



State of Palestine  
Palestinian Water Authority

**Strategies for Sustainable Financing  
of the Water Sector**

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# **Strategies for Sustainable Financing of the Water Sector**

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# Abbreviations

AFD	Agence Française de Développement (French Development Agency)
EC	European Commission
EQA	Environmental Quality Authority
GOI	Government of Israel
ICA	Israeli Civil Administration
IWRM	Integrated Water Resources Management
JSC	Joint Service Council
JWC	Joint Water Committee
JWU	Jerusalem Water Undertaking
KPI	Key Performance Indicator
MOA	Ministry of Agriculture
MOF	Ministry of Finance
MOH	Ministry of Health
MOJ	Ministry of Justice
MOLG	Ministry of Local Government
MOPAD	Ministry of Planning and Administrative Development
MOPH	Ministry of Public Works and Housing
NGO	Non-Governmental Organization
NWC	National Water Council
NWP&S	National Water Policy and Strategy for Palestine
ORGUT	Consortium led by ORGUT Consulting AB, also including Finnish Consulting Group Ltd. and Palestinian Wastewater Engineering Group
PIU	Project Implementation Unit
PMU	Project Management Unit
PNA	Palestinian National Authority
PSC	Project Steering Committee
PWA	Palestinian Water Authority
PWEG	Palestinian Wastewater Engineers Group
RCU	Reform Committee Unit
RSC	Reform Steering Committee
SIDA	Swedish International Development Cooperation
TOR	Terms of Reference
TPAT	Technical, Planning and Advisory (Services) Team
WB	World Bank
WBWD	West Bank Water Department
WRM	Water Resources Management
WSSA	Water Supply and Sewerage Authority

# Executive Summary

Sustainable financing is the ability to secure stable and sufficient long-term financial resources and to allocate them in a timely manner and in an appropriate form to cover full cost recovery. Financial sustainability is not only about the amount of funds needed, but also about how effectively and efficiently money is spent.

## **Sustainable Financing Strategies**

The recommended sustainable financing strategies are:

1. Funds for operating costs and partial capital investment for services providers should be generated by tariffs based on full cost recovery;
2. Most funds for new capital investments should be provided in the short- to medium-term by donors and the Government;
3. Indirect financing should be maximized by cutting down costs and by improving efficiency of production, distribution, and management means and techniques;
4. Loans should be considered in the short- to medium-term to fund projects, particularly projects to reduce non-revenue water;
5. The Government should strongly endorse the practice of prompt payment;
6. The principle of “water revenues should be exclusively spent only for water” is strongly emphasized – water and wastewater departments in municipal systems should abide by MOLG’s directive to open separate dedicated bank accounts;
7. Community relations should be strongly promoted with grassroots campaigns on collections, new investments, tariffs, costs etc.; and
8. Robust financial and accounting systems should be effective in all services providers.

The introduction of full cost recovery tariffs will be a gradual process. It is expected that full cost recovery tariffs will be achieved within five years. The Tariff Regulation of 2013 emphasizes full cost recovery tariffs. It also refers to the desire for an affordable price for the basic consumption needs of low-income households.

Services providers include all water and wastewater utilities presently operating in various forms. The future institutional structure is for these services to be provided through dedicated entities. In the meantime, service providers include Joint Service Councils, Municipal water and wastewater departments etc. It is PWA policy to officially encourage consolidation in the water sector with the preferred solution being a limited number of regional utilities. The National Water Company (the bulk water supplier) is considered a services provider.

These sustainable financing strategies are reflected in the National Water Policy and Strategy for Palestine covering water resources management, water supply and wastewater.

## **Financial and Accounting Systems**

The following applies to financial and accounting systems:

- i. Well-defined financial policies and procedures should be introduced in all services providers e.g. accounting systems should follow accrual or modified accrual accounting in order to be able to measure the actual financial results, financial position, cost of services and tariffs to be implemented;
- ii. The importance of third-part independent audits of services providers is emphasized;
- iii. The need for clear rules for issuing credit notes is emphasized;
- iv. Performance indicators should be used to benchmark services providers;
- v. Non-performing services providers should be subject to escalating sanctions;
- vi. Revenue collections should be improved to over 90% i.e. collections should be improved significantly with all user groups paying for services received;
- vii. Prepaid meters should be introduced if collections do not improve;
- viii. Government subsidies should be provided for user groups unable or not expected to pay for services;
- ix. Ministries, Government Departments, Government Institutions, Municipalities etc. should pay the services providers for water and wastewater within the terms of payment; and
- x. Services providers in turn should pay the National Water Company for bulk water within the terms of payments.

Improved collections together with well-functioning financial and accounting systems and procedures are essential for all services providers.

### **Efficiency**

The importance of efficiency in the management and operations of services providers cannot be over-emphasized. Improving efficiencies and cutting costs is highlighted in the Tariff Regulation of 2013: i) Calculating expenditures to recover costs; ii) Reducing costs through greater management and technical efficiencies, reducing water losses in the system, reducing illegal connections and by increasing revenues through improved collection efficiency; and iii) Improving technical and financial performance (in relation to the approval process for new tariffs).

To achieve efficient and effective management and operations, services providers should concentrate on improving:

- Operational efficiency;
- Billing and collections efficiency;
- Financial and administrative efficiency; and
- Investments efficiency.

### **Sources of Funds**

Possible sources of funds include:

- Consumer tariffs (user tariffs);
- Government funding;

- Donor funds including official development assistance (ODA), non-governmental organizations (NGOs) etc.;
- Self-funding including accumulative funds from amortizing grant funds;
- Loans;
- Indirect funding;
- Community contributions (cash and/or in-kind); and
- Fees including regulatory fees, license fees, penalties and fines, and abstraction (extraction) fees.

At present the main focus for services providers' sources of funds is on consumer tariffs, Government funding and donor funds. In the future the focus will remain on consumer tariffs but will shift away from Government and donors to loans supported by self-funding and indirect funding. Fees will be the future mainstay of WSRC.

### **Investments**

Rolling out the widest possible minimally acceptable water /wastewater coverage with available funds within a reasonable time period is essential. Bringing services to unserved populations should be prioritized.

To ensure long-term sustainability of investments, each new investment should be screened (including cost benefit analysis) before the final investment is authorized to ensure that local resources are sufficient to fund operating costs. If not, service standards, choice of technology, technical standards etc. should be re-examined and appropriate compromises made.

The needs for new investments should be balanced with the needs for funding existing operations. Available resources should be utilized optimally. The needs of unserved populations should be addressed but not at the expense of existing operations. The overall goal for new investments should be to grow the absolute number of people receiving clean water supplies and adequate wastewater services. Existing beneficiaries' rights to services should be respected.

### **Action Plan**

An Action Plan now follows setting out actions required to bring about improvements in the water sector and to facilitate implementation of sustainable financing strategies.

## Action Plan for Sustainable Financing Strategies

Comments	Action Required	Timing
<b>A. PWA</b>		
Capable staff should be assigned within PWA to manage strategies for sustainable financing and to assist in ensuring that the strategies are adopted and implemented within the water sector.	Capable staff should be assigned within PWA to manage strategies and a Quality Assurance Unit or a Monitoring and Evaluation Unit should play a key role in such an activity.	Capable staff should be assigned within PWA to manage strategies.
<b>B. Municipalities</b>		
In many cases it appears that municipalities rely on monies collected from water supply and wastewater services to fund other unrelated costs. On a continuous basis there are insufficient revenues to cover all the costs of the municipalities. The result is that monies that should be used to support water supply and wastewater services are used for other purposes considered more pressing by the municipalities.	Municipalities should be directed to recognize the need to have stand-alone water supply and wastewater service providers. Municipalities should set up official units (if not already existing) to carry out water supply and wastewater activities separately from all other activities of the municipality. An additional major requirement is that each unit operates a separate bank account with proper accounting routines so that monies received to support water supply and wastewater services can be retained for that purpose. Thereafter monies collected for water supply and wastewater services should be deposited to this separate bank account. It is essential that the accounting routines ensure good management of monies received. On a related matter there is a need for the central Government including MOLG and MOF to examine the funding needs of municipalities.	Stand-alone official units (water supply and wastewater service providers) with separate bank accounts should be set up in all municipalities.
<b>C. Collections</b>		
There are a number of reasons why collections from water supply and wastewater services do not reach acceptable benchmark levels. These include possible complications arising from diverted monies (refer municipalities above). Another is non-payment by residents of refugee camps (refer refugee camps below). Also monies received may not be allocated correctly to water supply and wastewater services in the accounts of the municipalities thereby understating the actual collection rates. Setting up stand-alone official water supply and wastewater service providers in	In general improved billing and collection routines and procedures are required in the majority of water supply and wastewater service providers to bring about improvements in collections. Routines should include rotation of collectors and one of the main objectives of such improvements should be to minimize misappropriation and fraud. On a related matter, setting up stand-alone official units with separate bank accounts will contribute to improved collection statistics (refer municipalities above) as will payment by residents of refugee camps (refer refugee camps below). If all these suggested actions do not	Improved collection routines and procedures should be implemented in all services providers including municipalities.



