Cabinet Decision on Pre-paid Water Meters of 2014:**
  https://buff.ly/2s13MxR





Why do we seek **full cost recovery?**

First: to meet the strategic, legal, and regulatory requirements of the State by:

- Applying the relevant regulations, legislation, and laws in force;
- Achieving sustainable development in the water and wastewater service sector;
- Cementing the public trust in the water service providers;
- Benefiting the water service providers from legal facilities and incentives provided by the sector regulator; and
- Promoting transparency with a view to reducing unnecessary or exagerated costs.

Second: to cope with the lack of self-financing of operations and investments due to:

- The inadquate water and wastewater service tariffs;
- Poor billing and collection;
- Poor government support;
- High operational costs;
- Undue increase in the administrative costs;
- Using water and wastewater revenues for other purposes;
- Limited area of service, in many sites; and
- High percentage of non-revenue water (NRW).

Third: to act proactively in response to the fact that donors and international organisations interest will not continue at one point, since:

- International and humanitarian crises necessitate immediate intervention in other parts of the world;
- The global economic crisis leads some donors to austerity; and due to
- The weak responsiveness to the donors' requirements, especially in project implementation duration and techniques; as well as
- Changes in the priorities and agendas of some donors.

Fourth: to avoid turning our service providers into a burden on the State and citizens, who should benefit from their services, due to:

- Increasing levels of indirect support (net borrowing) and deduction of government due receivables from the Israeli side;
- Deterioration of basic infrastructure and direct dependence on the public in financing the maintenance and expansion operations; and
- The inability of municipalities and water services providers to meet their urgent obligations.

Fifth: to avoid the providers and the State borrowing under inequitable terms, as

- High-interest bank loans lead to higher services prices;
- The main part of the service provider revenue is used for debt service rather than improving services quality.

Sixth: to prevent make the public treasury dependent on external debts (interest and loan instalments), which leads to:

- Curtail the government direct support for municipalities and water service providers;
- Cancel or reduce tax facilities granted to services providers;
- Channel a major portion of taxes to external debt service; and
- Private sector that is averse to invest in the water and wastewater sector.

Seventh: To avoid a qualitative collapse in the services provided to the population, including:

- Long interruptions to the water supply;
- Inadequate proactive maintenance;
- Increasing drinking-water contamination risks;
- Poor sewerage network and sanitry sewer overflow;
- Environmental pollution and disease outbreak risks due to poor or non-treatment of wastewater;
- Unfair provision of water and wastewater services; and
- The failure to respond to the public inquiries and complaints by the service providers.

The basic standards of full cost recovery achievement:

1. Sound management and capacity building;
2. Work environment;
3. Regulated water sector and robust, regulatory and strategic policies and procedures;
4. Accounting system: implementation of accrual-basis accounting (full accrual basis, modified accrual basis, and chart of accounts);
5. Asset management (asset registration and valuation and depreciation treatment);
6. Full actual cost callcuation and sound accounting treatment of grants (direct and indirect costs, paid and deferred costs, depreciation and reserves, grant amortisation, and reinvestment account creation);
7. Tariffs and pricing: Appropriate tariff selection (tariff models, guidelines for selecting and building an effective tariff);
8. Efficient production and distribution means (maintenance and utilisation of appropriate technology);
9. Appropriate economic scale of the service provider;
10. Public awareness: Awareness-raising and public participation;
11. Private sector involvement;
12. Water sector regulation.

«Please note that full cost recovery standards as mentioned above are in line with the following cause and effect matrix given it is tailored to be used by newly established or under-establishment service providers. The organisation of the chapters is based on the needs and priorities of existing water service providers and water departments.»

Cause and Effect Matrix

Failure to achieve full cost recovery leads to internal attrition of the service utility, and deterioration of services, and eventually, a full collapse of the establishment. The following matrix illustrates the negative impact of the absence of full cost recovery in water service utilities by a reverse system to explain the causes behind certain consequences or problems. Consequently, the effect/ problem will be solved by correcting and treating the mentioned causes.

Main cause	Details	Sub-effects	Main Effect
Poor management	• Lack of a long-term strategic plan; • Lack of a medium-term development plan; • Lack of an annual short-term outreach and operational plan; • Lack of administrative and operational contingency Plan; • Lack of a delegation matrix; • Lack of an objective performance assessment system • Poor financial supervision; • Lack of a practical incentive system; • Lack of effective public service centres • Lack of effective and accurate management information system.	• The top management is unable to make sound decisions	Internal deterioration of the establishment and loss of existence and sustainability foundations
Human resources development (i.e. optimal use of human resources, training, and organisational development)	• Lack of a clear obligatory organisational structure in place; • Lack of accurate job description for each job; • Lack of commitment by the institution in regards to the job descriptions, if any; • Lack of gap analysis of staff skills and capacities; • Lack of periodical training needs assessment (TNA); • Lack of clear and established promotions and incentives system; • Lack of transparency in promotion and incentive system implementation, if-any.	• Decline of staff competence and potential; • Failure of the institution to keep up with quality standards of the provided services; • Lack of optimal utilisation of human resources	
Lack of water sector regulator empowerment, and incompletion of effective regulatory procedures (i.e. price control, and financial and operational efficiency indicators(	• Poor price control; • Lack of a legal performance based incentive scheme; • Overlapping of powers with other service regulators; • Poor analytical information systems and performance indicators; • Weak binding legal procedures; • Weak information network of the customer service; • Lack of relevant regulations and policies; • lack of or poor level of coordination between the private sector and service providers in contingencies.	• Absence of confidence in the quality and cost of the public services provided; • Customers are subject to unfair monopolistic terms; • Lack of interest in improving the quality of services by service providers	
Implementation of cash basis accounting in lieu of the accrual based accounting (i.e. full accrual basis, modified accrual basis, and chart of accounts)	• The transactions that affect cash in hand and in bank account are exclusively recorded; • Depreciation and reserves are not recorded; • Deferred expenses are not recorded; • Revenues received in advance are recorded in the accounts of the current annum (not recognised in relevant period's accounts); • Uncollected revenue of the current year has no effect on the year's accounts • No balance sheet or statement of activities is prepared; • Assets and liabilities are not shown in the financial statements; • Actual costs cannot be worked out; • Closing accounts do not reflect the financial position of the service provider.	• Lack of sound financial planning; • Deterioration of the service provider's financial position; • Loss of some assets.	

Main cause	Details	Sub-effects	Main Effect
Lack of proper registration and management of fixed assets (asset registration, evaluation, and depreciation management)	• Lack of a fixed asset inventory; • Lack of a periodical/ annual re-valuation of asset; • Lack of adequate fixed asset recording and entering; • Lack of recording and implementing assets depreciation; • Lack of an asset management plan.	• Asset deterioration; • Weakening the financial position of the service provider.	Internal deterioration of the establishment and loss of existence and sustainability foundations
Lack of actual cost calculation and lack of sound financial treatment of grants	• Lack of accurate cost centres • Operational grants and contributions are not recorded as costs; • Not accounting for fixed asset depreciation; • Not accounting for capital grant amortisation; • Not accounting for indirect cost in multi-service municipalities and utilities; • Not accounting for costs paid in advance from previous periods; • Not accounting for deferred cost.	• Failure to accurately determine the financial burdens; • Inaccurate tariff; • Inflated net revenues of the establishment as full costs were not recorded.	
Inappropriate tariff selection (tariff models, instructions on selecting and building a robust (tariff	• Insensitivity of applied tariff to the prevailing economic conditions; • Inflexible tariff that does not match with the provided service; • Ambigous exemption policy; • Lack of studies of affordability and willingness to pay before applying the tariff; • Lack of correlation between tariffs and actual costs of service • Lack of tariff for contingency or temporary works; • Lack of price incentives to prevent or reduce pollution and overuse of water.	• Poor level of revenues; • Poor level of collection; • Unwillingness to pay by customers; • Lack of public compliance with water conservation and pollution prevention	
Poor work environment	**Physical work environment** • Difficult access and poor logistic services in the workplace; • Confined work space; • Unhealthy work environment; • Inadequate safety and security facilities; • Inappropriate nor sufficient tools and equipment.	• Establishment high costs; • Establishment low productivity; • Frequent work accidents.	
	Administrative work environment • Lack of transparency and accountability; • Lack of equity and equality in employment and promotions; • Weak legal framework within the institution; • Lack of wisdom in senior management decisions; • Inefficient meetings; • Poor establishment commitment to the values of, equity, fairness and integrity; • Monopolised decision-making process.	• Staff poor sense of loyalty and affiliation to the establishment; • Declining establishment performance; • Increased nepotism practices; • Inefficient administrative decisions.	

Main cause	Details	Sub-effects	Main Effect
Inefficient production and distribution methods (maintenance and utilisation of appropriate technology)	• Lack of a sustainable proactive maintenance plan; • Lack of an interactive database to identify faults and their frequency; • Lack of water meters testing and calibration bench • Non-implementation of supervisory control and data acquisition system (SCADA) • Non-utilisation of prepaid water meters; • Absence of energy management and saving plan; • Absence of an effective contingency plan to distribute water to the most affected sectors.	• Increase in operation and maintenance costs; • Loss of anticipated returns; • Lack of customers' confidence in the adequacy of the distribution system - vandalism of water networks.	Internal deterioration of the establishment and loss of existence and sustainability foundations
Inappropriate economic scale of the utility	• Non-expansion of service beneficiaries; • Incomplete utilisation of production and distribution network ; • Higher asset value per customer; • Decrease in customer numbers per linear meter of water network • Drop in the percentage of net fixed asset returns	• Unjustified increase in the operational and maintenance costs; • Unjustified increase in administrative costs.	
Social factors- Poor public awareness	• Lack of direct communication channels with customers • Lack of continuous awareness programs; • Lack of consideration to social and cultural circumstances in the distribution area; • Lack of transparency in making the financial reports public; • Lack of a legal and institutional environment that encourages the public to report network vandalism and thefts; • Absence of a plan to support vulnerable groups; • Weak public environmental education	• Lack of public confidence in the service provider; • Increased vandalism practices of water networks; • Wide spread-out of health and environment harmful practices; • Decrease in willingness to pay among customers.	
Lack of effective Private Sector Participation	• Not buying the private sector services in costly services; • Not buying the private sector services in management of the water supplying system, fully or partially;; • Not buying the private sector services in billing and collection processes; • Not buying the private sector services in customer service centres; • Lack of effective utilisation of the private sector›s capabilities in contingency cases; • Not buying the private sector services in areas not serviced with wastewater collection network; • Insufficient coordination with the private sector in public awareness activities.	• Possible occurance of unjustified costs to the establishment; • Loss of opportunities to improve the quality of the services provided; • Poor level of emergency services; • Declining of customer services level; • Loss of private funding opportunities.	

Assets Management

«Assets Management»

Fixed assets

Casting a glance over the records of the majority of public service providers could tell us that they lack sound asset entries or financial records such as buildings, networks, stations, and establishments in addition to asset additions, or write-off. This state of affairs arises because the service providers do not use a financial basis of accounting that requires fixing assets in the balance sheet; thus depreciation allocations to be deducted from the revenues of that fiscal year. As a result, the depreciation value is not accounted for as part of the service cost. In the few or rare cases where we find historical records of assets, the recorded value still does not reflect the actual cost or the replacement value of the assets. Leaving the impact of inflation out misleads the service providers to reduce cumulative depreciation allocations. This, in turn, hinders the service providers to finance the operations of asset replacement, and eventually end up with below-cost pricing.

Improper asset management features:

- The records of water service providers that apply cash basis, do not present any financial entries of their assets;
- Depreciation is not included in the provided services cost;
- The annual depreciation allocation is not deducted from the revenues of the relevant fiscal year;
- The depreciation cost does not affect the outcome of the activities of the service provider;
- No depreciation allocation is made to cover the asset depreciation;
- Lack of funds to replace assets upon the expiry of their service life.

Management and record of assets

Management and recording of assets process is a continuous process throughout the financial periods of any service utilities. Having a vital impact on working out the actual cost of the service provider's operations and development and expansion capacity, asset management and recording warrant a high level of accuracy. Further, it affects the service provider's financial position and surplus or deficit levels that emerge from the service provider's operations.

The process of recording and managing the institution›s assets have to be accomplished by precise and interrelated stages, as illustrated in the following figure:

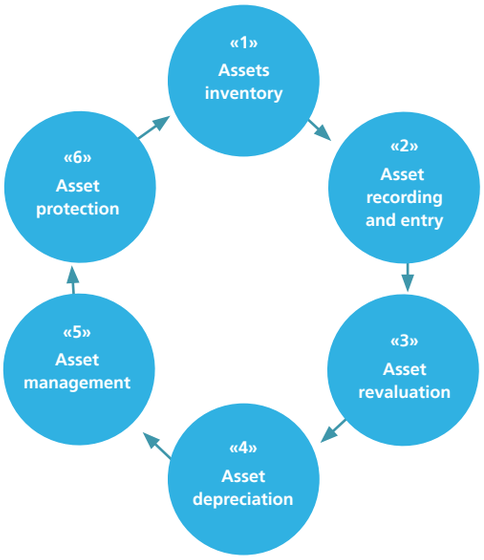


Figure 1: Asset Management and Recording Cycle

Pillars of Asset Management and Record:

Item	Asset inventory
Definition	Numerical and descriptive identification of the assets the service provider/utility has.
Primary and operational requirements	• Asset records and preliminary lists of the departments, administration sections, and the utility at large are available. • Stock records (spares and supplies)

Item	Asset recording and entry
Definition	Asset recording in financial and operational records according to the accounting and administrative fundamentals
Primary and operational requirements	• Create a cost and revenue centre for all of the activities of the utility, and link each asset with the appropriate cost and revenue centre; • Create clear statutory books and records of assets, including assets valuation, valuation date, valuation amount, etc.

Item	Assets revaluation
Definition	Adjusting and correcting the actual value of assets according to their current status and prices
Primary and operational requirements	• Actual value- records of the purchase cost of assets are available; • Certified records from the external auditor or an approved evaluation committee to estimate the actual value of the purchase cost if there are no original purchase documents • Certified record from an external auditor of the depreciation instalment value per asset according to the accounting procedures, and updating the accumulated depreciation record for each asset; • Technical assessment of the status of the asset regardless of the purchase date.

Item	Asset depreciation
Definition	Recording and accounting method of depreciation allocations and total asset depreciation allocations and demonstration of the financial effect of depreciation instalments in the balance sheet and cost sheets.
Primary and operational requirements	• Asset depreciation account in place; • Posting the values of depreciation allocations for each asset to “depreciation allocation” account; • Application of the accounting standards in respect of depreciation instalment calculation;

item	Asset management
definition	An integrated management plan in place in the utility/service provider (figure 2 below)
Primary and operational requirements	• Valuation, classification, and numbering of all assets; • Identification of the asset status and useful lifespan; • State requirements of performance standards, working methods, devices and systems; • General safety requirements and the extent to which equipment and assets fulfil these requirements; • Environmental requirements per the applicable regulations and the extent to which the devices and assets of the service provider meet the standards, regulations, and specifications; • Technical and standard specifications and the extent to which the devices, equipment, and establishments of the service provider comply with these specifications; • Determination of expansion plans based on the projection demand, population growth, geographical area, and water consumption expectations; • Development of a financial plan to invest in assets, and identification of the costs of these investments depending on the expansion plan; • Development of a cash flow plan for the service provider, which indicates the impact of purchase or replacement of assets; • Budgeting the costs of the products of the utility/service provider, showing up the effects of the asset investment plan on these costs.

item	Asset management
definition	A written, documented, and applied plan and procedures to preserve, secure, protect and insure the assets in order to sustain the financial and operational value of the asset for the benefit of the utility/service provider;
Primary and operational requirements	• Asset and facility protection procedures in place; • Insurance of the assets and negotiation with the insurance companies on the terms of asset insurance; • Application of safety and prevention procedures, which are stipulated in the operations or transport manuals, to the assets; • Accurate maps that show the geographical locations and the asset storage locations; • A valid identification card for each asset that presents all the relevant details including item name and number (table "2" below)

Table 1: Pillars of Asset Management and Record

Figure 2: Asset management plan elements

Asset records should show the following data for each asset:

#	Statement	#	statement	#	statement
1	asset name	9	number of actual years in service	17	asset capital improvement value
2	asset No.	10	serial number	18	remaining lifespan of assets after improvements
3	supplier	11	production year	19	purchase currency
4	local maintenance agent	12	manufacturer	20	asset value after revaluation
5	date of acquisition	13	country of origin	21	applied annual depreciation rate
6	date of installation	14	installation site	22	revaluation date
7	acquisition value	15	Useful lifespan	23	name of assets assessor
8	replacement value	16	asset photo		

Table 2: Elements of assets identification card

Valuation of assets below their actual value leads to:

#	Assets
1	An apparent decrease in the cost and price of the service
2	Providing the management with misleading reports and figures
3	Weak planning potential in respect of replacing assets by the ending of their lifespan or finding spare parts when need be;
4	Reducing the rate of return on assets: • Financial surplus (before tax and interest) ÷ net fixed assets*100
5	Lack of exact comparison of the actual results with other service providers in the water sector
6	Disruption of the average lifespan of fixed assets: • depreciation value of fixed assets÷ historical value of these assets*100 • (this demonstrates the status of the assets of a service provider/utility or municipality)

Table 3: Disadvantages of under valuation of assets

Assets insurance

Extra attention should be given to insurance by water service providers (i.e. water utilities, municipalities, or joint service councils), since most of them do not pay enough attention to the insurance of their assets. Such lack of consideration casts its shadow over the costs of production and provision of water and wastewater services in the case of accidents, vandalism, damages, and robbery of the service provider's assets.

Insurance maintain assets and protect continuity

Water service providers have to insure their assets and facilities (against the following risks (examples

Collision

Explosion

Earthquake

Fire

Insurance of cash in the safe

Equipment and material robbery

Electrical short circuit

Machinery breakdownv

Public liability (third party) insurance

Insurance of equipment and devices in transit or during installation & dismantling

Computer and device accidents (drop down)

Insurance of cash in transit

Workplace accidents and injuries

Comprehensive/third party vehicle insurance

Preparation of insurance terms of references

To prepare and have an insurance coverage that protects the utility/service provider and their assets and employees from the various risks and save repair and compensation costs the service provider may incur in the absence of an appropriate insurance coverage. The following key steps have to be taken:

#	Action	Details
.1	Identify the assets to be insured	A detailed statement per asset to be insured
.2	Value to be insured	1. Identification of the amount to be insured; 2. Identification of the basis on which the insured value was set • Replacement value (asset replacement value) • Historical value (assets purchase price) • Re-valuated assets (assets value after the last revaluation)
.3	Identify the risks to be insured against	Clear and specific identification of the type(s) of risks to be insured against, as the presented examples in the previous page
.4	Identify insurance coverage value for each asset	1. Recovery amount of asset value affected by risks; 2. The value of road accidents compensation; 3. The value of work accidents compensation in accordance with law; 4. The value of civil liability compensation.
.5	Identify the policy period covered by insurance	Identification of the exact start and end of insurance policy taking into consideration local and international time differences
.6	Request an insurance policy sample, and read the terms and conditions including the endorsements in the back	1. Reading the terms of insurance, cancellation, exceptions of contracts and insurance policies, especially insurance terms that are written on the back of the insurance policy; 2. Keeping a certified copy of the agreed insurance terms
.7	Request the names and addresses of ""reinsurance companies	This information is taken to double check the strength and solvency of the insurance company
.8	Request a list of outstanding claims that are not paid yet by the insurance company	to make sure of the ability of the insurance company and reinsurers to cover insurance claims at a specific time without undue delay
.9	taking the necessary precautions asked by the insurance company: fence, gates, fire resistance alarms, and guarding	to assure that there are no insurance coverage problems as a result of not implementing the requirements of insurance terms, which causes a severe loss in the institution

Table 4: The Preparation Steps of Insurance TORs

Jerusalem Water Undertaking Terms of Reference for a Risk Management Plan

https://buff.ly/2s2nslf

Accounting System

Municipalities and public service providers in Palestine follow the Government single-entry bookkeeping system that is solely based on the cash received and cash paid without taking due account of the amounts due, accrued expenses, asset depreciation, or reserves. The final accounts of the service providers do not show their actual financial situation and position. Therefore, it is necessary that the public service providers embrace and implement full accrual based accounting or modified accrual based accounting to ensure sound and robust bookkeeping. Accrual based accounting makes it possible for them to extract results and identify their actual financial position on a given date.

Serving as a control system, accrual based accounting:

- Detects errors and minimise risks of fraud because it is based on a balanced trial balance;
- Allows the trial balance to determine whether balances are being soundly posted;
- Identifies the financial position of the service provider at any date during the fiscal year; and above all this,
- Allows the calculation of actual costs to be compared with the price set in the tariff.

Cash Basis Accounting vs Accrual Accounting and the impact of each on full cost recovery

Points of Comparison	Cash Basis	Accrual Basis
Transactions are recorded despite no cash being paid out or received	X	✓
Depreciation and reserves are recorded	X	✓
Accrued expenses are recorded upon incurrence even if not paid yet	X	✓
Deferred revenue for the next annum is recorded in the journal entries of the current year, but its effect appears in the statements of the next fiscal year.	X	✓
Uncollected revenue effects are reflected in the financial ratios, balance sheet, and doubtful debts, and thus affect the costs as well.	X	✓
A balance sheet and statement of activity could be generated at the end of the fiscal year.	X	✓
Assets appear in the financial statements, records and reports.	X	✓
Statements reflect the actual service cost.	X	✓
Final accounts reflect the financial position of the service provider.	X	✓

Table 5: Cash Basis Accounting Vs Accrual Based Accounting

Building Blocks for Accrual based Accounting system:

Category	Details
Chart of accounts (COA)	A tool that provides the names and numbers of accounts and cost centres.
Accounting records	The key sources of data for the accounting system.
Bookkeeping	The process of recording financial transactions in cost centres and extracting the balances of the accounts in the financial records.
Accounting entry	The translation of accounting transactions into entries. Each accounting transaction has two effects: a credit effect and debit effect.
Financial Reports	• Activity statement; • Balance sheet; • Cash flow statement; • Opening balance sheet.

Table 6: Building Blocks for Accrual based Accounting system

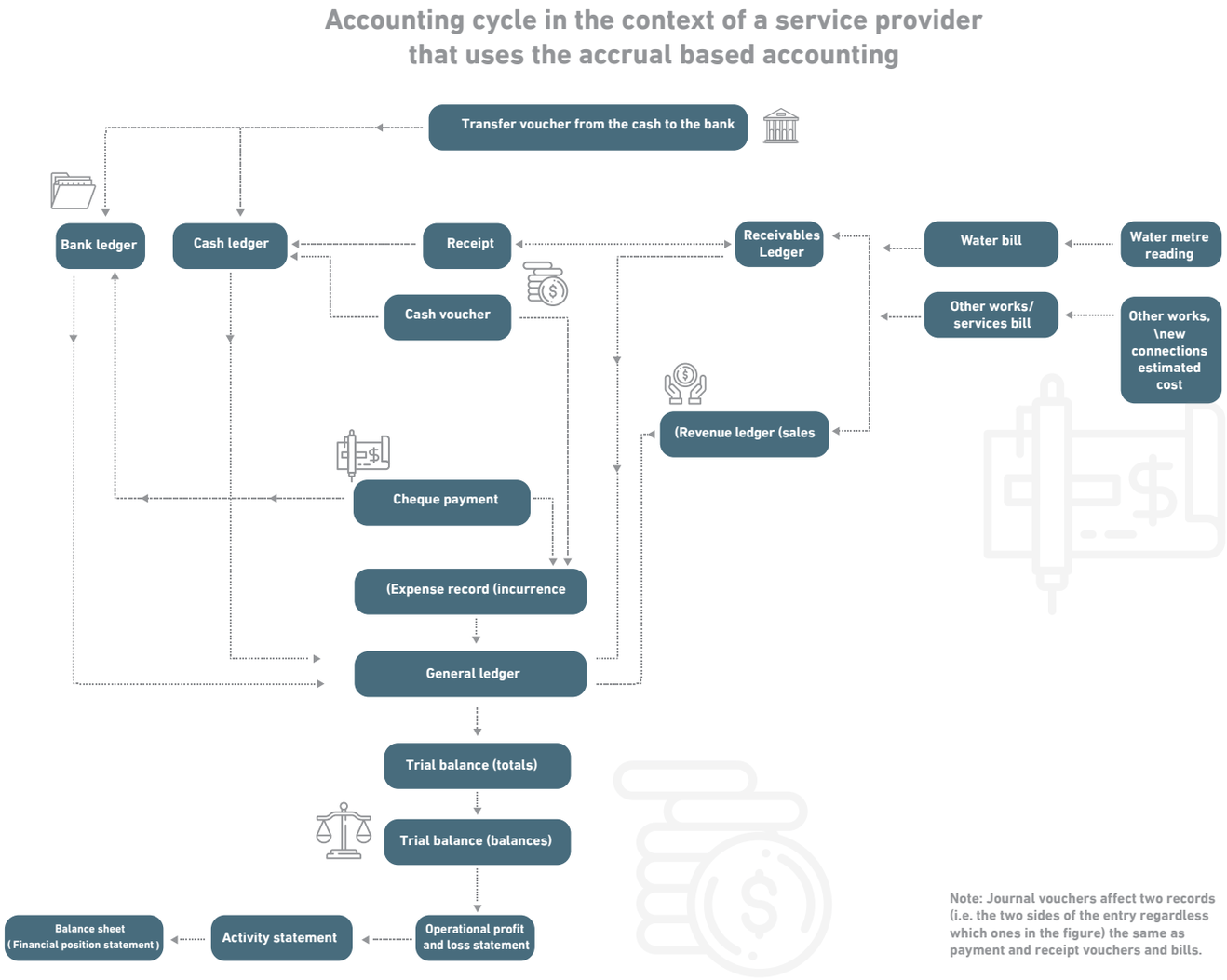


Figure 3: Accounting cycle in an institution that uses the accrual basis of accounting system

The stepping stones to make the transition from cash basis to accrual based accounting:

1. Appointing a chartered certified accountant or financial consultant;
2. Setting the issue deadline for the opening balance sheet (as a road mark to suspend the cash basis accounting system);
3. Making a fixed assets and warehouse inventory (quantity & value) according to purchase prices
4. Revaluating the fixed assets;
5. Drawing up the depreciation table in line with the regulations in force;
6. Identifying the current assets (i.e. cash in hand and at bank, stocks, debts payable to the service provider);
7. Revaluating the debts owed to the service provider;
8. Identifying revenues received in advance;
9. Identifying long-term liabilities (i.e. loans, pensions, and end of service gratuity);
10. Identifying short-term debts;
11. Identifying other accounts payable, including deferred revenue;
12. Identifying paid-in capital, if any;
13. Working out net equities (the complement between debit accounts and credit accounts, i.e., the difference between assets and liabilities);
14. Developing an opening balance sheet.