<p>the municipalities with separate bank accounts and proper accounting routines should increase the accuracy of reported collection rates. At the same time it should be acknowledged that improvements in current billing and collections routines and procedures would also contribute to increased collection rates.</p>	<p>bring about improvements in collections then implementing a system with prepaid meters should be seriously considered (refer prepaid meters below).</p>	
<p><b>D. Refugee Camps</b></p>		
<p>It has been suggested that one reason why collections from water supply and wastewater services do not reach acceptable benchmark levels is non-payment by residents of refugee camps. It is not financially feasible for service providers to provide water supply and wastewater services free of charge in the refugee camps.</p>	<p>In general residents of refugee camps should pay for water supply and wastewater services. Costs are being incurred by the service providers and such costs should be paid for by the beneficiaries of these services. It is acknowledged that this is a problem which should be approached diplomatically over a period of time. Discussions should be initiated with community leaders in the refugee camps as soon as possible and this should be accompanied by a series of publicity campaigns. The end result should be that residents of the refugee camps pay in full for water supply and wastewater services.</p>	<p>Residents of the refugee camps should pay in full for water supply and wastewater services. Arrangements (including interim measures) to achieve this should be negotiated.</p>
<p><b>E. Prepaid Meters</b></p>		
<p>it is hoped that collections will be improved by a combination of i) setting up stand-alone water supply and wastewater service providers with separate bank accounts supported by proper accounting routines; ii) introducing improved billing and collections routines and procedures; and iii) payment by residents of refugee camps. If these actions do not bring about improvements in collections then the introduction of prepaid meters should be considered as a means to improve cash flows.</p>	<p>A number of pilot projects in the use of prepaid meters are ongoing. Building on this experience, a roll-out plan should be prepared for the installation of prepaid meters in relevant areas.</p>	<p>A roll-out plan should be prepared for installing prepaid meters in relevant areas.</p>
<p><b>G. Service Providers</b></p>		
<p>Consumers expect efficient operations and object to paying for inefficiencies. Service providers should have a number of goals including efficient operations, cost recovery with breakeven results, good management (particularly essential) etc. To achieve efficient operations service providers should concentrate on improving:</p> <ul style="list-style-type: none"> <li>• Operational efficiency (including control of unaccounted-for</li> </ul>	<p>Existing programs to achieve operational improvements should be expanded. Investments in rehabilitation works (improving networks etc.) are of particular importance as reducing unaccounted-for water brings many benefits to service providers. Consolidation within the sector should be encouraged to reap the benefits of improvements in operations due to better availability of expertise, economies of scale etc. Amalgamation of service providers may bring benefits to tariff</p>	<p>Operational improvement programs should be implemented in the larger service providers over the coming years. Efforts should be directed at trying to bring about consolidation in the</p>

<p>water, UFW)</p> <ul style="list-style-type: none"> <li>• Billing and collections efficiency;</li> <li>• Financial and administrative efficiency; and</li> <li>• Investments efficiency.</li> </ul>	<p>setting as it might be easier for larger service providers to cross-subsidize services across their service areas.</p>	<p>sector to reduce the number of service providers.</p>
<b>H. Community Relations and Communications Campaigns</b>		
<p>Community relations and communication campaigns are very important to strategies for sustainable financing.</p>	<p>Campaigns directed at local communities should continue and related program activities should be increased. As many campaigns as possible should be carried out over the coming years.</p>	<p>As many campaigns as possible should be carried out over the next two years.</p>
<b>I. Investments</b>		
<p>Various investment programs are ongoing and many more are in the planning stage. It is necessary to screen existing and future investment proposals to ensure that they are realistic.</p>	<p>The importance is stressed of screening investments to ensure that local resources are sufficient to fund continuing operating costs. On a related matter, service standards should be developed for choosing technology for investments. A range of realistic minimal water supply and wastewater services standards should be adopted reflecting realities on the ground in a variety of different geographies and/or physical locations, and taking into consideration the community circumstances of various populations and beneficiary groups.</p>	<p>The need for investments (rehabilitation works, new capital investments etc.) is expected to continue for the foreseeable future. Efforts should be directed at ensuring that as many investments as possible are funded after appropriate screening.</p>
<b>J. Counterpart Funding</b>		
<p>It has been suggested that municipalities have problems in raising counterpart funding in the form of actual cash inputs for many of the capital investments where counterpart funding is a precondition for donor involvement.</p>	<p>Counterpart funding should be discussed with relevant donors and efforts should be made to agree appropriate alternatives to cash inputs e.g. contributions-in-kind, charging connection fees etc.</p>	<p>Discussions with donors on counterpart funds (including alternatives to cash inputs) should be initiated.</p>

# 1. Introduction and Background

Strategies for sustainable financing of water sector activities in Palestine are set out in this document.

Sustainable financing is the ability to secure stable and sufficient long-term financial resources and to allocate them in a timely manner and in an appropriate form to cover full cost recovery. Financial sustainability is not only about the amount of funds needed, but also about how effectively and efficiently money is spent, and how benefits will be provided to served communities.

Sustainability implies following and implementing sound financial, accounting and auditing principles and procedures. All available resources (human, technical, financial etc.) should be effectively and efficiently matched, recorded and utilized to achieve the best possible results.

Worldwide there is a significant lack of finance available to fund investments and operating costs for water supply and wastewater activities. This results in unsatisfactory services and/or limited or non-existent access to water supply and wastewater services for many. Major economic benefits result from providing improved water supply and wastewater services. The World Health Organization (WHO) estimates that the health benefit/cost ratio for investments is between 4 and 12 which is a very impressive return.

The positive benefits of investing in water supply and wastewater services need to be promoted widely throughout society, Government, donors etc. Efforts need to be directed at increasing overall funds available for investments in, and maintenance of, infrastructure. Good quality resources (management etc.) need to be retained in the water sector. Otherwise low quality services will continue with no improvements in sight.

Strategies for sustainable financing is organized in the following sections:

- Executive Summary and Action Plan (above)
- Introduction and Background (this section)
- Approach and Methodology including Next Steps
- Challenges including Timing
- Efficiency
  - Operational Efficiency
  - Billing and Collections Efficiency
  - Financial and Administrative Efficiency
  - Investments Efficiency
- Performance Indicators
- Sources of Funds
  - Consumer Tariffs
  - Government
  - Donors
  - Self-Funding
  - Loans
  - Indirect Funding
  - Community Contributions
  - Fees
- Community Relations
  - Promotional, Informational and Communication Campaigns
- Legal, Policy and Institutional Matters.

In addition there are six appendices:

1. Tariff Regulation of 2013;
2. Tariff Issues;
3. The 3Ts, Tariffs, Collections, and Affordability and Willingness-to-pay;
4. Strategic Financial Planning;
5. Key Performance Indicators; and
6. Decentralization.

## 2. Approach and Methodology including Next Steps

A first draft strategies for sustainable financing was prepared after internal discussions within PWA. This draft was circulated to stakeholders and a consultation meeting was held on 1 April 2012. The meeting produced a number of excellent suggestions. These were reflected in a second draft which was circulated to stakeholders. A workshop was held on 20 May 2012. All interested parties were invited to submit written comments.

All verbal and written comments were carefully considered before a third draft was issued. After a period for reflection this updated version was prepared.

The strategies document is intended to appeal to a wide range of stakeholders. Therefore the main text has been kept short and informative specialist text is contained in the appendices.

Analyses of the current situation in the water sector in Palestine were examined in preparing the document but they are not repeated here. Instead the reader is referred, in particular, to the Draft Mid-Term Report (March 2011) of the Institutional Water Sector Review Palestine (IWSR) which deals with many of the sector's financial problems.

### Next Steps

PWA intends to formally adopt the strategies for sustainable financing and to submit it in due course to the Council of Ministers.

PWA, as the governmental body assuming ministerial tasks, will share responsibilities for implementing the measures proposed in the Action Plan with various stakeholders, including:

- WSRC (Water Sector Regulatory Council)
- Ministry of Local Government
- Municipalities
- Water Services Providers
- West Bank Water Department
- Water Union of Service Providers in Palestine
- Donors
- Ministry of Finance
- Ministry of Planning and Administrative Development.

A formalized monitoring mechanism structure will be adopted to ensure jointly agreed and jointly monitored actions. In addition, suitable regulations and strong enforcement measures will be put in place.

### 3. Challenges including Timing

Present circumstances present many challenges e.g. logistical, administrative etc. but this section addresses financing challenges.

Clean water and adequate wastewater services is the right of all. Investment costs are high for developing water sector facilities, and there are continuing daily costs associated with the delivery of clean water and wastewater services to beneficiaries.

A first challenge is the severe shortage of funds for investments including rehabilitation. A second challenge is that many operating water sector facilities do not achieve their potential because of a lack of funds to cover their daily costs.

The challenges of realizing sustainable financing for the water sector (water supply and wastewater services) may be focused on two distinct needs:

- Funds for new capital investments including rehabilitation; and
- Funds for operating costs.

These needs are interrelated. Safeguards are required to ensure that investments in new water and rehabilitated sector facilities are not financed with funds that rightfully should be designated for operating costs. A balance should be struck between the two needs to avoid situations where existing facilities fall into states of disrepair due to lack of maintenance. The overall goal for investments should be to grow the absolute number of people receiving clean water and adequate wastewater services while respecting the rights and supplies of existing beneficiaries. This means balancing the needs for new investments with the needs for funding operating costs.

#### Timing

Timing is also a challenge. Rolling out the widest possible minimally acceptable water sector (water supply and wastewater services) coverage within a reasonable time period (and with available funds) is essential. Bringing services to unserved populations and those beneficiaries presently lacking services should be prioritized. This will entail compromises on service standards, choice of technology, technical standards etc.

## 4. Efficiency

The importance of efficiency in the management and operations of services providers cannot be over-emphasized. Improving efficiencies and cutting costs is highlighted in Article 5, Tariff Criteria, in the Tariff Regulation of 2013 (refer Appendix 1):

- Calculation of the expenditures to recover costs;
- Cost recovery shall be enhanced to reduce costs through greater management and technical efficiencies; reducing water losses in the system; reducing illegal connections; and by increasing revenues through improved collection efficiency; and
- Measurable progress in the improvement of technical and financial performance including reducing loss rate shall be considered by the PWA (as Regulator) before a new tariff is approved.

To achieve efficient and effective management and operations, services providers should concentrate on improving:

- Operational efficiency;
- Billing and collections efficiency;
- Financial and administrative efficiency; and
- Investments efficiency.

These are now dealt with in turn.

### 4.1 Operational Efficiency

Efficient operations are essential as consumers object to paying for inefficiencies. Services providers should have a number of goals including efficient operations, cost recovery with breakeven results, good management (particularly essential) etc.