The accounting and financial systems proposed to be adopted by public service providers have to be compatible with those used in the private sector; thus:

- The activities of the service providers need to be divided into cost centres (see chart 2);
- Each cost centre incorporates the expenditure related thereto from chart 1 by converting the expenses related thereto to it;
- At the end of the fiscal year, the service provider needs to arrange an activity statement and a balance sheet, demonstrating the activities of the institution during the year;
- These results should be furnished to the board or the general assembly of the service provider to discuss them and take stock of what has been achieved during the reporting year;
- The results should be wielded to inform further plans.

A schedule of proposed accounts of a water service provider, including, assets, liabilities, revenues, and expenses:

Assets and liabilities	Costs 300	Expenses 400	Revenues 500
Assets 100	Production 310	Management 410	Operational revenues 510
Cash in hand 110	Wages 311	Salaries 411	Water sales 511
Cash at bank 120	Material and supplies 312	Insurance 412	Water supply fees and charges 512
Accounts receivable 130	Electricity 313	Electricity 413	Water meter fees 513
Customers' outstanding balance140	Depreciation 314	Telephone 414	Other revenues 520
Under-implementation projects 150	Miscellaneous 315	Miscellaneous 415	Interests 521
Material and supplies 160	Water purchases 316	Stationery 416	Other revenues – grants 522
Fixed assets 170 Accumulated depreciation 270	Pumping and distribution 317	Municipal taxes 417	
Deferred expenses 180	Wages 318	Auditing fees 418	
Liabilities 200	Material and supplies 319	Transportation 419	
Accounts payable 210	Electricity 320	Selling expenses 420	
Loans 220	Consumption 321	Salaries 421	
End of service compensation reserves 230	Miscellaneous 322	Material and supplies 422	
Equities – reserves 250		Miscellaneous 425	
Surplus/deficit 260			

List 1: Proposed accounts of a water service provider

Responsibility centres	Primary cost centres	Secondary cost centres
Production and supply centre	Water production centres	Wells # 1, 2, etc.
	Water purchases	Connections # 1, 2, etc.
Distribution centre	Pumping centres	Pumping station 1 Pumping station 2 Pumping station 3 Etc.
	Reservoirs	Ten reservoirs (1,2… 10)
Water selling centre	Connections Water meters/customer services Debt collection	New connections, water supply reconnection, others Water meter reading Water meter operator Customer bills
Management centre	Management	General administration, human resources, secretariat, procurement
	Computer	Warehouse
	Accounting	Cashier, warehouses, and accounting
	Transport	Fleet and transportation

List 2: Cost Centres

Service providers cannot kick-start the implementation of accrual based accounting systems and the resulting final accounts unless they:

Arrange an opening balance sheet that serves as a starting point towards full application of such systems; to that end, this balance sheet needs to show the opening financial position of the service provider at the beginning of the fiscal year (or on the transition from the cash to accrual based accounting.) In the same vein, this balance sheet should show fixed and current assets of the service provider as assets and the debts, liabilities and equities, including loans and paid-in capital (if any) as liabilities.

Opening Balance Sheet (Form) as of .....

Assets	Subtotal	Total	Liabilities	Subtotal	Total
Fixed assets			3. long-term liabilities:		
Land	Xx		Loans	Xx	
Buildings	Xx		End of service gratuity	xxx	
Water stations	Xx		**long-term liabilities:**		**XXXXXX**
Water networks	xxx				
Wastewater networks	Xxx		4. Short-term liabilities:		
Electric generators	Xx		Overdrafts	Xx	
Heavy equipment	Xx		Due cash payments	Xxx	
Fleet	Xxxx		Revenues received in advance	Xxx	
Fixed assets		**XXXXXX**	**Short-term liabilities**		**XXXXX**
2. Current assets			5. Equities:		
Cash	Xx		5. Paid-in capital	Xxx	
Cash at banks	Xxx		Net equity (difference between total assets and total liabilities)	Xx	
Deferred expenses	Xx		Total Equity		**XXXX**
Accounts receivables	xxx				
Inventory	xxx				
Current assets		**XXXXX**			
Total assets (1+2)		**xxxxxxxxx**	**Total liabilities (3+4+5)**		**xxxxxxxxx**

List 3: An opening balance sheet

This Guide complies with article 6 of Water Tariff Regulations of 2013 https://buff.ly/2rXsTll

It is also in line with the Strategies for Sustainable Financing of the Water Sector. https://buff.ly/2II3G4G

Note: Net equity is either:

- A credit balance, in this case, equity is a surplus; or
- a debit balance (in this case, equity is a deficit).

Sound financial processing of grants from international donors for reconstruction purposes:

Palestinian economy reconstruction warrants mega investments. To that end, various economic authorities conducted studies and needs assessments for all sectors. The basic services and infrastructure sector stands for the lion's share of the reconstruction plans. Infrastructure reconstruction projects are fuelled by soft loans and grants by international donors as well as the PNA budgetary allocations. For the purposes of this Guide, grants are what concern us here regardless of their source or whether it is exclusively provided to finance government projects or public service projects for the benefit of water, electricity, wastewater, solid waste, road service providers.

What makes international reconstruction grants by international donors stand out?

- The grants hailing from international donors have a moral value that must benefit the next generations;
- Grants need to be amortised within a specific span of years;
- Grant amortisation raises the cost per produced unit;
- Amortised amounts of grants are converted to a revolving investment fund to be invested again;
- Revolving fund allocations are used to finance new assets not to replace existing depreciated assets;
- Several countries and service providers have acknowledged this grant method of management, accounting, and amortisation of grant funds.

Assuming that their service institutions and utilities apply commercial accounting systems, many chairpersons and accountants used to account grants as:

- other revenues, since grants, by definition, are funds made by donors to construct water or electricity networks, wells, or pumping stations;
- the beneficiary is not bound to amortise the grant by recording any costs of the grant, and thus it will not have any effect on the service production cost and final selling price.

In case a grant was provided in the form of an interest-bearing loan, it would be paid off in instalments, and thus the its annual interest should be recorded as an expense in the activity statement. Such an interest would raise the service cost and have a direct effect on the selling price.

Grant recording by a service provider whose policies require grant amortisation

Casting a glance over the Palestinian economic scene and the relations with the countries that have proceeded us in building their economies with the help of grants and loans, we could draw up a graph of our relation with the international donors:

- Eventually, the support of donors will come to a close one day; therefore, we must consider the situation and use the donors' funds to secure a sustainable stable source of finance after the donors leaving the scene;
- The funds provided by donors as grants are debts owed by this generation to the posterity because the infrastructure being constructed by these grants are for the benefit of this generation as well as the ones to come. For this reason, the current generation must not use up these grants at the expense of the posterity.

To that end, any financial or accounting processing of such grants must:

- ensure the grants are collected and reallocated to fuel an infinite number of new investments in pursuit of nonstop expansion, development, and improvement of service provision;
- get rid of the restriction imposed by loans that have been a yoke around the neck of many nations that used up the grants and took delight from consuming their capital and assets by offering their services at below-cost prices; consequently, they incurred increasing and accumulating losses year in year out; and
- build the insertional capacity to make headway in investment, expansion, and service improvement.

Therefore, our service providers, who benefiting from such grants, should:

- consider these grants as a moral financial debt owed by today's generation to tomorrow's generations;
- load part of these financial debts on each fiscal year, thus the beneficiaries from the service providers shoulder a portion of the moral value of these grants, that is grant amortisation.

To that end, service providers should dedicate a portion of the surplus per annum and withhold it in a designated account called «Revolving Investment Account».

The service provider may decide to amortise the grant over a span of 10 or 20 years by assigning 510%- of the grant value to the surplus and deficit account, thus increase the expenses of that annum or the production cost in that year by the amounts allocated to amortise the grant value.

The allocations per annum should be credited to a «Revolving Investment Account», which appears in the balance sheet under the liabilities as a credit that may be used to finance new capital investments and expenses and be entered as follows:

Debit grant amortisation account Credit revolving investment account

Grant amortisation has been touched upon in GZ-Emergency Capacity Building Project to the Palestinian Water Authority: Technical, Planning and Advisory Team in the Water and Wastewater Sector (TPAT).

"STRATEGIES FOR SUSTAINABLE FINANCING OF THE WATER SECTOR"

Note

Example No. 1 Activity statement based on the accrual based accounting:

Standing out from the crowd, Jerusalem Water Undertaking (JWU) (Ramallah and al-Bireh District) took the initiative to account for grants in its final accounts. In high hopes, JWU set the process in motion in 1993 to ensure firm revolving financial capacity in the light of the grants it received. JWU established revolving investment fund included the grants received since 1985. Ten percent of these grants and any other grants JWU receives are credited to the revolving investment fund.

The final accounts demonstrate how such grants are accounted for. Technically, the grant amortisation rate is added to the debit side of the activity statement. The same value is added to the side of liabilities in the balance sheet under new investment allocation reserves.

Water Service Provider.....

Activity statement as of 31 December, ...

Statement	Agora	ILS	Agora	ILS
Sale and distribution surplus (from trade and distribution account)			67	637075
Other revenues:				
Estimated water meter reading fees	00	28375		
Water supply reconnection fees	00	26185		
New connections	33	1468141		
Interest on late payments	03	462408		
Exchange differences	42	34808		
Miscellaneous revenues	17	111891		
Compensation amount for damages occurred to insured asset	00	31135		
Fractional requirements	55	81544		
Bank interests	74	136263		
Total other revenues			24	2380752
Total			91	3017827
Administrative and financial expenses	25	1602653		
Deductions	83	93163		
Works fee refunds	51	18319		
Administrative and financial expenses and deductions			59)	(1714136
Net revenues and sale surplus			32	1303691
New investment allocation (grant amortisation rate)			53)	(761498
Net surplus			79	542192

Example No. 2: Accrual based Balance Sheet

Water Service Institution.....

Balance Sheet as of 31 December, ...

Assets	Value		إجمالي	
	Agora	ILS	Agora	ILS
Fixed assets:				
Water networks, pumping stations, fleet, land, buildings, and computers	03	14045900		
Minus				
Accumulated depreciation	63	4275114		
Net fixed assets			40	9770785
Current Assets				
Cash in hand	27	81607		
Cash at banks	49	3507904		
Customers' debts	45	2176183		
Other accounts receivables	96	998825		
Advance deposits (sureties)	82			
Prepaid expenses	00	50		
Ending inventory	65	1296546		
Total current assets			64	8061118
Miscellaneous				
Accumulated deficit from previous years	11	2566677		
Minus net surplus in 1993	79	542192		
Net miscellaneous			32	2024484
Total assets			36	19856388

Liabilities	Value		Total	
	Agora	ILS	Agora	ILS
Long-term liabilities:				
Customers' deposits (sureties)	97	676		
Loans	59	375		
Asset replacement reserve	35	6312493		
Reinvestment reserve	**53**	**761498**		
Contingency reserve	61	7453778		
Debt interest reserve	82	716140		
End of service compensation reserves	63	4601459		
Total long-term liabilities			50	19846423
Short-term liabilities				
Project implementation performance bonds	06	523		
Cheques under collection	80	9441		
Total short-term liabilities			86	9964
Total liabilities			36	19856388

The Revolving Investment Account is not a substitute for the annual asset depreciation reserve. Both impact the income account, thus both should be taken into consideration to set the cost or price per service unit that needs to be recovered from the service beneficiary.

- The Revolving Investment Account is used to finance new investments or expand the scope of existing services.

NOTE

Only this way, we could be certain that the current generation does infringe the posterity's right to the grants and does not submit the nation and the national economy to international lenders. Having that mission complete will mean that we, Palestinians, have learnt from other experience at this front by benefiting from the grants we receive from the first time to establish revolving funds in pursuit of self-financing Palestinian service providers. In the same vein, each service provider should invest the balances of this fund in the most profitable and the least-risky projects.

Important

Reference: The Sustainable Financial Strategy for the Water Sector https://buff.ly/2II3G4G

«Cost Calculation»

Cost Accounting Definition:

Cost accounting is an art and science that has its own suite of accounting principles and fundamentals to estimate, collect, analyse and classify cost data to work out the cost per unit.

Cost Calculation Objectives:

- identify the cost per unit or service;
- control costs; and
- help make sound service pricing decisions.

Financial Accounting vs Cost Accounting:

Area of comparison	Financial accounting (FA)	Cost accounting (CA)
Scope	The utility at large	The departments and the activity centres related thereto.
Accounting period	A specific fiscal year	A specific cost accounting period
Data type	Financial	Quantitative and financial
Process type	Actual	Estimate and actual
Users	External (from the utility/service provider to external parties)	Internal (among the internal departments/activity centres of the utility/service provider)
Purpose(s)	To show the correct financial position of the utility/service provider;	To set the cost per unit, control costs and help the management of the utility/service provider;
Financial statements	Final accounts and financial position	Statement of activity results and bill of costs
Data confidentiality	Disclosed and public	Confidential and for internal use only
Data accuracy and clarity	Pervasive	Detailed and analytical

Table 7: Financial Accounting vs Cost Accounting

Cost centre is a circle of a specific homogeneous activities or services that include an array of similar production factors. The cost centre produces distinct measurable products or services such as water or electricity services.

- Expense and responsibility centres need to be identified to help implement a responsibility accounting system;
- The actual cost per centre of activity needs to be detected and measured; then cost centres should be analysed, distributed and allocated to the relevant cost units;
- Performance of each cost centre needs to be assessed by comparing the actual cost to the budgeted.

The rub lies in the failure of municipalities and public service utilities to work out the correct cost per service. Some only rely on the direct expenditure to allocate the cost; others consider direct and indirect production cost centres and call this process advance accounting.

In principle, service cost allocation needs to consider the direct expenses, indirect costs, the joint costs with other departments, and other operational budgets (in the case of municipalities and joint service councils), including, the costs of divisions (engineering, financial, administrative, legal, etc.)

General Guidelines

- Cost and revenue centres need to be identified in the financial and accounting records; in the same vein, recording in cost centres should be set in motion in the municipalities and water service utilities to facilitate cost control;
- The period of cost accrual have to be accurately identified; in other words, the start and end of the period during which the cost items are measured should be clearly detected;
- The components of a cost item have to be measured regardless of whether they are paid in cash or through deferred payment, or whether the service provider bears the cost or recover it in cash or in kind by a private, public, national or international party;
- Cost items must be recorded in a standard manner according to the established accounting standards and the legislation and laws in force;
- Cost items have to be recorded in a crystal clear fashion along with any relevant comments. The records must also be subject to the review of WSRC;
- The Arabic numeral system (i.e. 1, 2, 3, etc.) must be used, and the decimal point (.) must be used to indicate the fractional part and not the decimal comma (,);
- Cost items, including direct and indirect expenses, should be fully disclosed beforehand along with the allocation ratios of indirect costs;
- Asset annual depreciation amount should be calculated as part of the service cost;
- Every water and wastewater service provider, joint service council, or municipal water and wastewater department should take into account the need to calculate an accurate service cost to ensure exact full cost recovery as provided for in the Water Tariff Regulations;
- Every utility/service provider or municipality that provides water and wastewater services need to make a shift to from cash basis accounting to the accrual based accounting;
- Every utility/service provider or municipality that provides water and wastewater service needs to have a computerised accounting system in place;
- Different kind of allocations needs to be accounted for and spelt out in the final accounts and/or financial reports of water and wastewater service utility/service provider or municipalities, including asset depreciation and grant and loan amortisation. Calculating the annual expenses of these allocations helps work out the actual cost of the services provided;
- Every water service utility/provider or municipality that provides water and wastewater service should have a clear-cut financial policy concerning the calculation of asset depreciation ratio. Such a policy warrants close cooperation among financial and administrative officers, engineers, and technicians to arrive at the most accurate valuation of the asset and virtual lifespan all the way to work out the depreciation value;
- Every water service utility/provider, municipality, or joint service council should have a comprehensive database/inventory of all their assets;
- Every water service utility/provider, municipal water service management, or joint service council should have bank accounts separated from the bank account of the municipalities;

- Every water service utility/provider, municipal water service management, or joint service council must have an internal controller –internal control function. The controllor should be assigned, among other tasks, to ensure the availability of data and reliability of records to minimise the uncertainty concerning the data and information used by the utility/service provider or the municipality in the financial and administrative reports; especially, the cost statements and reports;
- Sale volume and non revenue water ratio and volume during a fiscal year need to be identified;
- Direct salaries and wages of the personnel of water department, as well as indirect salaries (i.e. parts of the salaries of the mayor or municipality CEO, the financial department allocations, and service gratuity of the personnel of water department working in the production, distribution and management), should be developed;
- A statement of the fuel and energy consumed in the production (pumping stations and water reservoirs) should be developed;
- A statement of the direct material and supplies consumed for maintenance during production, distribution and management, including maintenance contract expenses) should be developed;
- A statement of other expenses (stationery, detergents, lighting, transportation, consultant services, rents, etc.) should be developed;
- Indirect expenses and the basis of indirect expense allocation should be identfied;
- A statement establishing the difference in the inventory accounts (spare parts) at the beginning and the end of the fiscal year should be developed;
- A statement of grants and loans that demonstrates amortisation ratio of grants and the interests on loans should also be developed.

Cost Items

The two tables below showcase the items of administrative and operational and maintenance costs:

	Administrative expenses	Water service (ILS)	Wastewater Service (ILS)	Total (ILS)
	Salaries and benefits (e.g. financial and administrative staff of the municipal water and wastewater department)			
	Office and facility expenses (stationery, hospitality, lighting, heat, etc.)			
	Professional services and fees (e.g. lawyers, auditing)			
	Financing expenses (loan interests and bank commission) (for water and wastewater projects, or a specific ratio if it was a general loan for the municipality)			
	Fixed asset depreciation (on the fixed instalment basis)			
	BODs' remunerations			
	Miscellaneous (including and limited to the expenses of the municipal water and wastewater department in addition to the expenses of the cars of the financial and administrative officers)			
	Total administrative expenses			

Table 8: Administrative Costs

	Operational and maintenance expenses	Water service (ILS)	Wastewater Service (ILS)	Total (ILS)
	Salaries and benefits (e.g. engineers, guards and technical staff of the municipal water and wastewater department)			
	Water purchases (from Mekorot, the West Bank Water Department (WBWD), desalination plants, water tanks, and private wells)			
	Energy (electricity, fuel, oils, etc.)			
	Fleet expenses (i.e. vehicles of all sizes and weights that are used in the operations of water and wastewater service provision, excluding the vehicles of financial and administrative officers)			
	Material, supplies, maintenance and disposables			
	Office and facility expenses (stationery, hospitality, lighting, heat, etc.) for the use of operational departments related to water and wastewater services. This should be differentiated from the second item in the above administrative expenses.			
	Professional services and fees (e.g. lawyers, auditing)			
	Fixed asset depreciation "related to operations" (on the fixed instalment basis)			
	Miscellaneous			
	Total operational and maintenance expenses			

Table 9: Operational and Maintenance Costs

For further information on the cost items in water service utilities, please hit the link below:
https://buff.ly/2xboiBc

Indirect or Joint Costs

Indirect or joint costs refer to costs bearable by the service utility/provider and not directly accountable to a specific cost object rather than the whole suite of services (this applies to municipalities), including but not limited to:

- **The mayor's salary;**
- **Senior management;**
- **Financial management;**
- **Legal affairs department;**
- **Personnel department;**
- **Storehouses;**
- **Water, electricity and maintenance expenses of the joint premises of the utility;**
- **Rents of joint utilities (i.e. building) (space should be the basis of cost allocation);**
- **The fleet of the utility;**
- **Others.**

The costs division identifies the divisions and departments that provide services to water and wastewater departments and divisions. On that account, each product or service is singled out and its relations with the operational departments in the municipality. Having that done, fair cost allocation process should start. Finally come the gross expenses per operational division or department to be considered in the cost distribution process.

The table in the link below demonstrates the pro rata share of water and wastewater departments of the joint costs with other departments of the municipality that offer different sort of public services.

https://buff.ly/2kkgYKc

A Simplified Format to Work out the Cost of Water Production and Distribution and Wastewater Collection and Treatment:

Once all direct and indirect costs are worked out, comes the turn of the cost of production and distribution per cubic meter of the sold water as well as the cost per cubic meter of collected and treated wastewater.

Calculating unit cost helps the water service utility/provider to determine the average selling price of the service in pursuit of full cost recovery. From there on, the average selling price becomes the cornerstone for building the tariff structure, which will be tackled in the next chapter.

The table in the link below offers a robust simplified method to work out:

- The cost of production and distribution per cubic meter of the sold water; and
- The cost of collection and treatment per cubic meter of wastewater.

https://buff.ly/2kkgYKc

Tariff and Pricing

Tariff is a structure adopted by a service provider for charging the prices of the services rendered to its customers or beneficiaries. Tariff could be seen as the container or the external form of the service prices.

The policy-makers determine the form of this tariff in order to achieve the pre-planned objectives. A service provider or an agency that provides such services must be paid for rendering them.

Guidelines on assessing the cost of water and wastewater services

The main objective of these guidelines is to assist water and wastewater service providers in preparing data and information on the cost of services provided to:

- assist water and wastewater service providers in determining the real cost of the provided services;
- better determine the prices and fees charged for the rendered services to achieve the full cost recovery;
- enable the WSRC - the sector regulator - to review the cost and pricing lists in a systematic and predetermined manner;
- establish a uniform standard for all service providers with regards to costing and its basic terms, which enables the council and water and wastewater service providers to uniformly compare the level of the provided services; and
- apply the relevant official laws, regulations, and instructions, especially the water tariff system issued in 2013.

Tariff forms:

- Fixed tariff;
- Cost rate;
- Increasing-block tariffs;
- Decreasing-block tariffs;
- Increasing- and decreasing-block tariff;
- Seasonal tariff;
- Crisis tariff.

The tariff is often fixed and standard when the service is rendered for one time only and to perform a particular service such as service cancellation fee or a water-meter test fee. These services are often simple and of a specific nature that is not related to other variables such as length, distance, quantity, and volume.

In cases where the services rendered are related to variables such as:

- The quantity of water consumed by the consumer;
- The length of the connections that will be used to connect the customer house;
- The number of family members;
- The geographical or topographic location.

The utility/service provider must take into consideration a range of conditions, directions, facts, principles, and rules to set an effective tariff structure as detailed in the following paragraphs.

The following are conditions the service provider might take into consideration when determining the tariff:

- The residents are to be encouraged to use larger quantities of water «decreasing-block tariffs»;
- The promotion of rational water conservation «Increasing-block tariffs»;
- The organisation wants to encourage citizens to install additional water meters in residential buildings instead of relying on one master meter for the whole building.

In many cases, economic, political and, social data is considered an important elements in the selection of tariffs. In order to promote agriculture or industry in a particular region - to revitalise economic conditions, encourage the actors in the industry sector and absorb unemployment – To that end, the service provider may adopt a lower tariff for agricultural and industrial purposes.

Principles and guidelines that lead to an effective tariff:

Selection of an appropriate tariff by service institutions, particularly water service utilities/ providers, helps to achieve full cost recovery. To enable our water service providers to achieve financial development, an effective water pricing system is urgently needed.

Such a system will help Palestinian enterprises choose fair water prices, which will help in water facility maintenance, water conservation, and good resource management. The following principles constitute the guidelines to design an effective system for water and wastewater tariffs:

Water has a unique value for human life and health. All the members of the public have the right to an adequate quantity of water to meet their consumption needs at reasonable affordable prices.

Water tariffs must reflect the economic and social situation in the area of distribution.

Tariffs should reflect the availability of the service or water. Increasing-block tariffs should be used if there be a need for rationalisation of water consumption. On the other hand, decreasing-block tariffs should be wielded if water is available or if there is a desire to encourage utility customemrs to consume more water in order to improve the community's health and social conditions, especially the poorer sctions of the society.

The basic water needs of citizens can be provided at a price lower than the actual commercial cost in order to provide affordable water to the poor groups. The difference is to be covered by consumers from the upper block of the tariff (i.e. by consumers who are able to do so). (The water tariff is to be determined in a balanced manner such that the financial burden is distributed across all the sections of the society).

Service providers should conduct studies on the affordability and the public willingness to pay the cost of service.

The polluter and consumer pay principle must be applied.

Customers must not be exempted from paying the service they receive.

Historical statistics on the consumption rates and consumption categories and segments of service beneficiaries should be available. These statistics help in selecting the appropriate tariff and determining their rate of change.

Tariffs must be linked to cost lists to ensure full recovery of the costs without conflict with economic or social policies.

The selection of the tariff should be based on the full economic cost of water provision such that the cost recovery for maintenance and operation is a goal to be achieved in the first stage and to be followed by full cost recovery at a later stage.

Commercial financial accounting systems and cost accounting systems should be applied in water institutions such that statistics are collected, categorised, and used in the design and selection of water tariffs and prices.

The implemented tariff system must be practical and easy to apply.

Wastewater fees should be calculated based on the amount of water consumed by the customers.

The applicable tariff should reflect national industrial policies and the social and economic plans of the state.

Private water-resources rights-holders should use pre-designed forms that enable access to water costs in order to help them understand the true cost of their private water resources.

The sector regulator should ensure that water prices are controlled using a modular design, such that water prices are used as tools to control demand, achieve full cost recovery, and create comparative competition between water providers with the same features and characteristics.

The state is ultimately responsible for the management of water resources and is responsible for ensuring that the legitimate public needs of water are met.

The water tariff structure should be based on accurate statistical figures that reflect the consumption categories so that tariffs can contribute to achieving full cost recovery, and in the process, ensuring that the organisation continues to provide uninterrupted and affordable services that all segments of the population can afford.

The steps and stages of preparing for water and wastewater tariffs:

1. Prepare a list of water and wastewater costs to determine the total cost to be covered;
2. Deduct the fixed water revenue fees from the costs to be retrieved;
3. Determine the number of connections;
4. Determine the amount of annual and monthly billed consumption;
5. Determine the multiplication of the tariff categories according to the policy the municipality is willing to adopt (the parameters of the increasing-block tariffs structure);
6. Prepare a list detailing water revenue per unit for each consumption category (consumption category statistics) according to the multiples of the categories detailed in the previous point;
7. Determine the rate of tariff per cubic meter (m3) by dividing the net costs to be retrieved monthly (after deduction of fixed fees for revenues) over the quantity of water sold per month;
8. Extract the value of revenue per one unit (water tariff rate × water sold / total units);
9. Deduce the proposed tariff for the various consumption categories by multiplying the value of one unit of revenue by the multiples of each tariff category;
10. Calculate municipal water revenues and ensure that tariff revenues cover the costs;
11. Determine the average household income and calculate the water bill burden per household by determining the water bill's proportion of the average overall household income.