All existing and new facilities should be operated efficiently. High productivity, minimum water losses and low operating costs should be the order of the day. Efforts should be directed at improving the efficiency of operations of existing facilities. Productivity should be improved, water losses should be minimized and cost savings should be actively sought.

On a continuing basis, operational inefficiencies should be addressed. In particular, unaccounted-for water needs to be reduced as this brings many benefits. A draft document, Non-Revenue Water Reduction Strategy (2012), sets out remedies e.g. detecting leaks, investments in rehabilitation works, improving networks etc.

Operational efficiency will be greatly facilitated if the following are in place (billing and collections systems, and financial and accounting systems are discussed in following sections):

- Capacity building measures;
- Institutional development measures;
- Human resources management system (staff optimization etc.);
- Asset management system (fixed assets register etc.);
- Operational planning system (network operation management etc.);
- Maintenance system (optimizing maintenance plans, maintenance procedures and routines, emergency maintenance plans).

#### **Economies of Scale – Consolidation**

Consolidation within the sector should be encouraged to reap the benefits of improvements in operations due to better availability of expertise, economies of scale etc. Amalgamation of service providers may even bring benefits to tariff setting as it might be easier for larger service providers to cross-subsidize services across their service areas.

## 4.2 Billing and Collections Efficiency

If all consumers (users) pay for services then standards can improve. Consumers are more willing to pay for services if they think that all users are paying. Also consumers will be willing to pay higher tariffs for improvements in services where the services provider is operating efficiently as long as all users are paying.

Collections from water supply and wastewater services do not reach acceptable benchmark levels. Improvements in current billing and collection routines and procedures would greatly contribute to increased collection rates. The importance of tariff revenue collections is emphasized. It is not sufficient to have a billing system, there should also be an efficient collections system to ensure maximized cash collections on a continuing month-by-month basis. Community support (including peer pressure) is essential to achieve and maintain high collection rates.

Two key issues for collections are:

- Ministries, Government Departments, Government Institutions, Municipalities etc. should pay the services providers for water and wastewater within the terms of payment; and
- Services providers in turn should pay the National Water Company for bulk water within the terms of payments.

Cash collections should be maximized on a month-by-month basis. Tariff revenues should be collected in full from beneficiaries to cover reasonable operating costs for services. Payments for bulk water supplies should follow the same principles.

The Action Plan emphasizes a number of problems concerning collections and suggests a number of actions required to bring about improvements:

- Billing and collection routines,
- Municipalities;
- Refugee camps; and
- Prepaid meters.

### **Billing and Collection Routines**

Improved billing and collection routines and procedures are required in the majority of services providers to bring about improvements in collections. Strict collections targets should be set. Computerized systems should be considered. Misappropriation and fraud should be minimized. Routines should include rotation of collectors.

### **Municipalities**

Municipalities generate insufficient revenues to cover costs and rely on monies collected from water supply and wastewater services to fund other more pressing costs. This contradicts standing instructions for municipalities to set up stand-alone official units (water supply and wastewater service providers) with separate bank accounts in line with the principle “water revenues should be exclusively spent only for water”. Water and wastewater departments in municipal systems should



abide by and respect MOLG's directive to open separate bank accounts dedicated for the departments.

### **Refugee Camps**

Residents of refugee camps are not paying for services and this places undue pressure on services providers' finances. This issue needs immediate attention.

### **Prepaid Meters**

If all the various suggestions to improve collections do not succeed, then implementing a system with prepaid meters should be seriously considered.

## **4.3 Financial and Administrative Efficiency**

Financial and administrative efficiency is important. Well-defined financial policies and procedures should be introduced in all services providers e.g. accounting systems should follow accrual or modified accrual accounting in order to be able to measure the actual financial results, financial position, cost of services and tariffs to be implemented. In addition, the importance of third-part independent audits of services providers is emphasized. Performance indicators should also be introduced (refer section 5).

A Unified Financial System for Services Providers is under implementation. Outputs include accounting procedures and policies; financial management manual; financial guidelines; standard chart of accounts etc. In due course the system will be extended to cover financial planning policy including business planning.

As an example, accounting procedures and policies will include:

- Standard allowances (provisions) for bad debts;
- Standard treatment for end-of-service payments and benefits;
- Standard fixed assets valuations;
- Standard depreciation rates; and
- Standard grant amortization rates.

The Tariff Regulation of 2013 refer to calculating depreciation on fixed assets based on real value (depreciation each year shall be calculated on the straight line method from estimates of total fixed assets revalued for that year).

Finally, on a related matter, one suggestion is that monies received may not be allocated correctly to water supply and wastewater services in the accounts of the municipalities thereby understating the actual collection rates. Setting up stand-alone official water supply and wastewater service providers in the municipalities with separate bank accounts and proper accounting routines should contribute to improving the standard of record keeping thereby increasing the accuracy of reported collection rates.

### **Standard Credit Notes Procedures**

The need for clear rules for issuing credit notes is emphasized. Clear rules should be in place. Procedures should be followed in an objective manner with levels of responsibility and authority properly defined. Arbitrary decisions should be kept to a minimum and should not be encouraged in dealings with consumers.

The rules should be defined as part of standardized customer complaints procedures.

## 4.4 Investments Efficiency

Investments efficiency is very important but it should not be achieved at the cost of jeopardizing technical and service standards. The long-term objective of investments efficiency should be to ensure sustainability of all investments.

A number of guiding factors are now considered.

### **Systematic Procedures**

Systematic procedures should be in place for the smooth implementation of planned investments.

### **Services Standards**

A range of realistic minimal water supply and wastewater services standards should be adopted. These should reflect realities on the ground in a variety of different geographies and/or physical locations. They should also take into consideration the community circumstances of various populations and beneficiary groups. Presumably different standards should be applied to different situations. Realistically funds will always be in short supply and compromises may be necessary to ensure that the widest possible minimally acceptable coverage is achieved within the available funding limits and within a reasonable time period. Service standards should be reflected in the choice of technology (see technical standards below).

### **Technical Standards**

Appropriate technology is essential to achieve successful expansion of water sector facilities with uninterrupted operations. Choosing the right technology at the right time for the right place is the key to minimizing capital investment costs. Realistically funds will always be in short supply and each investment should, as far as is practical, reflect the following factors:

- designs should not be over-engineered and/or over-dimensioned;
- value for money;
- benefits of economies of scale;
- O&M aspects;
- practical logistical aspects; and
- the technology should be supported locally.

On the future funding of the operations of each investment an important question is whether the likely local resources are sufficient to fund operating costs. If not, the choice of technology should be revalidated with the assistance of a small multi-discipline team which includes a financial planner.

In some cases the availability of “free” funds may encourage the design of over-engineered and/or over-dimensioned solutions with resulting unsustainable O&M costs. “Free” funds may also encourage capital intensive solutions and this should be guarded against to ensure equitable use of funds.

### **O&M Financing Gap**

Where there is an O&M financing gap in a new investment a solution should be provided before the capital investment goes ahead. It should not be accepted for unfunded O&M commitments to exist in the pre-implementation planning phase of any investment.

# 5. Performance Indicators

PWA (as Regulator) has stated that performance indicators should be used to benchmark services providers. A sound performance monitoring system should play a key role in improving the quality of services providers' services. The objective should be to improve service delivery and enable service providers to achieve financial sustainability.

It is important that performance indicators ensure:

- Consistency of information – same definitions used by all services providers; and
- Ratios etc. are applied consistently across all services providers.

Financial key performance indicators (KPIs) have been chosen in the light of the need to improve service delivery and enable service providers to achieve financial sustainability. The KPIs chosen are those that impact on the services providers' financial stability, covering costs of production and operation, collection efficiency etc. and which highlight current administrative practices. The relevant financial KPIs chosen are (refer to Appendix 5 for more details):

- Average selling price per m<sup>3</sup>;
- Operating costs per m<sup>3</sup>;
- Working ratio;
- Collection efficiency (%);
- Staff Productivity Index (No.); and
- Non-Revenue water by volume (NRW) %.

It is strongly recommended that non-performing services providers should be subject to escalating sanctions which could even include complete dissolution of the relevant services provider.

It is also strongly recommended that the performance monitoring system includes a requirement for services providers to deliver "clean" audit reports in a timely manner. Well-defined and functioning financial and accounting systems and procedures are an integral requirement for all services providers.

## 6. Sources of Funds

Funds are required in broad terms for i) Capital investments (water supply and wastewater services); and ii) Operating costs. Sources of funds are discussed here to determine how they should be used to ensure effective and efficient sustainability.

In terms of quantifying the level of capital investments required, the National Water Policy and Strategy for Palestine is being finalized together with an extensive investment program and a list of priority capital investments for implementation in the short-term. It is understood, funds permitting, that the preferred investment planning process is a continuously updated three-year budgeting cycle with priority investments implemented on a three-year rolling plan.

Possible sources of funds include:

- Consumer tariffs (user tariffs);
- Government funding;
- Donor funds including official development assistance (ODA), non-governmental organizations (NGOs) etc.;
- Self-funding including accumulative funds from amortizing grant funds;
- Loans;
- Indirect funding;
- Community contributions (cash and/or in-kind); and
- Fees including regulatory fees, license fees, penalties and fines, and abstraction (extraction) fees.

At present the main focus for services providers is on consumer tariffs, Government funding and donor funds. In the future the focus will remain on consumer tariffs but will shift away from Government and donors to loans supported by self-funding and indirect funding. Fees will be the future mainstay of WSRC.

In addition, it may be noted that, over time, it should be possible to explore various forms of private sector participation.

A summary table for sources of funds follows.

In the sections after the table, details are provided on the various sources of funds under the headings:

- Availability and Timing – Present, Foreseen and Future;
- Proportion of Existing Funding;
- Level of Security and Stability (High/Medium/Low);
- Prerequisites; and
- Applicability.