To calculate the burden of the water bill on the household, use the following equation:

- Bill burden = Total monthly billing in shekels / number of customers
- % of Bill burden=Bill burden / average monthly income for household x 100

Note

You will find in the following link a file demonstrates the steps and procedures to prepare a water and wastewater tariff and to measure the customer's affordability to pay the water bill. https://buff.ly/2s2pSQD

The benefits of increasing-block tariff:

- Reducing the water bill burden on the first low-income consumer segments;
- Increasing-block tariffs encourage consumers to rationalise their water consumption;
- The tariff allows municipalities to fully recover the costs of water production and distribution of water, whether these costs are foreseeable or not; direct or indirect; fixed or variable.
- Tariffs are based on a volumetric consumption basis, i.e. on the basis of cubic meters of the water consumed by all categories of consumers. Bottom line, tariff are not based on personal judgment;
- Tariffs can be defended and justified to the public, the Water Sector Regulatory Council, and the Ministry of Local Government;
- These tariffs are easy to develop, change and modify whenever necessary and whenever variables that require modification in the structure arise.

Note

Ring-fencing

"Ring fencing» is an accounting term that refers to the allocation of income, grants, financing, and assets for a specific purpose or service and to restrict the use of those resources for that purpose or service.

Water and wastewater service providers, especially municipalities which offer different services other than water and wastewater, must be aware that, despite the accurateness and robustness of the tariff structure implemented, the usage of revenues generated by the provision of water and wastewater services to finance any deficits or operating costs, or any other shortfalls, for any facilities or assets that exist within the company other than that used exclusively for the provision of water and wastewater services, will lead to the dissolution of the organisation's assets, in addition to its inability to fully operate water and wastewater facilities, leading to the degrade and eventual collapse of water and wastewater services.

The "Ring fencing" principle must be applied to all the water and wastewater facilities, assets, and revenue of an organisation. Those resources must be used exclusively for the advancement of those services, and no revenues or surplus revenues should be used for any other purpose.

Bank accounts, separate from other municipal bank accounts, must be opened, and separate financial records that are restricted to water and wastewater services must be established to ensure optimal implementation of the «ring fencing» principle.

Note

This Guidebook is compatible with the applicable regulations:

Article 7 and 8 of the Tariff Regulations https://buff.ly/2rXsTll

Article 24 of the Water Law No. 14 of 2014 https://buff.ly/2IDPlu6

In the same vein, it is also compatible with the Palestinian Water Authority's directives, which appear in the final draft of the "Sustainable Financial Strategy for the Water Sector." https://buff.ly/2II3G4G

Economies of Scale

Service providers are supposed to provide services to the largest segment of the population, as they have extensive and expensive networks of transmission and supply lines, auxiliary stations, and facilities. These institutions should provide services that all people can afford, as the chance that their user-base will increase diminishes with higher service costs.

From the perspective of the provider, it can be said that it has achieved full recovery for its costs by charging a price for this service from the public and from the state (through subsidization).

However, the truth remains that the provider has not achieved full recovery and has become a heavy financial burden on the state's budget. In short, the provider cannot be considered viable or sustainable unless its revenues - which can be collected from beneficiaries of its services - cover the total of its costs.

Expanding the provider's reach of services helps in cost recovery by:

- Linking the largest number of customers to the service.
- Encouraging the public to use the provider's services.
- Distributing the fixed expenses represented by interest on capital or donations and depreciation on a larger number of produced units.
- Reducing the service costs and make them affordable to the majority of customers.
- Easing the financial burden on the state because of the high probability of full cost recovery.

The current structure of water institutions and services in Palestine in their current formations does not help in achieving full cost recovery. The water sector consists of a fragmented and unconnected group of municipal water departments or water networks that are managed by each village council. In many cases, water networks are managed by selected committees in each village. This fragmentation and lack of interconnection between these departments and committees undermines their ability to possess and utilise efficient maintenance methods. This situation does not allow these departments and networks to apply modern technology in the management and operation of pumping stations and networks, nor does it allow them to distribute the costs to an appropriate number of customers.

IMPORTANT NOTE

The bigger the provider is, and the larger its services reach, the closer it is to achieving full cost recovery.

Then, it is necessary to:

- **Amalgamate the water networks and departments within regional providers whose services cover a large geographic area.**
- **Apply the government and the Palestinian Water Authority's strategic directive in establishing a limited number of regional water authorities in Palestine.**

In this regard, it should be noted that one of the main drivers of the relative success of the Jerusalem Water Undertaking and the Bethlehem Water Supply and Sewage Authority is their ability to provide services in a relatively large geographic area. Such ability allowed them to utilise their economies of scale, plan their service provision, and make use of their efficient human resources in their various activities. Additionally, because of their larger service reach, they were able to attain the needed funding for their projects.

The appropriate economic scale of an provider can be numerically measured in several proportions and indicators that show the extent of utilisation of its assets and services:

The rate of return on net fixed assets:

- This indicator measures the productivity of the fixed assets used in the provider and expresses this productivity by the rate between the net operating income and net fixed asset value..

Using the distribution network as an indicator of:

- The number of beneficiaries of this network (linear meter per person).
- The number of customers (connections) (linear meter per connection).
- Number of subscriptions per linear kilometre of network (network density)

This indicator shows the difference between different providers in how they take advantage of their networks. It is also considered an annual internal guide that allows the provider to determine the extent to which it utilises its assets.

Total fixed assets to connection/ customer ratio

- This ratio provides an indicator of the provider's investment efficiency (asset revaluation problems should be taken into consideration).

These guidelines comply with the Water Law no. 14 for 2014 articles 45, 46, 47, 48, 49, on the establishment of regional water utilities and agricultural water associations. https://buff.ly/2IDPlu6

Efficiency of Production and Distribution Elements

The efficiency of the means of production and distribution and periodic maintenance is one of the main elements affecting the cost of service and the price of each cubic meter of water provided to the final beneficiary, and as such would affect the customers' ability to pay their bills.

The higher the price of the service or the provided water, the lower the ability of the consumers to pay, which will cause the provider to reduce the price below the real cost or drive the state to subsidise the prices.

Therefore, it is necessary to analyse all the production steps, stages, and methods used in these stages (equipment, machines, work methods, systems used in production and distribution, and financial and administrative systems) to reach inefficiencies that lead to higher costs Maintenance to figure out the efficiency shortfalls in order to control the production and distribution processes and change the methods used by utilizing suitable technological means with a reasonable cost and while taking into account that the cost of change and replacement should be reasonable. In other words, the use of new means should not raise the cost above the level in which the majority of service beneficiaries are comfortable.

Procedures for improving the efficiency of production and distribution:

Area	Organisational structure of departments and departments of operation and maintenance
Proposed measures	• Adopt a clear organisational structure for maintenance departments. • Adopt a specific job description for each job and commit to its application.

Area	Rehabilitation of the operation and maintenance staff
Proposed measures	• Conduct a gap analysis to assess the difference between the technical job requirements and the actual level of the employee. • Conduct training needs assessment for all operations and maintenance staff • Design a training plan that takes into account the specific needs and skills of each technical employee and avoid general training.

Area	Meters and pumps maintenance
Proposed measures	• Develop a clear, periodic preventive maintenance plan for all collection facilities and networks and pumping and treatment facilities. • Install main water meters after wholesale water meters to check the accuracy of the water supply meter. • Establish a specialised workshop and a platform for the calibration and maintenance of well meters and main meters. • Develop post-maintenance operations to repair faults after they occur.

Area	The efficiency of electromechanical equipment
Proposed measures	• Prepare a continuous preventive maintenance plan • Prepare a plan to manage and rationalise energy consumption. • Install control units to protect control panels and pumps from lightning and electric leakage. • Install control and protection units to protect pumps and control panels from increasing electrical loads or high voltage load due to pump failures.

Area	Percentage of Non-Revenue Water (NRW)
Proposed measures	• Install main supply meters and consumption meters for all the consumers, including municipal and governmental facilities and others, and check the meters installed on municipality wells and continuously calibrate them. • Develop an action plan to replace the customer's outdated water meters. • Motivate service providers to raise billing rates to reduce commercial water losses, and require service providers to submit clear work plans for this action. • Invest in a continuous action plan to eliminate illegal connections, and don't implement seasonal campaigns only. • Design and implement a continuous plan to check for leaks in the distribution network, conduct network maintenance, and go beyond public emergency telephone calls and public complaints • Design and implement a public awareness campaign on water theft and its risks and impact on service providers and customers.. • Prepare an effective emergency plan to distribute water to the most affected sectors. • Hang plastic cards on machines with operation and maintenance instructions.

Area	Cost of water purchases
Proposed measures	• Reduce losses from the main distribution line • Perform periodic maintenance on the meters of purchased water. • Deliver purchase and tax clearing invoices before the tax refund deadline. • Rationalise the consumption of water purchased from Mekorot, the Gihon Water Company, and other sources. • Negotiate local suppliers for better desalinated water prices

Area	Information system
Proposed measures	• Create a maintenance database that includes technical data for breakdowns and the financial data for the maintenance costs related to each failure. • Create an interactive database to identify faults and their frequency, and to determine the feasibility of repairing each malfunction. • Install a SCADA remote network management system. • Analyse the data and issue comparative technical and financial reports.

Area	Water meters
Proposed measures	• Install the main supply meters and consumption meters for all the customers, including municipal and governmental facilities, and check the meters installed on municipality wells and continuously calibrate them. • Develop an actionable plan to replace the customers' outdated meters. • Develop a testing and calibration platform for customer meters, wells, and other water sources. • Use pre-paid meters.

Table 10 Procedures for improving the efficiency of production and distribution

Risk (Crisis) Management Plan

The risk management plan at water service utilities/providers complements the measures taken to improve the efficiency of production and distribution mentioned above, which highlights the instrumentality of contingency plans as an integral part of more comprehensive crisis plans.

The importance of having a risk (crisis) management plan

Crisis management plans are essential to all industries and enterprises, especially water organisations regardless of their size, location, or the social or political environment in which they are located. Water is vital, and water organisations should not be caught by surprise in any situation.. Water organisations must prepare plans in advance to meet extraordinary circumstances at the moment of their emergence.

The components of a proper crisis (risk) management plan:

On the technical - operational level:

- Water providers should maintain a supply of stand by pumping units, engines, spare parts, and fuel.
- It is essential to standardise pumping units (of a uniform type and specifications) whenever possible.
- The crisis management plan must be updated by adding new risks and new preparations.
- The station safety and control facilities must be periodically inspected.
- The maintenance and operation cards must be connected to the device / unit or very close to it for emergency use.
- Emergency personnel must be provided with adequate equipment, tools, and clothing.
- Plants and buildings must be provided with means of prevention, safety, and fire control.
- The crews, assets, and equipment must be covered by insurance.
- A crisis management plan that provides resources and coordinates activities must be available.
- An outreach plan to communicate with the public to gain cooperation and help the emergency teams in times of crisis must be available.

On the managerial level:

- Equipment and staff must be covered by insurance policies against the risk of war during military operations.
- Regional offices in villages must be prepared and equipped with an inventory of spare parts and equipment.
- Appropriate signs and signals must be placed on the buildings and facilities of the provider and the relevant authorities must be provided with the coordinates of these sites and installations
- A copy of the electronic files for the schemes and customer profiles must be kept in a safe place.
- Channels of communication with international and local institutions must be kept open and relations with them should be strengthened.

A real-life example: The following link details the emergency plan adopted for years by the Jerusalem Water Undertaking - the Ramallah and Al-Bireh locale. https://buff.ly/2s78Ccb

Possible risks:

Risks arising from sabotage:

- Pumps.
- Main water conveyance pipes.
- Disconnecting the pumping station's power supply.
- Stopping the water supply purchased from the wholesale supplier.
- Curfew.
- Closure and restriction of movement.
- Jamming and disabling telecommunications.

Risks arising from natural conditions:

- Snow and frost.
- Fires and building collapses.
- Floods.
- Lightning.
- Earthquakes and landslides.
- Drought and lack of water supply.

Health risks:

- Cholera.
- Typhoid.
- Epidemics and radiation.
- Deliberate chemical and bacterial contamination.

Risks arising from managerial or information-related situations:

- Files catching fire.
- Assets being burnt or stolen.
- Computer files being exposed to:
- Virus risks
- Hackers
- Mechanical or technical damage.
- Deliberate sabotage.

Non-Revenue Water:

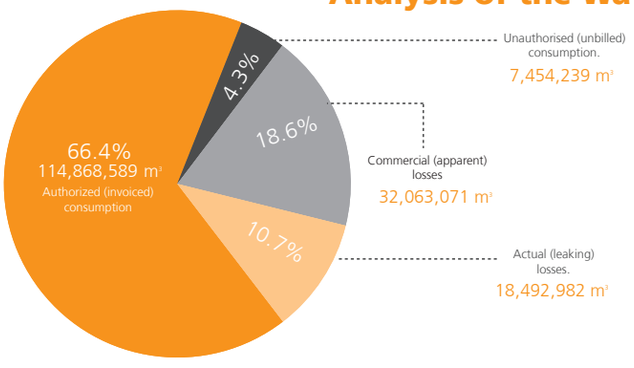
The rehabilitation of local water systems, the use of appropriate technology, sound management practices, financial policies and procedures will lead to a reduction in the NRW of water utilities in Palestine and, consequently, to a more sustainable financial situation. The rehabilitation of the water infrastructure will result in a significant reduction in water losses and will lead to optimal utilization of the existing traditional water resources.