Summary Table – Sources of funds

Funds	Availability and Timing			Proportion of Existing Funding	Level of Security and Stability (H/M/L)	Prerequisites	Applicability
	Present	Foreseen	Future				
<b>Consumer Tariffs</b>	Tariffs charged do not cover continuing operating costs	Tariffs charged will cover continuing operating costs	Full cost recovery tariffs will be charged	Major source - to the extent possible, tariffs presently collected pay operating costs	Medium on average; hopefully moving to High	Major improvements in collections; Full cost recovery tariffs to be introduced	Services Providers
<b>Government</b>	Limited funding available	Limited funding available	Limited funding available	Significant source for PWA; Minor source for Services Providers' investments	Low; hopefully moving to Medium	Requests should follow budget cycle and should align with Government priorities	PWA; Services Providers
<b>Donors</b>	Funding committed and available but investments are not being rolled out quickly enough	Committed funding will be taken up more efficiently with faster rollout of investments; WSRC aspects	Donor funding expected to gradually reduce in the longer term	Significant source for PWA and Services Providers' investments; Expected to be a significant initial source for WSRC	Medium	Improved investment rollouts by PWA and Services Providers; Gradual financial independence for WSRC	PWA; Services Providers; WSRC
<b>Self-Funding</b>	Limited	Good potential	Good potential	Insignificant	Possibility to move to Medium	Major improvements in tariff rates and collections	Services Providers

<b>Loans</b>	Limited	Good potential	Good potential	Insignificant	Medium	Well-designed Non-Revenue Water reduction projects	Services Providers
<b>Indirect Funding</b>	Limited	Good potential	Some potential	Insignificant	Possibility to move towards Medium	Well designed improved efficiency programs	Services Providers
<b>Community Contributions</b>	Limited	Limited	Limited	Insignificant	Medium	Consultations with communities; Transparency in projects; Community benefits promoted positively	Services Providers
<b>Fees</b>	Limited for PWA	Limited for PWA; Increasing importance for WSRC	Limited for PWA; WSRC expected to be self-financing	Insignificant for PWA	Medium; hopefully moving to High	Regulations; Self-funding financial independence for WSRC	PWA; WSRC

*Notes:*

*Services providers include the National Water Company(ies), the bulk water supplier(s)*

*Full cost recovery tariffs to be introduced as per the Tariff Regulation of 2013*

*The comments on Donors and Loans exclude the issues of funding the desalination plant in Gaza*

## 6.1 Consumer Tariffs

Consumer tariffs are user charges paid by beneficiaries for services received. In practice tariffs, more particularly monies actually collected, fund the operating and other costs of services providers.

Operating costs include purchased (bulk) water, salaries, chemicals, power, fuel, distribution costs, regular maintenance and rehabilitation costs, spare parts, other supplies, billing and collection costs, general expenses etc. and also other administrative costs.

Water and wastewater tariffs in Palestine are subject to the Tariff Regulation of 2013. Appendix 1 contains a copy of the regulation. Appendix 2 raises tariff issues while Appendix 3 deals with the 3Ts, tariffs, collections, and affordability and willingness-to-pay.

### **Availability and Timing**

#### ***Present***

Tariffs are charged by all services providers for services provided. The tariffs charged do not cover budgeted operating costs.

#### ***Foreseen***

Tariffs will have to be increased to cover budgeted operating costs.

#### ***Future***

Tariffs will be calculated on the full cost recovery basis. The Tariff Regulation of 2013 states that full cost recovery is “achieved through revenues that cover operating and maintenance costs; calculating the depreciation of fixed assets based on real value; loans and their interests; and investments for development purposes.” Full cost recovery tariffs should be in force within five years.

### **Proportion of Existing Funding**

Services providers rely on tariffs to fund operating costs. Monies collected are not sufficient to fund budgeted operating costs.

### **Level of Security and Stability (High/Medium/Low)**

At present the security and stability of tariffs is, at best, medium. There is great scope to increase this to high by improving i) service provision; and ii) collection rates.

### **Prerequisites**

Collection rates will have to be improved significantly. Tariffs will have to be increased gradually but the short-term objective should be to cover budgeted operating costs. Full cost recovery tariffs will have to be in force within five years.

### **Applicability**

Consumer tariffs apply to services providers. Services providers include all water and wastewater utilities and include Joint Service Councils, Municipal water and wastewater departments etc. as well as the National Water Company (the bulk water supplier).

## 6.2 Government

Government funds may be used for capital investments, operating expenses and/or subsidizing consumers. In practice they are probably best earmarked for capital investments as they are not predictable. Predictability of Government funds' timing is as important as amounts.

Strategies for sustainable financing recommends that Government funds should be directed towards specific capital investments. Specific capital investments can be matched on an investment-by-investment basis to specific Government budget funding. After that, any lack of predictability on timing will only impact on the progress of the individual capital investment.

Government finances are being restructured at present. There is a realization that public sector resources need to be reallocated in a more structured manner and directed at more productive activities. At the same time efforts are continuing to improve the governance and performance of public institutions at all levels. While these efforts should improve the performance of Government, public institutions etc. they may not result in increased funds being provided to the water sector.

### **Availability and Timing**

#### ***Present***

Available Government funding is limited.

#### ***Foreseen***

The present situation will continue for the foreseeable future.

#### ***Future***

The present situation will continue in the future.

### **Proportion of Existing Funding**

Government funding is a significant source of funding for PWA as the authority is largely dependent on the Government budget for funding day-to-day costs. PWA and services providers receive contributions from the Government towards capital investment projects in the order of 10% of the total for projects.

### **Level of Security and Stability (High/Medium/Low)**

At present the security and stability of Government funding is low. This may improve to medium in the future.

### **Prerequisites**

Government funding is accessed via the budget cycle. Requests should follow normal budget procedures and should align with Government priorities.

### **Applicability**

Government funding applies to PWA and services providers.

## **6.3 Donors**

Donor funds include amounts provided by official development assistance (ODA), non-governmental organizations (NGOs) etc. and they tend to be mainly capital in nature. In practice these amounts are often integral parts of approved structured programs and the release of funds is fairly predictable.

Strategies for sustainable financing recommends that donor funds should be directed towards specific capital investments. Specific capital investments can be matched on an investment-by-



investment basis to specific funding being provided by a donor or donors. In general special arrangements apply to the execution of capital projects and release of funds is tied to closely monitored progress targets.

The large desalination project in Gaza is considered a special case for funding.

### **Availability and Timing**

#### ***Present***

Donor funding is available. According to PWA records commitments by donors far exceed disbursements. Many projects are delayed due to obstruction tactics by Israel.

#### ***Foreseen***

Donor funding will continue to be available. It is hoped that committed funding will be taken up more efficiently with faster rollouts of capital investment projects. It is expected that donor funding will be important in the initial years of WSRC.

#### ***Future***

Donor funding is expected to gradually reduce in the longer term.

### **Proportion of Existing Funding**

Donor funding is a significant source of funding for capital investment projects undertaken by PWA and by services providers. They receive contributions from donors towards capital investment projects in the order of 90% of the total for projects. In the initial years of WSRC it is hoped that donor funding will be a significant source of funding. NGOs provide valuable contributions to many small-scale projects.

### **Level of Security and Stability (High/Medium/Low)**

The security and stability of donor funding is medium. There is always some uncertainty attached to donor funding.

### **Prerequisites**

Donor funding is accessed via the procedures of the individual donors. These procedures differ from donor to donor but efforts are being made to standardize the process.

### **Applicability**

Donor funding applies to PWA and services providers.

Active co-ordination of investment activities with all interested donors, including international financial institutions (IFIs), should be a priority. Flexibility is required when dealing with donors. Donors may only be willing to fund certain types of investments, certain locations etc. and the realities of donor preferences in this regard should be considered carefully as otherwise the funding may be lost.

## **6.4 Self-Funding**

Most service providers are receiving grants from donors to rehabilitate and to expand infra-structure of water facilities. Currently these grants are dealt with as free money with no cost. In fact these donations should be dealt with as virtual loans and the present generation should not be the only beneficiary from them. Future generations should also enjoy the benefits of these grants by

amortizing them over a long period of time. The accumulative amortized balances will be used to finance future expansion of infrastructure while the depreciation accumulative balance will be used to replace existing assets.

It is recommended that the culture of amortizing grant funds is advised by PWA to service providers and the annual amortized amounts are considered as part of the costs in the accounts of the service provider in each fiscal year.

#### **Availability and Timing**

##### ***Present***

Self-funding is very limited as existing tariffs do not generate surpluses as they do not cover budgeted operating costs.

##### ***Foreseen***

The use of self funding is recommended in the foreseeable future.

##### ***Future***

The use of self funding will increase in future.

#### **Proportion of Existing Funding**

Self-funding is an insignificant source of funding as monies collected are not sufficient to fund budgeted operating costs.

#### **Level of Security and Stability (High/Medium/Low)**

The expected future level of security and stability of self-funding is medium.

#### **Prerequisites**

Collection rates will have to be improved significantly. Full cost recovery tariffs will have to be introduced.

#### **Applicability**

Self-financing applies to services providers.

## **6.5 Loans**

Loans are a definite prospect in the medium term and should be considered to fund or partially-fund projects addressing operational inefficiencies e.g. to reduce non-revenue water (these projects are considered self-financing with a payback horizon of three to five years). The Non-Revenue Water Reduction Strategy has been produced separately and may be referred to for more details.

Taking out loans is supported by the Tariff Regulation of 2013 which states that full cost recovery is “achieved through revenues that cover operating and maintenance costs; calculating the depreciation of fixed assets based on real value; loans and their interests; and investments for development purposes.”

#### **Availability and Timing**

##### ***Present***

Funding by means of loans is very limited.

##### ***Foreseen***

The use of loans is expected to increase in the foreseeable future.

***Future***

Loans will be a major source of funding in the future.

**Proportion of Existing Funding**

Loan funding is an insignificant source of funding. In some cases a relatively low-value soft loan is provided together with a high-value grant as part of an overall funding package.