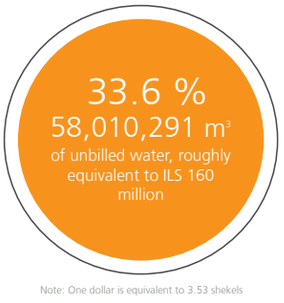
A quick analytical reading of the levels of "Non Revenue Water (NRW)" in Palestine (all service providers in the Gaza Strip and only 39 service providers out of approximately 250 in the West Bank account for 65% of the population) shows that the Non-Revenue Water (NRW) levels are 33.6%, that is, 58,010,291 cubic meters of the quantities produced, estimated at 160 million shekels.

Compiling data from other municipalities and service providers in the West Bank will show the huge total of the costs spent on production and distribution processes and not recovered as revenues for water providers, in addition to depriving many of the

population of water resources of which they are in dire need.

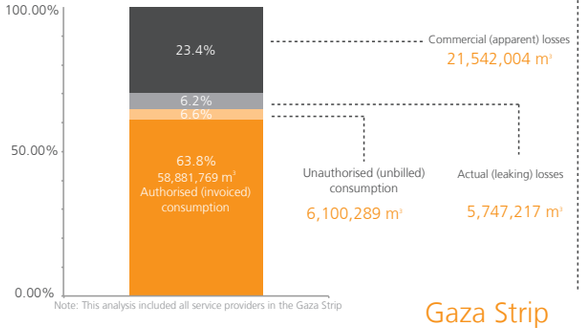
Analysis of the Water Balance





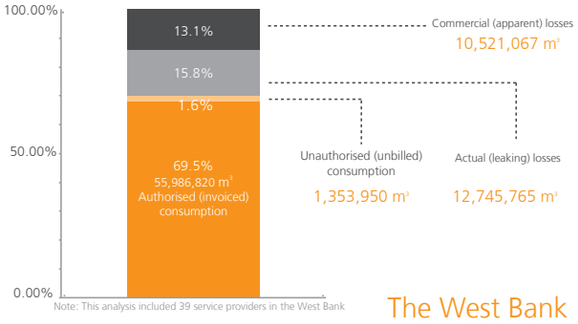
Note: One dollar is equivalent to 3.53 shekels

The West Bank and the Gaza Strip



Note: This analysis included all service providers in the Gaza Strip

Gaza Strip



Note: This analysis included 39 service providers in the West Bank

The West Bank

Source: The Performance Indicators Report of 2016 - The Water Sector Regulatory Council - Palestine.

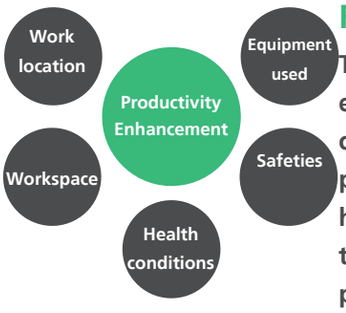
These guidelines comply with the Water Law No.14 of 2014 articles 18 and 24 (2, 3, 7, 10, and 11) thereof.

https://buff.ly/2IDPlu6

Work Environment

The work environment and the internal and external atmosphere, whether physical or moral, within which a water service provider carries their activities stand to be conducive factors to the full cost recovery.

The work environment can be divided into two main parts:



First: The physical environment and work conditions

This part consists of the workplace, workspace, health conditions, safety equipment and utilised machinery. Although physical, they still could cast their positive or negative shadows over the staff. The better the physical work conditions, maintenance, communication, and safety, the higher the productivity, accuracy, speed, and easiness are; this add up to the staff drive to do their job, facilitates their tasks, and boosts their productivity.

Figure 5: The physical environment and work conditions.

Area	Details	Short-term results	Long-term results
Work location	• Easily accessible by public transportation; • Designed in a practical way to facilitate the workflow; • Has good thermal insulation; • Water, electricity, heating and air conditioning services are continuously available; • Fire extinguishers are available; • Accessible to persons with disabilities;	• Reduced transportation costs and allowances; • Reduced energy and services costs; • Improved efficiency and productivity of staff with disabilities.	• Sustainable establishment through the full cost recovery; • Improved establishment productivity.
Available workspace	• Affords each employee a suitable space for work; • Follows appropriate staff deployment in pursuit of functional consistency and operational flow; • Well ventilated and lit; • Complies with applicable regulations for people with disabilities; • Furnished with adequate furniture and standard seating and desks; • Provides electric elevators as per applicable regulations; • Equipped with security and safety means.	• Reduces the cost of lost time. • Provides psychological and physical comfort for employees. • Avoids the costs of fines that could result from violating workplace conditions.	
Health conditions	• Has access to first aid services; • Has bathrooms and toilets suitable for both genders; • Has bathrooms that suit persons with disabilities; • Has break areas and dining spaces; • Has access to medical vaccinations to employees; • Conducts health checks and blood tests at least once a year for workers at pumping stations.	• Reduces health care costs; • Reduces costs and durations of sick leaves; • Makes the staff feel comfortable about some health matters; • Avoids the costs of fines that may result from violating the applicable health regulations.	
Safety measures	• Provides alarm systems as per the applicable regulations; • Provides protection against the effects of chlorine cylinder explosions; • Provides systems that protect from electrical leakage and lightning bolts; • Provide masks and toxic-gas testing devices for specialised workers. • Provides appropriate clothing and footwear for work in workshops and stations.	• Reduces the cost of insurance policies; • Reduces health care costs that result from work injuries and subsequent compensation.	
Equipment in use	• Provides adequate sufficient office equipment; • Provides equipment and maintenance tools in an integrated manner to the relevant staff; • Provides auxiliary equipment for transport of heavy parts and components; • Provides appropriate communication devices; • Provides mobility means between work sites; • Provides a geographic information system that details the different work locations.	• Reduces time to accomplish tasks and as such reduces costs; • Improves the quality of work, and as such reduces maintenance costs; • Reduces work accidents.	

Table 11: The physical environment and work conditions

These guidelines comply with the Water Law No.14 of 2014 articles 18 and 24(2, 3, 7, 10, and 11) thereof.

https://buff.ly/2IDPlu6

Second: The administrative environment

Services providers in general and water ones in particular, are among the closest institutions to the community. No wonder, their services are essential to all productive sectors, whether industrial, agricultural, health and social. Any deterioration in the level of service could cause a series of reactions that reflect a disturbance in the economic activity and resentment from all the sections of society. If the situation persists for a relatively long or is repeated, the walls of trust between the institution and society begin to shake. As a result, the provider capacity weakens, loses its credibility, and falls into the bounds of doubt. Eventually, the provider's capacity will fall short of recovering the full costs of the services provided.

Area	Details	Short-term results	Long-term results
Administrative environment	• Performance transparency and accountability; • Equity and equality of employment and promotion opportunities; • The strength of the legal framework within the establishment • Rational top-management decisions; • Effectiveness of the meetings held by the establishment; • Establishment commitment to the values of justice, equity, and integrity; • The decision-making process is not controlled by a single party; • Work is performed as per the delegation of powers matrix/ responsibility assignment matrix; • Suitable and relatively stable organisational structure; • Utilisation of modern computer software; • Strict internal control systems in place.	• Increases the staff loyalty to the establishment; • Improves the establishment performance; • prevent favouritism and nepotism practices; • Increases the effectiveness of management decisions; • Saves time and effort; • Provides quick responses to the citizens' inquiries.	• Establishment sustainability through cost recovery; • Improved establishment productivity.

Table 12: The Administrative Environment

These guidelines comply with the Water Law NO. 14 of 2014 in: Separation of powers between the responsibility for policies and the responsibility for service delivery, and the responsibility for oversight and regulation. The law authorises PWA to plan and draft policies and resources, and entrusts the WSRC with all maters related to the operational activity in water and wastewater services, licensing of service providers, and approval of prices. It also entrusts local companies, municipal departments, and water utilities… with the authority to provide the service. https://buff.ly/2IDPlu6

Management and Capacity Building

The principle of Integrated Water Resources Management (IWRM) spells out the core of water service management. IWRM is defined as 'a process which promotes the coordinated development and management of water, land and related resources in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

Water service institutions often find themselves ebbing and flowing between bulk water resources management and water and sanitation service provision to the population according to the standards of quantity, quality and accessibility, thus water service institutions should, in the first place, understand how to manage the water resources, which stands to be one of their core national responsibilities. Having that grasped, water service institutions then should plan and coordinate their effort in pursuit of relevant national objectives.

Therefore, the vision and strategic plans of water service institutions should be in line with the national framework and approaches of water sector management.

In a similar vein, the activities of water service institutions should be driven by the need to contribute to the development of the national economic, environment and welfare.

To accomplish IWRM, water service providers and utilities should have the following in place:

A mid-term strategic plan

- to increase the sources and potential of the water service institution;

A long-term strategic plan

- to ensure the sustainability of the water service institution;

A short-term/annual operational and marketing plan

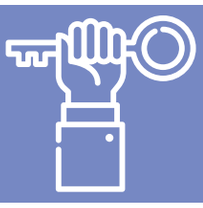
- to ensure that water service institution meets its direct obligations;

an objective evaluation system/ PIs evaluation system

- to detect the strengths and weaknesses in the performance of the water service institution;

a delegation matrix

- to protect the water service institution from being dragged into an administrative paralysis, optimally revitalise the role of water service institutions, and maximise the use of the labour force;

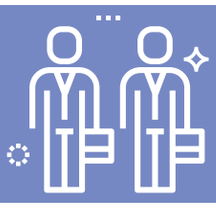


an emergency operations and management plan

- to ensure the continuity of basic needs to the community;

a financial monitoring system

- to preserve resources and capabilities of the water service provider;



a practical incentive scheme

- to boost staff competence and to motivate them;

robust customer service centres

- to ensure effective cooperation from the customer's side to pay their bills against good quality water service; and

an effective management information system

- to ensure the availability of accurate financial and operational information and consistency of management decisions with analysed data.

Human Resources Development

The human capital is one of the most important means of production in the service sector (water providers). The cost of labour in these establishments is between 25% and 50% of the total expenditure. As such, the cost of labour is one of the most important components of the cost of water prices.

The higher the efficiency of work, the lower the cost of production and the greater the public›s ability to afford the service.

It is then necessary to focus on employment policies and the selection of staff, and it is equally important to provide ongoing training programs to ensure that they are improved, trained, and developed by either involving them in training programs or by sending them to similar establishments for training. The continuous nature of training ensures that the staff and employees are kept informed on the most efficient ways to use equipment or to perform tasks, thus keeping abreast of development in this sector.

The organisation should also identify the requirements for promotion to higher positions and inform the employees of such requirements. The means of training and accompanying brochures and pamphlets must be prepared to facilitate the employees' development and to encourage them to apply for higher positions.

Facts:

- The cost of labour in water organisations ranges from 25% to 50% of total expenditure.
- Most water organisations and local bodies consider human resources as part of the costs rather than an important production element.
- Water utilities should design and implement capacity development programs to build the capacity of the organisation and its employees and thus increase their productivity both in quality and quantity.
- Raising efficiency helps reduce costs and makes its recovery more attainable.

The pillars of human resource development:

- The employees' managerial environment
- Training
- Organisation

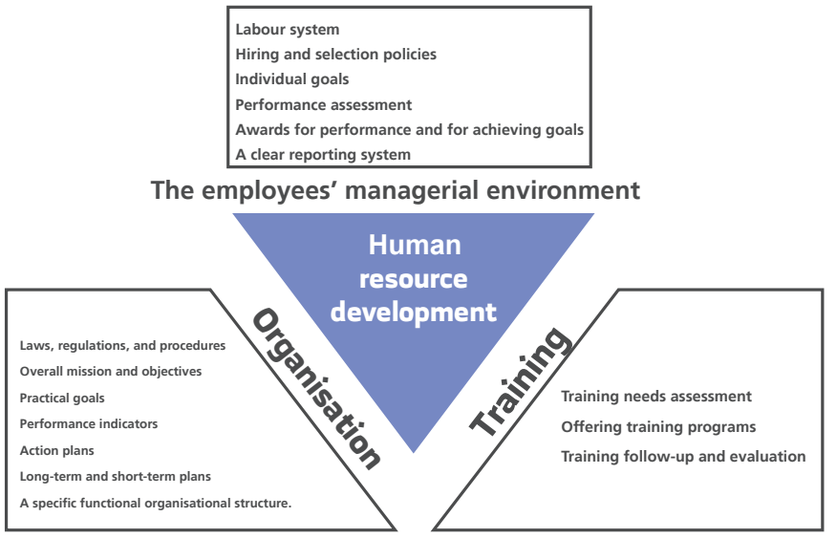


Figure 4: The pillars of human resource development:

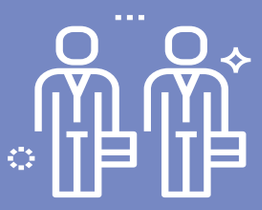
Human Resource Development Roles and Responsibilities

The management role:

- The management must change its perception and concept of training;
- Training is one of the workers' rights;
- Training should be institutionalised;
- Training should be based on the actual needs of each employee.

The donors' role:

- Committing to national policies;
- Real and ongoing commitment to funding training and capacity building programmes;
- Monitoring and Following up capacity building programs.



PWA role:

- Formulate and adopt a national training policy;
- Provide accreditation for training providers;
- Provide the needed resources and allocations for training.

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The employee's role:

- Take the training seriously;
- View training not as a sign for the employee's failure or shortcomings, but as one of the job's benefits;

These guidelines comply with the Water Law no. 14 of 2014 in item 19 of article 8 which emphasises building institutional capacities for the management of shared water resource and deepening regional and international cooperation. https://buff.ly/2IDPlu6

Public Awareness

Public awareness of water issues is a keystone of the success of water and wastewater service provision projects. Public awareness should not be limited to technical details rather than engaging and involving the public in the financial aspects and costs necessary to implement, operate, and maintain the facilities and operations of service providers, thereby raising the public's awareness, understanding, and cooperation in the success and sustainability of the services of which they are the principal beneficiaries.

On their part, water service providers should make raising the public awareness of water problems, scarcity of resources, and the high costs of water importation or desalination one of their priorities. Such awareness efforts should not be directed to a specific section of the public or associated with specific annual events and occasions.

Increasing public awareness should be a daily practice for all relevant stakeholders in the water and wastewater sector, whether service providers or the sector regulator (the Water Sector Regulatory Council) or the policy-making body in the sector (the Palestinian Water Authority), as well as the relevant environmental awareness associations and institutions and others.

Water losses recorded by some municipalities and service providers point to the enormous costs of production and distribution, which offer no financial returns for service providers and, as a result, increase the costs incurred by the utility customers without actually using water resources.

The benefit of Public Awareness

Cutting water losses could obviate the need for digging a well or several wells, and as a result:

- Increase the amount of water available to utility customers
- Decrease operational and maintenance costs
- Offer financial returns that help in recovering costs and ensure the sustainability of the organisation.

Guidelines on Public Awareness Campaign Activities:

- Link any awareness activities or messages to the problems and concerns of the public or the institution.
- Coordinate between the different stakeholders to ensure consistency and non-contradiction of the provided information.
- Awareness campaign activities have to take into account the cultural, age, and economic activities and differences among the different segments of the public.
- Alert the public of the graveness and sensitivity of water issues.
- Provide financial and operational information on the cost of taking action or failing to take effective action concerning water loss, pollution, and others.
- Link data and information provided to daily issues faced by the population.

- Identify target segments of the public and assign messages and activities to each category.
- Highlight the ethical and legal consequences of some misconducts.
- Utilise religious texts and fatwas concerning water loss, water theft, and destruction of water facilities.
- Explain the constituents of tariff structures and the associated prices, and clarify the willingness to pay concept.
- Make use of personalities and influential groups in the community to convey the needed awareness messages.

Public Awareness Activities

A variety of awareness activities can be organised, replicated, and appropriated, such as:

- Holding seminars for specialised professional groups, to clarify facts and data, and agree on consistent information to be disseminated to the public;
- Printing posters and road signs that promote consumption rationalisation, and highlight loss of water and payment of dues, etc.;
- Broadcasting paid radio advertisements that clarify the real situation in the water sector and its institutions;
- Sending text messages to the population in the targeted areas to alert them of a specific project's construction or rehabilitation works or to remind them to pay their bills, etc.;
- Holding workshops dedicated to preachers and imams to raise awareness of water issues and the importance of payment of dues;
- University lectures;
- School visits and discussions;
- Lectures and lessons in sports and summer clubs;
- Distribution of interesting publications and brochures with water bills;
- Organising rallies to promote water consumption rationalisation and condemn illegal water connections and theft of water;
- Printing stickers and promotional material that are posted in different places;
- Organising field visits to water wells, water production unit, wastewater treatment plants, and service provider facilities;
- Holding visit and meetings for households, working women, and others to detail the realities and financial situation of the water sector and the service providers;
- Forming teams of community volunteers in different neighbourhoods to help the service provider understand the public›s needs and convey to them a correct notion about the organisation.

Public Awareness Tools:

In addition to meetings, lectures, and direct personal communication with the public, there is a variety of tools that can be used to raise public awareness, such as:

Direct communications channels with the public through The internet

Public Occasions

Brochures

Ads on cars

Social media

Printing specialised photo albums

Seasonal or regular markets

E-mail

Promotional pins

Promoting success stories internally and to the broader community

Printing and distributing fact sheets

Billboards

Developing the websites of institutions

Radio and TV ads

Text messages

Press releases

Note: This chapter and the information presented within it are not meant to be the guidelines for designing a comprehensive public awareness campaign. It does, however, detail a few basics regarding public awareness campaigns

The Guidelines conform to Item 8 regarding awareness campaigns of Article 8 of the Water Law No.14 of 2014 https://buff.ly/2IDPlu6

Private Sector Participation

The private sector has become increasingly active in providing public services in many countries. The role of the private sector in the provision of water and wastewater services has an evident impact on access to excellent and high-quality services in countries such as Britain, where the quality of water and wastewater services was poor.

The interaction between water institutions and the private sector is limited in our country to the contracting model, where contractors are hired to complete a specific part of work or to supply materials, equipment, and others related services.

Private sector participation goals:

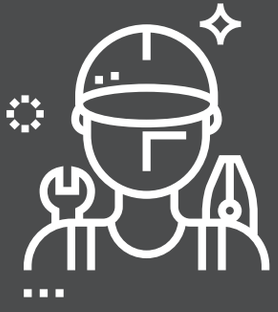
The private sector should be involved in the operations of water institutions to:

- Reduce operating and maintenance costs.
- Optimise use of enterprise resources.
- Provide new financial resources - other than government support or borrowing - to expand, develop, and improve the quality and scope of services provided to the public.
- Provide noticeable improvements in the quality and level of services rendered to the public.
- Provide measurable improvements and accountability in the levels and quality of emergency services.
- Increase the levels of performance control and provide greater transparency in financial accounts and records.
- Increase the effectiveness of the performance-based incentive system.

Cases where the private sector has to be involved in the process:

The private sector can be an excellent partner in cases where:

- The organisation faces operating challenges that it does not have sufficient resources or experience to deal with;
- There is a need for services of a temporary nature which does not justify the use of new labour.
- There is a need to hire new experts or purchase new equipment for a new project.
- Seasonal or emergency work;
- There is a need to raise funds for some works and projects.



We should view the role of the private sector from a bigger perspective and begin to think in earnest about then feasibility of the operating and management contracts for some or all of the institution›s services and assets.

:Contractual forms

The introduction of the private sector in the provision of all or parts of water and wastewater services may take several contractual forms, such as:

- Concession contracts for the ownership and management of services in a geographical area for a specified period.
- Management contracts for the operation and management of water and wastewater facilities and services in a specific geographical area for a specified period against agreed-upon contractual-service fees.
- Build–operate–transfer contracts for some large scale and operationally-complex plants projects such as water and wastewater treatment plants.
- Design-build–operate–transfer contracts, which include the above-mentioned plus engineering design works for the projects.
- Build–operate–transfer contracts with a concession contract for an agreed-upon period (Build–own–operate–transfer).
- Build–operate–transfer contracts which also include engineering design works, management, and financing (Design-construct-manage-finance)-DCMF.

The Guidelines conform to Item 16 - creating a climate that is stable and conducive to investments with the aim of encouraging private sector investment in the water sector, and implement required institutional, regulatory and economic reforms to encourage partnership with the private sector - of Article 8 of the Water Law No.14 of 2014 https://buff.ly/2IDPlu6

Water Sector Regulation

The calculation of the costs of services and therefore the prices that citizens who benefit from these services must pay is one of the most significant activities to which attention must be directed in this field because of its importance and direct impact it has on the beneficiaries of the service and the organisation.

Rights of the citizen:

- To be rendered services in exchange for payment of a fair and appropriate price.
- Not to be exploited by the organisation (especially since the majority of public service organisations are considered monopolistic and, as such, there are no alternative sources for service beneficiaries).
- Service sustainability, i.e., that service prices reflect real production costs and ensure the continuity of service provision, which guarantees the continued ability of the organisation to perform its services without interruption or discontinuation.

The significance of monitoring the prices and quality of services offered by service providers:

- Ensuring that service providers do not reduce their services prices below the real costs (and thus not meet the cost recovery principle);
- Ensuring the application of financial accounting, and cost accounting principles;
- Ensuring that tariff and pricing policies are not affected by any political, electoral, or personal factors that may direct the organisation managers to price services in a manner that does not achieve service sustainability and impede the progress of the organisation;
- Ensuring that the institution management does not raise its prices way above the real cost of the provided services to provide funds for investment and expansion or to cover management shortcomings in the fields of production and performance.

Each sector, such as energy, water, and communications, requires an independent regulator that regulates and controls performance and prices. This body, called the sector regulator, must be protected, neutral, and independent.

In Palestine, the powers of the sector regulator were entrusted to the Water Sector Regulatory Council in August 2014 under the provisions of the Law By Decree No. 14 for 2014 on Water.

The council aims to monitor all operational activities of water and wastewater service providers to ensure the quality and efficiency, and affordability of the water and wastewater sector services provided to consumers.

Regulation and control of prices does not mean determining the prices on behalf of the service provider; however, it means monitoring the costs of services and approving prices (in the interest of the community) according to specific measures and procedures stated in the Water Law of 2014, which are stated in the following:

Important Note

Objectives of the Water Sector Regulatory Council:

"The objective of the Council is to monitor all matters related to the operation of water Service Providers including production, transportation distribution, consumption and wastewater management, with the aim of ensuring water and wastewater service quality and efficiency to consumers in Palestine at affordable prices." (Article 18 of the Water Law of 2014).

The major tasks entrusted to the Water Sector Regulatory Council (sector regulator) to achieve its objectives:

#	Task	Description
1	Tariff Approval	Approval of water prices and costs of water and wastewater service connections as per the models approved by the council.
2	Licensing	Issuing licenses for the provision of water services.
3	Operations Control	Monitoring the water provision and wastewater management operations
4	Water Supply Agreements Control	Monitoring water supply agreements.
5	Incentives System	Development of performance incentives programs for water service providers to improve performance.
6	Quality Assurance Standards	Setting and disseminating quality assurance standards for the technical and administrative services offered by service providers.
7	Complaints Handling	Addressing complaints between consumers and service providers.
8	Database Creation	Establishment of a database that includes periodic technical, financial, and statistical information.

Table (4): Tasks entrusted to the Water Sector Regulatory Council

Performance Indicators: The Water Sector Regulatory Council in Palestine applies international standards in defining and measuring the performance indicators of water and wastewater service providers to ensure that the council fulfils its mission, objectives, and obligations toward the community.

Performance Indicators

Financial and operational performance indicators provide service providers and the sector regulator with:

- Accurate scientific data that contributes to the analysis of weaknesses in the performance of organisations and the high operating costs;
- Analyses of the operating costs components, which contributes to a thorough examination of tariffs;
- Comparison of the average selling price and the average cost per unit to better understand the existing financial gap;
- Comparison of the performance of different service providers to implement the incentives system;
- Analysis of the satisfaction level of the utility customers, which contributes to improving services and thus achieving cost recovery.

#	Technical Indicators
1	Daily average per capita water consumption at domestic level
2	Average daily water sold per capita base on total population
3	Consumption pattern
4	Non-revenue water by volume (loss %)
5	Non-revenue water in m3 per km in the network per year
6	Non-revenue water per connection per day
7	Wastewater coverage %

#	Financial Indicators
8	Average selling price per m3 of water
9	Operational costs per m3 of water sold
9.1	Personnel cost per m3 of water sold
9.2	Water purchase costs (at purchase point) per m3 of water sold
9.3	Energy cost per m3 of water sold
9.4	Other operational costs per m3 of water sold
10	Collection efficiency – water service
11	Collection efficiency – wastewater service
12	Working ratio (efficiency ratio) – water service
13	Current ratio (liquidity ratio)
14	Cash ratio
15	Operational costs per m3 of wastewater
16	Average cost per employee / month-water service

#	Quality Indicators
17	Water samples (taken from network including mains) containing free chlorine residual (RC) (%)
18	Water samples (taken at source) free from total coliform contamination (%)
19	Water samples (taken at source) free from fecal coliform contamination (%)
20	Water samples (taken from network including mains) free from total coliform contamination (%)
21	Water samples (taken from network including mains) free from fecal coliform contamination (%)
22	Microbiological tests carried out (%)
23	Water Samples (taken at the sources) free from Nitrate contamination (%)

#	Customer Satisfaction
24	Service complaints per customer – water service
25	Service complaints per customer – wastewater service
26	(%) service continuity complaints
27	(%) water quality complaints
28	(%) billing quality complaints
29	(%) other complaints and queries

List 5: Performance Indicators

The list of performance indicators above is not final and updated regularly to include new indicators as work and legal requirements warrant.

- The neutrality and independence of the water service sector regulator prove to be critical to be empowered to perform its role and responsibilities without any influence from governmental or popular bodies. Therefore, WSRC should enjoy complete independence from other executive governmental bodies and have plenary powers to double check records, accounts, and production methods for a specific period, during which it may not be replaced;
- In a similar vein, executive and regulatory responsibilities should not be assigned to one body. As such, price monitoring and license issuance related to water extraction, distribution, and water network maintenance should not be vested in one body to avoid any conflicts of interest. In addition, supervision of service providers should not be assigned to the policy-makers and planners. Of note, the said has been provided for in Decree-by-Law NO. 14 of 2014 on Water to rule out any possibility of conflict of interests;
- The results of the assessment of prices, costs, and performance levels should be announced at the end of every year. Such a measure ensures full transparency to empower the general assembly of the establishment/provider, the beneficiaries of its services, or the electorate (i.e. society) to assess the management of the establishment, and thus decide whether to renew the vows of confidence with it or hold it accountable.