**Level of Security and Stability (High/Medium/Low)**

The expected future level of security and stability of loans is medium.

**Prerequisites**

Initially, projects for loan funding should have payback horizons of three to five years. Projects will be designed with proper safeguards to help reduce risks and uncertainties in relation to interest payments and capital repayments. Government guarantees may facilitate the granting of loans by financial institutions. At the same time collection rates will have to improve significantly and full cost recovery tariffs will have to be introduced.

**Applicability**

Loan funding applies mainly to services providers. Projects in the medium term should address operational inefficiencies. In the long-term capital investments could be financed by loans.

## 6.6 Indirect Funding

Indirect funding is achieved by cutting down costs, and increasing efficiency of production, distribution and management procedures. Projects to improve efficiency are easy projects to implement in the sense that the return from these projects is high. Efforts should be directed at improving the efficiency of operations of current facilities by improving productivity, minimizing water losses and actively seeking cost savings. Such efforts release funds for implementing improvements in operating conditions, rehabilitating and modernizing existing facilities, and possibly expanding existing facilities.

**Availability and Timing**

***Present***

Indirect funding is very limited as efforts at improving efficiency are considered difficult to implement.

***Foreseen***

The use of indirect funding is expected to increase in the foreseeable future.

***Future***

Once efficiencies have been optimized the potential for indirect funding will reduce as, in future, all services providers will be efficient.

**Proportion of Existing Funding**

Indirect funding is an insignificant source of funding as monies collected are not sufficient to fund budgeted operating costs.

### **Level of Security and Stability (High/Medium/Low)**

The expected future level of security and stability of indirect funding is medium.

### **Prerequisites**

Well designed projects to improve efficiency will have to be designed and implemented. At the same time collection rates will have to improve significantly with full cost recovery tariffs being introduced.

### **Applicability**

Indirect funding applies to services providers.

## **6.7 Community Contributions**

The amount of funding from community contributions (cash or in-kind) is not significant in money terms. However community contributions provide a very important signal of the community's commitment to a given investment and they should be actively encouraged. The availability of community contributions should not lead to unviable investments going ahead. One area of interest is connection fees.

### **Availability and Timing**

#### ***Present***

The amount of funding obtained through community contributions is limited.

#### ***Foreseen***

Community contributions should become more important in the foreseeable future. It is suggested that connection fees should be included in funding plans for new investments in served communities. It is also suggested that increased public awareness of the benefits of increased efficiency and support for projects is a virtual form of community contribution.

#### ***Future***

Community contributions should be considered for all capital investments in the future.

### **Proportion of Existing Funding**

Community contributions represent an insignificant proportion of capital investment projects undertaken by PWA and services providers. NGOs may receive community contributions-in-kind for their small-scale projects.

On a related matter, some municipalities have problems in raising counterpart funding (actual cash inputs) for many of the capital investments where counterpart funding is a precondition for donor involvement. In the Action plan it is suggested that counterpart funding should be discussed with relevant donors and efforts should be made to agree appropriate alternatives to cash inputs e.g. contributions-in-kind, charging connection fees etc.

### **Level of Security and Stability (High/Medium/Low)**

The expected future level of security and stability of community contributions is medium.

### **Prerequisites**

Consultations with communities on project designs and transparency in implementation of projects. Positive interactive promotion of projects' benefits to communities.

### **Applicability**

Community contributions apply to PWA and services providers, and NGOs may receive community contributions-in-kind.

## **6.8 Fees**

Fees include regulatory fees, license fees, penalties and fines, abstraction (extraction) fees etc.

Fees will be an important source of funding for WSRC as it is expected to become self-funding in the medium term through a combination of regulatory fees levied on services providers, various licensing fees, and fines and penalties. Contributions from license fees, abstraction (extraction) fees, and fines and penalties are a minor source of funds for PWA.

### **Availability and Timing**

#### ***Present***

The level of fees raised by PWA is very limited.

#### ***Foreseen***

The amounts of fees raised by PWA will continue to be very limited. Fees will become an increasingly important source of funds for WSRC.

#### ***Future***

The amounts of fees raised by PWA will be limited. Fees will be a significant source of funds for WSRC as it is expected to become self-financing in the future.

### **Proportion of Existing Funding**

Fees are an insignificant source of funding for PWA.

### **Level of Security and Stability (High/Medium/Low)**

The expected future level of security and stability fees for WSRC is medium. This will hopefully increase to high in due course.

### **Prerequisites**

Duly constituted regulations on fees. Self-funding financial independence for WSRC.

### **Applicability**

Fees apply to PWA at present but will also apply to WSRC in the future.

# 7. Community Relations

Community relations are be at the forefront of strategies for sustainable financing. Campaigns should involve all stakeholders. Grassroots campaigns should be strongly supported by community leaders. Community support (including peer pressure) is essential to achieve and maintain high collection rates. Prominent local leaders are the key to obtaining this support.

## 7.1 Promotional, Informational and Communication Campaigns

Effective successful promotional, information and communication campaigns in relation to tariffs, costs, collections and new investments are essential.

The possible messages are many and include the need to promote and explain:

- who benefits from the tariff revenues;
- the need for O&M;
- how tariff revenues are used;
- why tariffs are required;
- how tariffs are set;
- costs;
- transparency of processes;
- community relations;
- community involvement;
- the importance of achieving high collection rates;
- the importance of paying on time;
- the importance of making sure everyone pays;
- the practicalities of connections and supply;
- the need for compromise on technical and service standards;
- the many costs associated with investments; and
- the many problems associated with implementing successful investments.

In general, campaigns should involve all stakeholders. Campaigns in local communities should be cleared with prominent local leaders, and should have their open support and active participation (especially important in relation to collections campaigns).

## 8. Legal, Policy, Institutional Matters

Appropriate laws and policies, together with suitable institutional arrangements, are essential to the success of the strategies for sustainable financing. It may be noted that there are many ongoing initiatives in relation to legal, policy and institutional matters.

The strategies for sustainable financing are consistent with the following:

- Water Law;
- National Water Policy and Strategy for Palestine;
- Draft Non-Revenue Water Reduction Strategy (2012);
- Tariff Regulation of 2013; and
- General principles of the anticipated regulatory (performance) agreements with services providers.

On institutional matters it is acknowledged that donors have been actively involved in many initiatives and the lessons learnt have been considered in framing these strategies.

One other area of interest is the issue of decentralization (Appendix 6 refers).

### Notes

The water sector is presently governed by the Water Law, Law No. 3 of 2002. The water law is being updated.

The National Water Policy and Strategy for Palestine (NWP&S) dealing with policies and strategies for water resources management, water supply and wastewater is being finalized. NWP&S indicates that water is an economic good. It states that i) water has a unique value for human survival and health; ii) water has an economic value in all its competing uses; and iii) water services are not free. It also states that the Polluter Pays Principle will be enforced.

NWP&S is in line with existing governing documents including the Strategy for the Water and Wastewater Sector (2011-2013), the Draft Water Resources Management Strategy (1997), the National Water Policy (1995), the Water Sector Strategy Planning Study (WSSPS, 2000), the National Water Plan (NWP) 2000 and the Coastal Aquifer Management Plan (CAMP) 1999-2004.

# Appendices



# Appendix 1 Tariff Regulation of 2013

## **Water Tariff Regulation**

**Nom ( ) for the year 2013**

### **Cabinet of Ministers**

Based on

The provisions of the Amended Basic Law for the year 2003 and its amendments, Article (70) in particular,

Water Law number 3 for the year 2002; Articles (20, 26, 42) in particular,

Law No. (1) for the year 1997 on the local authorities; Article (15) in particular

And upon

The recommendation of the National Water Council,

What was approved by the Cabinet of Ministers in its meeting held in Ramallah on 15 \ 01 \ 2013,

Authorized powers by law,

And for the sake of Public interest,

We have issued the following regulation:

## Article 1 - Definitions

**Authority:** Palestine Water Authority

**Council:** National Water Council

**Water and Wastewater Service Providers:** Local authorities, joint service councils, local water and wastewater facilities, regional water facilities and water associations

**Water Supplies and Wastewater:** the services supplied by service providers to domestic, industrial, commercial, and touristic uses.

**Tariff regulation:** parameters, criteria and standards used in pricing water.

**Tariff Structure Factors:** means the relative weight given to the unit volumes of water consumption between different user groups and at different consumption levels.

**Tariff Prices:** means the prices per unit volume charged to the different categories of users at the different volumes of water consumption and wastewater discharge

**Tariff Model:** Tariff design model prepared by Water Authority in coordination with the Ministry of Local Government

**Accrual Cost Accounting System:** is the registration of income when collected, as well as expenses (cost) when obligations arise, not when payments take place.

## Article 2 - Application of Regulation

This Regulation shall be implemented by the water and wastewater service providers under the supervision of the Ministry of Local Government and the Authority's control.

## Article 3 - Tariff Policy Objectives

The prices charged in accordance with tariff criteria shall be set by the water and wastewater service providers to fulfill the following policy objectives:

**Cost Recovery:** The approved tariff ensures cost recovery by water and wastewater service providers. Full recovery is achieved through revenues that cover operating and maintenance costs; calculating the depreciation of fixed assets based on real value; loans and their interests; and investments for development purposes.

1. **Social Equity:** The tariff structure shall set an affordable price for the basic consumption needs of low-income households.
2. **Economic Efficiency:** The tariff structure shall set an economic price for the higher consumption levels to encourage conservation of water resources.

## Article 4 - Tariff Strategy

1. User categories shall include all domestic, commercial and industrial and touristic fields.
2. The costs of providing water supplies shall be allocated between the different user groups and between different levels of consumption. Prices charged to consumers shall increase with increasing levels of consumption.
3. The costs of wastewater services shall be allocated between the different user groups based on the volume of water consumed. Fees charged will follow a progressive scale depending on the volume of wastewater.