These guidelines comply with the Decree-by-Law NO. 14 of 2014; specifically, all the activities spelt in this chapter comply with the requirements of CHAPTER 14 of the said Decree, particularly, article 24(1, 2,3,7,8,9,10 and 11) thereof. https://buff.ly/2IDPlu6

Self Assessment

The self-assessment exercise aims to provide water and wastewater service providers with an opportunity to evaluate their organisations in comparison with the contents of this guide. The exercise also offers an integrated list of the work aspects that directly and indirectly affect the cost of water and wastewater services.

The following table provides a quick tool for managers of water and wastewater service providers to identify topics and areas that need to be developed to achieve full cost recovery.

#	Chapter Two: Asset Management	Yes	Yes	N/A
1	Is there a full inventory of the organisation's assets: a numerical and descriptive survey of the assets of the organisation?			
2	Are the service provider's assets recorded in the financial and operating records as per the accounting and administrative standards?			
3	Are the assets revalued and their actual values adjusted and corrected as per their current status and price?			
4	Are the instalments and the total provision for depreciation of depreciable assets recorded and accounted for? Is the financial impact of the depreciation instalments reported in the balance sheet and cost lists?			
5	Is there a comprehensive asset management plan that allows for the optimal use of the organisation's assets?			
6	Is there a written, documented, and applicable plan and procedure for preserving, insuring, and protecting the assets to maintain their operational and financial value for the organisation?			
7	Is there an inventory registery for the assets to be insured?			
8	Are the risks that the institution may face and need to ensure against identified?			
9	Is the value of the insurance coverage for the entire assets identified?			
10	Does your organisation purchase insurance coverage on assets other than car insurance?			
#	Chapter Three: Accounting System	Yes	Yes	N/A
11	Does the establishment follow the accrual-based method in financial accounting?			
12	Does the establishment follow the cash basis method in financial accounting?			
13	Does the establishment employ an accredited external auditor?			
14	Is there a provision for the assets depreciation?			
15	Is there a provision for the amortisation of grants and donations?			

#	Chapter Four: Full Cost Calculation	Yes	Yes	N/A
16	Have the cost and revenue centres been identified in the establishment's activities?			
17	Is the time period of the cost accruement determined exactly, i.e., the beginning and end of the period in which the cost items are measured?			
18	Are the cost item components recorded whether the cost was paid in cash or deferred or whether the service provider bore the cost or received the value in cash or in kind from any entity whether private, public, local or international?			
19	Are the cost items recorded in a structured manner as per the accepted accounting standards and according to the requirements of the legislation and laws in force in Palestine?			
20	Are all cost items, direct, indirect, and indirect cost rates , clearly pre-disclosed?			
21	Is the depreciation of the asset included in the cost of service provided?			
22	Is the amortisation of grants included in the cost of service provided?			
23	Are there separate bank accounts for the water and wastewater departments?			
24	Is there an internal auditor in the water serevice utility/provider - an internal control department - whose function is to ensure that data is available and that the records are reliable to reduce the degree of uncertainty in the data and information used by the service provider, especially cost data and reports?			
25	Are indirect expenses allocated and charged to water and wastewater services by specifying them and determining the basis for their allocation?			
26	Is there a statement showing the value of the difference between starting and ending balance of elapsed year?			
27	Is there a statement of the donations and loans received by the establishment, indicating the rates of amortised grants and the interest rate for loans?			
#	Chapter Five: Tariff and Pricing	Yes	Yes	N/A
28	Does the water service provider apply a price tariff approved by the water sector regulator?			
29	Does the tariff reflect the economic and social situation in the distribution area?			
30	Does the tariff reflect the availability of the service or water?			
31	Does the applicable tariff take into consideration the conditions of vulnerable groups of customers, i.e., is the water tariff balanced and fairly distribute the burden to all society segments?			
32	Did the service provider conduct affordability studies?			
33	Does the applicable tariff implement the polluters pay principle?			
34	Are any customers exempted from paying for the service they receive?			
35	Are historical statistics on the consumption rates, classes, and segments available?			
36	Is the tariff linked to the full cost lists?			
37	Is the applicable tariff structure practical and easy to apply?			

38	Are the wastewater fees subsumed within the consumed water fees?			
39	Does the applicable tariff reflect the national industrial policies and the comprehensive social and economic plans of the state?			
40	Do special water sources rights holders use pre-designed forms that enable calculation of real costs for their sources?			
#	Chapter Six: Economies of Scale	Yes	Yes	N/A
41	Is the establishment considering the possibility of merging into a larger regional utility to benefit from the advantages of economies of scale?			
42	Is the ratio of return on net fixed assets satisfactory?			
43	Is the total fixed assets value per connection satisfactory?			
#	Chapter Seven: Efficiency of Production and Distribution Elements	Yes	Yes	N/A
44	Is there a clear organisational structure for operation and maintenance departments?			
45	Has a gap analysis exercise been conducted to assess the gap between the technical job requirements and the actual level of the employee?			
46	Is a training needs assessment been conducted for all operations and maintenance staff?			
47	is there a clear, periodic preventive maintenance plan for all collection facilities , networks , pumping, collection and treatment facilities ?			
48	Are bulk water meters been installed after bulk providers water meters to check the accuracy of the provider's meter?			
49	Does the establishment have a specialised workshop and a test bench for the calibration and maintenance of wells and central meters?			
50	Does the establishment have a plan to manage and rationalise energy consumption in it's facilities, stations and buildings?			
51	Are there protection circuits installed to protect control panels and pumps from lightning and short circuits ?			
52	Are there control and protection units to protect pumps and control panels from increasing electrical loads or high voltage load due to pump failures?			
53	Does the establishment have an effective emergency plan to distribute water to the most affected sectors?			
54	Are all customers metered, including municipal, public and governmental facilities?			
55	Does the establishment have an applicable plan to replace old meters?			
56	Does the establishment have a plan to reduce losses from the main carrier line ?			
57	Is periodic maintenance to the meters of purchased water, such as meters on desalination plants or private wells, performed?			
58	Are the purchase and tax clearing invoices delivered before the tax refund deadline?			
59	Does the establishment negotiate for preferential prices from local desalination plants?			
60	Does the establishment have a database for maintenance jobs that includes details of technical faults and cost of repair?			
61	Has an interactive database been created to identify faults and their frequency, and to determine the feasibility of repairing each malfunction?			
62	Does the establishment implement the SCADA remote network management system?			
63	Does the establishment use pre-paid water meters?			

64	Does the establishment have a crisis management plan that secures resources and coordinates activities?			
65	Does the establishment keep a sufficient stock of alternative pumping units, engines, spare parts, and fuel for emergencies and crises?			
66	Are regional offices in the villages equipped with stock of tools and spare parts?			
67	Does the establishment keep in a safe place ,a backup electronic copies of drawings and customer files?			
68	Does the establishment have a communication plan with the public during emergencies and crisis times to ensure support and cooperation with emergency team?			
69	Does the establishment have a communication plan with the public during emergencies and crisis times to ensure support and cooperation with emergency team?			
70	Has the pumping units (of a uniform type) been unified whenever possible?			
71	Are the maintenance and operation cards connected to the device/unit or placed very close to it for emergency use?			
72	Are the safety and control facilities in the stations periodically inspected?			
#	**Chapter Eight: Work Environment**	**Yes**	**Yes**	**N/A**
73	Is the work location easily reachable by public transport?			
74	Is the work place designed in a practical way that facilitates workflow?			
75	Does the work place have good heat insulation conditions?			
76	Are water, electricity, heating and air conditioning services continuously available at the work place?			
77	Is the mobility of people with special needs facilitated?			
78	Is each employee offered a suitable space for work?			
79	Does the workspace follow appropriate staff distribution characterised by functional consistency and operational flow of work?			
80	Is the workspace well ventilated and lit?			
81	Are adequate furniture, standardised seats and desks available at work place?			
82	Does the workspace comply with the applicable regulations for people with special needs?			
83	Are electric elevators available according to applicable regulations?			
84	Are first aid services available in the utility and at various work locations?			
85	Are there suitable bathrooms and toilets for both genders?			
86	Are there toilets suitable for people with special needs?			
87	Are there spaces for rest and dining?			
88	Are medical vaccinations offered to employees?			
89	Are the establishment's facilities fitted with alarm and firefighting systems as per the applicable regulations?			
90	Are the establishment's facilities fitted with systems that protect from electrical leakage and lightning?			
91	Are specialised workers provided with masks and toxic-gas testing devices?			
92	Are appropriate clothing and industrial type footwear provided for work in workshops and stations?			

93	Are there adequate and sufficient office equipment?			
94	Are complete sets of equipment and maintenance tools made available to the relevant staff?			
95	Are there supporting equipment for transport of heavy parts and components?			
96	Are there suitable communication devices?			
97	Does the establishment provide transportation means between different work sites?			
98	Does the establishment have a geographic information System (GIS) that provides details of different work locations?			
99	Does the management of the establishment implement transparency and performance accountability standards?			
100	Does the management of the establishment implement standards of equity and equality in employment and promotions?			
101	Is the strength of the legal framework within the establishment notable?			
102	Does the management of the establishment repeatedly revoke its decisions?			
103	Are the meetings held by the establishment effective? Is there sufficient follow-up?			
104	Does the establishment commit to the values of justice, equity, and integrity?			
105	Is the decision-making process with its details controlled by a single party?			
#	Chapter Nine: Management and Capacity Building	Yes	Yes	N/A
106	Is there a long-term strategic plan to ensure the sustainability of the establishment's ?			
107	Is there a medium-term development plan to increase the establishment's resources and capabilities?			
108	Is there a short-term annual operations and communications plan to ensure that the service provider meets its direct obligations?			
109	Is there an administrative and operational contingency plan to ensure the continuity of necessary services to the population?			
110	Is there an applicable delegation matrix to ensure that the establishment is not administratively restrained and that it functions properly?			
111	Is there an objective evaluation/ performance indicators system to identify the strengths and weaknesses in the establishment's performance?			
112	Is there an effective financial monitoring system to preserve the resources and assets of the establishment?			
113	Is there a practical incentive system to raise the productivity of the employees and motivate staff?			
114	Are there effective public service centres that ensure customers cooperation and pay their financial obligations in exchange for quality service?			
115	Does the establishment have an effective administrative information system that ensures the availability of precise financial and operational information to ensure consistency of administrative decisions?			
116	Is there a functional organizational structure for all jobs that is clear, binding, and applicable?			
117	Is there a precise job description for each job?			
118	Does the establishment commit to the job description- if any- for each employee?			
119	Is there a clear and communicated system of promotions and incentives?			
120	Is there transparency in implementing the system of promotions and incentives - if any?			
121	Is there a special department for training and developing competencies? does the establishment's budget include allocations for training?			

#	Chapter Ten: Public Awareness	Yes	Yes	N/A
122	Are the establishment's awareness activities or messages linked to the problems and concerns of the public?			
123	Does the establishment coordinate between the different stakeholders to ensure consistency and non-contradiction of provided information?			
124	Are cultural, age, and economic differences between public's groups taken into consideration in establishment's awareness activities?			
125	Are financial and operational information provided on the cost of taking or failing to take effective action in relation to water loss and pollution?			
126	Are the data and information provided related to the daily issues of the population?			
127	Are the target groups of the public identified? Are messages and activities assigned to each category?			
128	Are ethical and legal consequences of some misconducts highlighted?			
129	Are religious texts and fatwas concerning water loss, theft, and destruction of water facilities utilised?			
130	Is the price tariff structure and affordability criteria explained to the public			
131	Are celebrities and influential groups utilised to convey the needed awareness messages?			
132	Does the establishment utilise a variety of promotion and awareness tools such as: • Brochures • Advertisements on cars • Emails • Public occasions • Seasonal or recurrent markets • Flyers and fact sheets that include specific information and facts • Billboards • Press releases • Advertisements through the radio or TV • Text messages • Social media networks on the internet • Direct channels of communication with the public through the internet • Developing a website for the establishment			

#	Chapter Eleven: Private Sector Participation	Yes	Yes	N/A
133	Does the service provider use the private sector for costly operation and maintenance operations?			
134	Is the private sector employed in managing the distribution network fully or partially?			
135	Is the private sector employed in public service centres?			
136	Are the private sector›s capabilities effectively utilised in emergencies?			
137	Is the private sector utilised in the management of wastewater services in areas that are not covered by the collection network?			
138	Is the private sector utilised in billing and collection operations?			
139	Is there sufficient coordination with the private sector in public awareness and education efforts?			

#	Chapter Twelve: Effectiveness of Water Sector Regulator	Yes	Yes	N/A
140	Has the service provider submitted a request for approval of the water tariff and water and wastewater services connections fees?			
141	Has the establishment officially requested services from the water sector regulator?			
142	Does the establishment allow the sector regulator to monitor the water provision and wastewater management operations?			
143	Does the establishment allow the sector regulator to monitor the water provision agreements between the relevant parties?			
144	Has the establishment submitted an application to the sector regulator to join the performance incentive system for water service providers?			
145	Does the establishment provide sufficient data and information about the quality standards of the provided technical and administrative services?			
146	Does the establishment allow the sector regulator to address complaints between the service provider and the customers?			
147	Does the establishment have a database of periodic technical, financial, and statistical information and performance indicators?			

You can download the guidebook through the following link:

https://buff.ly/2ML0p6C