### **Article 5 - Tariff Criteria**

The tariff criteria for water and wastewater service providers are based on the unified model. The tariff design for a certain period shall show the following steps:

1. Calculation of the expenditures to recover costs.
2. Assessment of the affordable price for low income groups.
3. The future economic cost of water and wastewater per cubic meter.
4. Design of the tariff structure to implement policy objectives that are approved by the council.
5. Fixing of unit prices for the different user categories and different consumption levels.
6. Cost recovery shall be enhanced to reduce costs through greater management and technical efficiencies; reducing water losses in the system; reducing illegal connections; and by increasing revenues through improved collection efficiency.
7. Measurable progress in the improvement of technical and financial performance including reducing loss rate shall be considered by the PWA before a new tariff is approved.

### **Article 6 - Calculation of Costs**

Costs shall be calculated from historic cost data for individual line items – in accordance with article (5) from this regulation – obtained from an Accrual Cost Accounting System. Where such accounting system is not yet in place, costs shall be estimated from existing accounts. Costs included in the Tariff Application Regulation are as follows:

1. Customer or Access fixed costs for meter reading, customer billing and collection, and administrative overheads shall be calculated based on actual costs of the individual service components. Overhead costs for offices, administration, legal and personal services shall be included in the Customer fixed costs.
2. Volume-related costs for Operation and Maintenance (O&M) shall be calculated from the actual costs of power, chemicals, inventories, personnel, transport, etc., used in providing and delivering the potable water to the users and taking away and treating the wastewater to acceptable standards. Also, the costs of buying large quantities of water (wholesale) are included in the unit price paid by service providers.
3. Depreciation each year shall be calculated from estimates of total fixed assets re-valued for that year using the straight-line method.
4. Interest charges on loans taken out to finance new investments shall be included as a cost at the interest rate paid.

### **Article 7 - Customer Charges for Water Supplies and Wastewater Services**

1. Charges billed to users shall be shown on individual invoices and shall include information on:
  - a. Customer or access charges to cover meter reading and/or rental, and administration, service and billing costs;
  - b. Volumetric charges based on Quantity Blocks (in meters) to cover the costs of delivering the water consumed or removing the wastewater discharged;

- c. A surcharge for heavy polluters into the sewerage system.
  - d. Any fines for delayed payments, reconnections etc.
2. Water and wastewater service providers issue invoices for customers every month or two months.

#### **Article 8 - Tariff Adjustment**

1. Water and wastewater tariffs may be adjusted if there were an increase in electricity prices and/or the increase in buying wholesale which result in unforeseen and detrimental increases in service providers costs.
2. The submission of Tariff Applications process shall follow the steps as given in Figure 1.

#### **Article 9 - Data to Be Supplied**

The water and wastewater service providers shall provide the following data to PWA:

1. Technical and financial performance data .This shall be in a standardized form.
2. A summary of the proposed adjusted tariff in a standardized form

#### **Article 10 - Tariff Adjustment Procedures**

1. The application for tariff identification or amendment is submitted by the service provider to the Ministry of Local Government which in its turn transfers it to the Water Authority.
2. The PWA shall appraise the Application in the following steps:
  - a. Check that the price triggers for a tariff change are operative;
  - b. Check that the proposed tariff meets PWA policy objectives;
  - c. Check that established performance improvement targets are being met.
3. The Authority shall express its opinion on the application within a period not exceeding thirty days from the date of receipt; in case of lack of response within this period, the application will be considered acceptable.
4. Should the Application fail to meet what is mentioned in paragraph (2) from this article, the Application will be rejected and returned to the Ministry of Local Government which will inform the service provider with the reasons for non-approval for revision and compliance.
5. The water and service providers may return to the competent court in case of application refusal.

#### **Article 11 - Commitment to Tariff Structure**

Water and waste water service providers shall set water prices for different uses in accordance with tariff criteria mentioned in this regulation.

#### **Article 12 - Cancellation**

Everything that contradicts with the provisions of this regulation is cancelled.

### **Article 13 - Implementation**

All Competent authorities, each in its area of competence shall implement the provisions of this regulation. This regulation shall be applicable from the date of its issuance and shall be published in the Official Gazette.

Issued in the city of Ramallah on /01/2013

Corresponding to from the year 1434 AH

Salam Fayad

Prime Minister

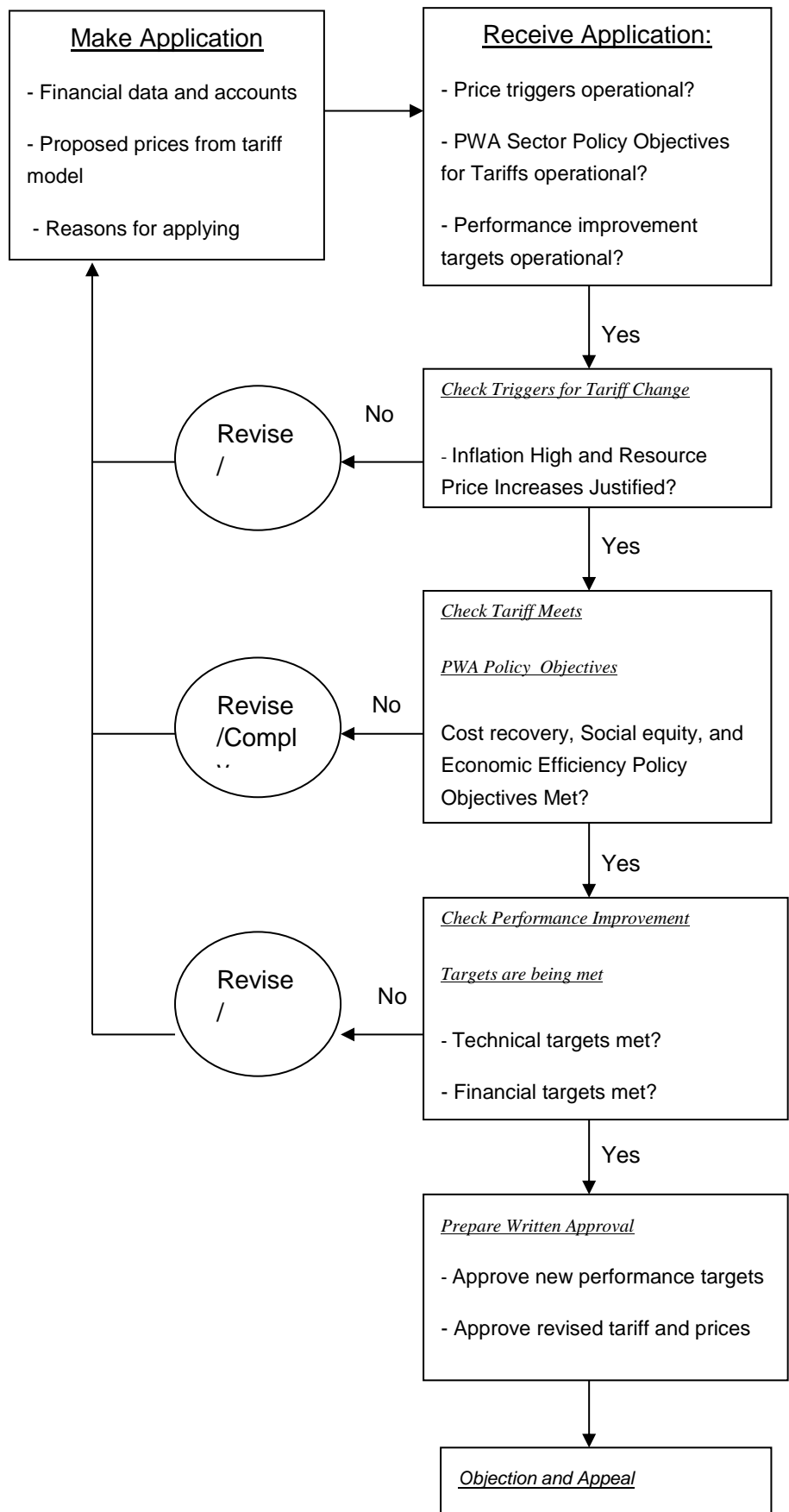
**Figure 1 : Tariff Adjustment Application and Approvals Process**

**APPLICATION FOR TARIFF ADJUSTMENT And Approval.** Steps:  
Service Providers – tariff adjustment application – PWA

**APPRAISE APPLICATION:**

- PRICE TRIGGERS
- POLICY OBJECTIVES
- PERFORMANCE TARGETS

**APPROVAL FOR TARIFF CHANGE**



# Appendix 2 Tariff Issues

It is essential that there is sufficient overall revenue from actual collections to fund continuing operating and other costs. Tariffs for each service area should be sufficient to fund the costs of that service area calculated according to the full cost recovery basis. The main reason for this is that funds from all other sources (including Government) are not regular and the amounts are not predictable. Without a stream of predictable revenue it will be impossible to operate any service area over the medium-term in a proper manner and to provide reliable services to beneficiaries.

Thus for each existing service area a proper budget should be prepared for operating and other costs, and tariff revenue collections should be planned to cover these budgeted costs. Collections should be maximized month-in, month-out on a continuing basis.

The same process should apply for each new investment except this process should be carried out as part of the investment preparation planning and before the final investment is authorized. Operating and other costs should be validated.

In financial terms tariff revenue is at the heart of cost recovery which means that in the long run tariffs should cover costs calculated on the full cost recovery basis. On a related matter, Appendix 3 gives details on the 3 Ts, tariffs, collections, and affordability and willingness-to-pay.

Introducing full cost recovery tariffs is expected to be a gradual process. Full cost recovery tariffs are expected to be in force within five years. The immediate short-term emphasis should be on tariff revenue collections covering budgeted operating costs. Over time it is reasonable to assume that improved efficiency and reliable services will instill confidence in beneficiaries to pay higher tariffs to ensure better services, and to cover rehabilitation and modernization costs as well as contributing to fund investments for expansion.

The emphasis above is on water supply and wastewater services tariffs. In general tariffs may be said to cover water supply, wastewater services, water abstraction (extraction) fees and irrigation water charges. In addition there are many different types of users (households, agriculture, industry, commercial, other major users etc.). It may be noted that the objective of water abstraction fees should be to control the levels of abstraction to ensure that water supplies remain sustainable over the long-term and that they do not exceed the renewal capacities /capabilities of the relevant sources (a difficult balancing act in practice).

# Appendix 3 The 3Ts, Tariffs, Collections, and Affordability and Willingness-to-pay

## The 3Ts

The three basic sources of revenue (the 3Ts for short) for the water sector are:

- Tariffs;
- Taxation; and
- Transfers.

Tariffs are amounts charged to customers and are generally expected, as a minimum, to be the main source of funding for recurrent operation and maintenance costs (O&M) of water supply and sanitation /wastewater services.

Taxation – why use the term taxation? – Government contributions, subsidies etc. are funded by taxation. Therefore taxation refers to the amounts coming from the government (more accurately tax-funded amounts as taxes are the source of government monies). Government monies are provided to fund water supply and sanitation /wastewater services by way of capital investment grants, operating grants, customer subsidies etc. In some cases the government monies could be provided by way of soft loans which makes their inclusion under sources of revenue a little confusing at first sight but the amounts originate by way of taxation. Soft loans are considered to contain the signals and incentives necessary to enforce greater financial autonomy.

Transfers refer to amounts coming from external third parties such as official development assistance (ODA) and non-governmental organizations (NGOs), and other forms of solidarity. These amounts may be provided by means of capital investment grants, operating grants etc.

## Full Cost Recovery and Sustainable Cost Recovery

The Water Tariff Regulation (January 2013) clearly indicates that tariffs are to be based on the concept of full cost recovery (FCR) i.e. the approved tariff should ensure cost recovery by water and wastewater service providers – FCR is to be achieved through revenues that cover operating and maintenance costs; calculating the depreciation of fixed assets based on real value; loans and their interests; and investments for development purposes. For those interested, it may be noted that there are references in current tariff-related publications to the concept of sustainable cost recovery (SCR), a modified form of FCR – SCR entails securing cash flows from a combination of the 3Ts to achieve cost recovery.

## Revenue Sources and Loans

Sometimes it is possible to obtain loans (which together with bonds and equity are referred to as market-based finance or repayable sources of finance – bonds and equity are ignored hereafter).

There is often confusion between the revenue sources (represented by the 3Ts) and loans.

The future cash flows from the 3Ts are at the heart of all financial plans in the water sector. The 3Ts revenue streams have to provide revenues for day-to-day operations and maintenance costs (O&M), periodic repairs and replacements, and full-scale modernization and extensions.

Loans may be used to ease the burden on revenue sources' cash flows for a certain period of time but they cannot replace revenue sources. Loans incur costs from the time that they are received – interest is payable on the outstanding loan amounts and at some stage capital repayments become



due. These interest and capital repayment amounts have to be generated by future revenues, most usually tariffs. This means that strong tariff revenues are a requirement to obtain loans as suppliers of loans will only make funds available when they are quite certain that interest and capital repayments will be paid in full. In a way loans may be considered as revenues received in advance as loans have eventually to be repaid from future revenues.

## **Tariffs**

In general, beneficiaries demand high quality water supply and sanitation /wastewater services at an affordable and stable price. At the same time costs (particularly O&M) have to be covered as they arise, preferably by means of a predictable stable revenue base in the form of tariffs. Maintaining levels of service and addressing social protection measures are also factors to be considered.

Well-designed tariffs are crucial for achieving sustainable cost recovery and for providing the right incentives e.g. to use water efficiently. Tariff revenue is at the heart of cost recovery. Recovering O&M costs is an important principle as a failure to do so will result in worsening services and could eventually lead to a total collapse of facilities in due course.

Regular financial resources are required to ensure a continuous level of acceptable service. The most dependable source of such finance is tariffs. In the long-term it is not unreasonable to expect beneficiaries (consumers) to meet all expected costs on a current year-by-year basis through tariffs.

Ideally tariffs, as a minimum, should:

- generate revenue;
- improve efficiency;
- be affordable;
- improve public welfare and equity;
- manage demand; and
- facilitate economic development.

## **Setting Tariffs**

Tariffs can be said to be a function of O&M costs, and O&M costs can be said to be a function of technical and service standards. Some form of tariff producing a certain level of revenue has to be paid by beneficiaries if they wish to continue to receive a certain standard of service.

A pragmatic approach is required to setting tariffs at an individual level. Fair tariffs for individual beneficiaries (users) are difficult to establish but this should not prevent the exercise being undertaken. The starting point for each tariff exercise should be to establish the absolute level of revenue that needs to be collected to cover O&M costs for a certain well-defined period. Once this amount is known the objective of setting tariffs should be to ensure that this amount is generated by the beneficiaries as equitably as possible. Beneficiaries need to understand that it is their responsibility to provide funds for O&M (defined as the reasonable costs of operating a facility under fairly good conditions of efficiency).

In broad terms, if beneficiaries as a group are unhappy with tariff levels they have two choices:

- They can accept a lower standard of service which corresponds to the amounts that they are willing to pay through tariffs; or
- They can make efforts to increase the revenues being generated through tariffs (e.g. by getting all beneficiaries to pay their bills, by paying their bills on time etc.).

## **Types of Tariffs**

In broad terms tariffs may be:

- Variable i.e. linked to consumption;
- Fixed i.e. not linked to consumption;
- Combined fixed and variable (two-part) i.e. a combination of fixed and variable elements;
- Progressive variable i.e. tariffs increase as more water is consumed;
- Combined progressive fixed and variable (two-part) i.e. as per progressive variable but there is also a fixed charge.

A fixed rate tariff charge (a fixed amount that does not vary with use) will raise revenue but will not contribute towards controlling water demand or avoiding water wastage.

All type of variable tariffs (users pay strictly according to the number of units consumed) require some form of metering or other means to measure usage, as do all types of combined fixed and variable (two-part) tariffs. In certain situations meters may be considered to be too expensive but it may be possible to use bulk water meters to control usage at least by area, and peer pressure could also be effective. Metering is required if water demand is to be controlled in some way and/or if wasting water is to be discouraged.

In a two-part progressive tariff the variable element may be progressive by allowing tariff charges to be increased by blocks of consumption. This is referred to as an increasing block tariff (IBT).

One of the main advantages of a two-part tariff is that it delivers somewhat stable revenue streams. The fixed element is not affected by changes in demand and this guarantees a minimum revenue stream (and thereby also reduces financial risk). The variable element charges the beneficiary (consumer) according to units consumed and in this manner conservation can be encouraged to varying degrees as and when required.

### **Polluter Pays Principle**

In its broadest form the Polluter Pays Principle (PPP) is an environmental policy principle which requires that the costs of pollution should be borne by those who cause it. This principle is normally applied when tariffs are being formulated. By its nature, PPP is most suitable for applying to sanitation /wastewater tariffs.

### **Collection Rates**

Increasing revenue from tariffs requires a comprehensive approach, which includes reforming tariff levels and structures, and increasing bill collection rates.

As indicated above, tariffs may consist of fixed charges and variable charges where the latter may be considered a function of usage and price per unit of use (and where different prices per unit may apply depending on consumption patterns). Equally important in terms of the total revenues actually raised are collection rates.

A simple collection rate example follows – if revenues required are based on a 100% collection rate (not the normal situation but this is an example) but the actual collection rate is only 50%, then in theory tariffs will have to be doubled to achieve the targeted revenue. Obviously this is extremely unfair on those who pay their charges. But in reality something similar is happening if collection rates are low. Tariffs don't actually increase by the required factor; rather the delivery of services deteriorates by varying degrees year-by-year until the standard of services reaches rock bottom.

The importance of tariff revenue collections is highlighted together with the need for efficient systems to ensure maximized cash collections on a continuing month-by-month basis. Maintaining good community relations is important in this regard. Community support (including peer pressure) is essential to achieve and maintain high collection rates. Collections campaigns should be directed at all stakeholders and, in particular, should be carried out at local grassroots levels.

## **Affordability and Willingness-to-Pay**

One major point to note on affordability is that it should be based on existing conditions on the ground rather than on so-called generally accepted affordability norms. Many poor people pay far more for supplies through informal channels than what is considered affordable based on the accepted norms for water supply and sanitation /wastewater services (e.g. based on 3-5% of household income).

There are two matters to address under affordability:

- What portion of the costs of providing the services should be covered through revenues from tariffs – i.e. are the total costs proposed reasonable in the context of the overall situation of the group of beneficiaries as a whole? – the answer to this helps to define the tariff level; and
- How tariff revenues should be generated across different income groups, household types etc. – i.e. who should pay what? – the answer to this helps to define the appropriate tariff structure.

Affordability should always be addressed at a local level as the national level does not provide sufficiently detailed information. In addition it is only at a local level that it is possible to determine the actual current shares of household incomes being spent to obtain water supplies. It is these figures which should be used in affordability analyses rather than the so-called affordability norms e.g. un-served households may rely on informal vendors whose charges are many times higher than network supplied water – most likely any charges for regularly supplied network water will show a big reduction compared to these exorbitant charges and will be welcomed as a result by potential beneficiaries as a substantial improvement on their existing situation.

In the same way willing-to-pay surveys should only be relied on when carried out at a local level. In many cases beneficiaries are willing to pay substantially more than expected for better services. Often in such surveys the willingness-to-pay is extremely high, particularly among those relying on informal vendors for much the same reasons as referred to in the previous paragraph.

Protecting the interests of the poor is another point for consideration. Affordability constraints may be confronted by charging “fair and reasonable” tariffs which are applied in an equitable manner. Normally efforts are devoted to ensuring that the poor receive a “lifeline consumption” representing their basic needs at a very reasonable cost. Financial sustainability can be maintained by resorting to cross-subsidization across user groups e.g. large users subsidizing small users, certain user categories subsidizing others, certain areas subsidizing other areas etc.

Subsidies are often mentioned when referring to protecting the interests of the poorer sections of the community. These are very difficult to apply in practice. Often the best intentions end up with the worst consequences i.e. the subsidies miss their target audience completely.

Finally, an interesting point. In situations where revenues are not sufficient to meet O&M costs the levels of services to existing beneficiaries slowly deteriorate and there can be no expansion of facilities. As the poor are generally not connected, this means that they will have to continue to rely on informal sources for their water needs. So in a circular manner it is often argued that, in reality, low tariffs actually make the poor poorer.

# Appendix 4 Strategic Financial Planning

It may be noted that current literature (reports, articles, research and studies etc.) on financing the water sector tends to refer to strategic financial planning (SFP).

SFP is often described as the solution to the problems of financing the water sector. While this is not quite true SFP does offer a framework for dealing with the issues and processes involved in financing the water sector. SFP provides an important means for agreeing water- and sanitation /wastewater-related targets and how they will be achieved.

SFP is concerned with ensuring that a national water sector policy is realistic and that finance is available to implement it. SFP includes an approach, a methodological process and a product i.e. it comprises three basic elements:

- An approach through dialogue among interested parties around clearly stated issues;
- A consensus-building methodology for illustrating the interactions between the main variables in the decision and the implications of choices made; and
- A specific product such as a regularly updated financing strategy which can be linked into annual budgets or medium-term expenditure frameworks (MTEF).

SFP objectives include:

- Providing a structure to enable a policy dialogue to take place, involving all relevant stakeholders, with the aim of producing a consensus on a feasible water sector;
- Illustrating the impact of different objectives and targets in a long-term perspective;
- Linking water sector policies, programs and projects;
- Facilitating external financing by providing clear and transparent data on financial requirements;
- Providing a reality check on the three sources of financing for the water sector (the 3Ts) by identifying sustainable sources of finance as well as financial modalities to support future development.

Expected outcomes from SFP include:

- A shared understanding of issues;
- Consensus on realistic water sector infrastructure targets;
- More objective discussions of tariff policy;
- Considerations of social aspects (e.g. protecting the poor);
- Reflections on the realism of environmental objectives;
- An opportunity to improve the dialogue with the Ministry of Finance;
- The possibilities of incorporating results into the medium term expenditure framework (MTEF).

SFP-related lessons to be learnt include:

- Set realistic targets;
- SFP should be linked to the general budget process;
- Public funds should mainly be used for capital investment purposes;
- The use of subsidies should be severely limited; and
- If used, subsidies should be clearly targeted and the process should be transparent.

## **Sustainable Financing**

Sustainable financing is the product of several factors including

- Keeping costs within reasonable and affordable limits by maximizing operational efficiency;
- Setting service standards within affordable limits;
- Maximizing the basic sources of revenues (the 3Ts).

It is also possible that, in the course of time and in the appropriate circumstances, revenues may be used as security in the process to raise loans (bearing in mind that suppliers of loans will only make funds available when they are quite certain that interest and capital repayments can be paid in full).

## **Financing Gap**

Where a financing gap is identified there are three central decision areas which may be addressed:

- Manage the cost base (improve efficiency and/or adjust service and technical standards);
- Create sustainable financing systems (the 3Ts etc.);
- Allocate finance efficiently and equitably (by geographical area, function etc.).

## **Conclusion**

At this moment in time it is not considered appropriate to carry out a strategic financial planning exercise as there are a number of related exercises ongoing in the water sector. Of particular relevance is the National Water Policy and Strategy for Palestine dealing with policies and strategies for water resources management, water supply and wastewater. An extensive investment program is being also prepared and costed. A related activity is the compilation of a list of priority investments for short-term implementation.

# Appendix 5 Key Performance Indicators

A sound performance monitoring system for services should play a key role in the process of improving the quality of services offered and provide incentives to services providers' managements to increase effectiveness and efficiency. The use of performance indicators offers a sound and internationally accepted form of measurement of the quality of service, efficiency of the services provider, and allows transparent, objective comparisons between different services providers. This should lead to benchmarking between similar undertakings and should encourage them to provide improved services. A performance monitoring system, with its many potential benefits and uses, should be of use to many actors in the water sector. One particular benefit is that it should help to introduce best practices to services providers.

Such a system should define targets for the services providers, assist them to improve their management and the services to the population, help monitor compliance of the services providers to implemented standards, enhance cooperation and interface between PWA and the services providers, inform customers about the performance of their services providers and provide key monitoring tools to help safeguard consumers' interests.

## Key Performance Indicators

Financial key performance indicators (KPIs) have been chosen in the light of the need to improve service delivery and enable service providers to achieve financial sustainability. The KPIs chosen are those that impact on the services providers' financial stability, covering costs of production and operation, collection efficiency etc. and which highlight current administrative practices. The relevant financial KPIs chosen are:

- Average selling price per m<sup>3</sup>;
- Operating costs per m<sup>3</sup>;
- Working ratio;
- Collection efficiency (%);
- Staff Productivity Index (No.); and
- Non-Revenue water by volume (NRW) %.

### Average selling price per m<sup>3</sup>

Water as an essential good should be supplied to consumers at an affordable price. Water prices should be monitored by the regulator to make sure that consumers are not paying more than the actual cost of water. Also they should not be paying for services providers' inefficiencies and poor management. The purpose of this indicator is to compare the average water tariff between services providers.

Calculation method: *Total billed water sales (NIS) / Total domestic, institutional, touristic and industrial water sales (m<sup>3</sup>)*

### Operating costs per m<sup>3</sup>

Operating costs per m<sup>3</sup> help make accurate comparisons of efficiency and effectiveness between services providers. Accurate calculation of operating costs per m<sup>3</sup> of water is important for calculating the price per each m<sup>3</sup>, working ratio, and operating ratio. Many factors influence the variance in operating costs among water service providers e.g. the origin of different water sources. The purpose of this indicator is to compare the level of operating costs between service providers.

Calculation method: *Operation and Maintenance (O&M) and Administrative costs in NIS (excluding depreciation) / Net water sales (m<sup>3</sup>)*

### **Working ratio**

Services provider needs to know how well the operating revenues cover the operating costs and how much margin is left for the services provider to cover its investment and capital costs from its operating revenues. The working ratio is the quotient of the sum of operation and maintenance (O&M) costs and administrative costs (excluding depreciation) divided by the total operating revenues. If the working ratio is greater than 1, then the sum of the operating and administrative costs is higher than the operating revenues, meaning there are financial deficits incurred in the operations cycle. If the ratio is less than 1, then the operating revenues are higher than the operating and administrative cost, which means that the services provider is generating a surplus in the operation cycle that may cover part or all of the capital costs. The working ratio may provide some indication into the effectiveness of implemented tariffs and prices of technical services. The purpose of this indicator is to measure the services provider's ability to pay its operating costs from annual revenues.

Calculation method: *Operation & Maintenance (O&M) costs and Administrative costs (Excluding depreciation) / Operating revenue*

### **Collection efficiency (%)**

The collection efficiency is a ratio measuring the collection from billing in the current year and from outstanding balances. The ideal collection ratio is 100% where all billing in the current year and from outstanding balances are fully collected. Due to bad debts, and possibly poor billing practices, the acceptable ratio should be over 90%. A bad debt is an amount owed to a services provider which has been written off as a loss because the debt cannot be collected for various reasons and all reasonable collection efforts have been exhausted. The ratio reflects levels of efficiency of the service provider's collections staff and the level of consumers' willingness-to-pay. The purpose of this indicator is to measure the services provider's capability to collect its debts from customers. This indicator measures collection ratio from current year and from previous years' debts.

Calculation method: *Water and wastewater fees collections during the year / Total annual water and wastewater billed sales (NIS) ×100%*

### **Staff Productivity Index (No.)**

The staff productivity index is the average number of employees per 1,000 customers. Generally, personnel costs account for about one fifth of the total operating costs for a water services provider. The staff productivity index thus has a direct and significant effect on the cost and selling price of water. Comparisons of the results of this indicator between services providers with similar features help identify areas where there is room for improvement. The purpose of this indicator is to calculate the staff productivity in the services provider by calculating the number of staff needed per 1,000 active subscribers.

Calculation method: *Total number of working staff / (Number of active water subscribers) / 1,000*

### **Non-Revenue water by volume (NRW) %**

Non-Revenue Water (NRW) is the ratio of the total difference between water produced and water billed to customers (including leakages in the network and illicit connections, and that percentage of

water that has in fact been accounted for but was not billed). High NRW increases the operation costs and in many cases results in higher tariffs for customers. This ratio displays the services provider's interest and efforts in maintaining the assets in general and the network in particular, under good working conditions. The result of this indicator helps the services provider plan for investment in rehabilitation or replacement of the network. The purpose of this indicator is to provide a measure of the network deficiency.

Calculation method:  $100\% - (Total\ billed\ quantity\ (m^3)\ during\ the\ assessment\ period / (Total\ supplied\ water\ during\ assessment\ period \pm\ difference\ in\ stored\ quantities\ in\ utility\ reservoirs)) * 100\%$



# Appendix 6 Decentralization

Decentralization is often presented as the solution to all funding problems in the water sector but this may not be the case in reality. Far too often decentralization occurs without an adequate funding framework being in place. Decentralization often results in underfunding of services as the central authority devolves responsibilities and functions without providing the means (including legal instruments) to fund them. In such cases this is far worse than continuing centralization.

Even if funds are available from the central authority there are often problems in respect of the proper use of these funds at a decentralized level. Experience shows that municipalities may not use monies received for the intended purposes when other more pressing needs arise. Thus in the case of monies provided for water sector activities there is a need for a mechanism to ring-fence these monies but, unfortunately, even this may not guarantee success.

Because of this a direct control shall take place over the bank account of each water department or utility through an audit report on an annual basis by a third independent party to show that all money for water is used exclusively for water.