REVIEW AND ANALYSIS OF PRIVATE SECTOR PARTICIPATION MODALITIES IN WATER SERVICE DELIVERY, WITH EMPHASIS ON THE SOUTHERN MEDITERRANEAN REGION

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V4	STRENGTHEN IMPLEMENTATION CAPACITY OFNATIONAL WATER PLANS AT LOCAL LEVEL WITH EMPHASIS ON FINANCIAL SUSTAINABILITY	Ayman Rabi	Suzan Taha,Hosny Khordagui, and Vangelis Constantianos

The SWIM Programme (2010 – 2014)

Contributing to Sustainable Water Integrated Management in the Mediterranean

Funded by the European Commission with a total budget of approximately € 22 million, Sustainable Water Integrated Management (SWIM) is a Regional Technical Assistance Programme aiming to contribute to the effective implementation and extensive dissemination of sustainable water management policies and practices in the South-Eastern Mediterranean Region in view of increasing water scarcity, combined pressures on water resources from a wide range of users, desertification processes and in connection with climate change.

The SWIM Partner Countries (PCs) are: Algeria, Egypt, Israel, Jordan, Lebanon, Libya[1], Morocco, Palestine, Syria and Tunisia.

SWIM aligns with the outcomes of the Euro-Mediterranean Ministerial Conferences on Environment (Cairo, 2006) and Water (Dead Sea, 2008) and also reflects on the four major themes of the draft Strategy for Water in the Mediterranean (SWM), mandated by the Union for the Mediterranean, namely: Water Governance; Water and Climate Change; Water Financing and; Water Demand Management and Efficiency, with particular focus on non-conventional water resources. Moreover, it is operationally linked to the objectives of the Mediterranean Component of the EU Water Initiative (MED EUWI) and complements the EC-financed Horizon 2020 Initiative to De-Pollute the Mediterranean Sea (Horizon 2020). Furthermore, SWIM links to other related regional processes, such as the Mediterranean Strategy for Sustainable Development (MSSD) and the Arab Water Strategy elaborated respectively in the framework of the Barcelona Convention and of the League of Arab States, and to on-going pertinent programmes, e.g. the UNEP/MAP GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem (MedPartnership) and the World Bank GEF Sustainable Mediterranean.

The Programme consists of two Components, acting as a mutually strengthening unit that supports much needed reforms and new creative approaches in relation to water management in the Mediterranean region, aiming at their wide diffusion and replication.

The two SWIM Components are:

- A Support Mechanism (SWIM-SM) funded with a budget of € 6.7 million and
- Five (5) Demonstration Projects funded with a budget of approximately € 15 million

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[1]The situation in spring 2012 is that following formal EC decision activities have been stalled in Syria while Libya has officially become a Partner Country of the SWIM Programme.

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LIST OF ACRONYMS

3Ts	Tariff, Tax, Transfer
ADB	Asian Development Bank
ACP	African, Caribbean and Pacific countries
DBO	Design Build Transfer
BOO	Build Own & Operate
BOOT	Build Own Operate Transfer
BOT	Build Operate Transfer
BOTT	Built Operate Train Transfer
EGP	Egyptian Pound
EU	European Union
EUREAU	European Federation of National Associations of water and waste water services
EUWI Med	the European Union Water Initiative -The Mediterranean Component
FINDETER	Financial Corporation for the Territorial Development
ICSID	International Centre for Settlement of Investment Disputes
IFC	International Finance Corporation (World Bank Group)
IFI	International Financing Institutions
JMP	Joint Monitoring Program (between WHO and UNICEF)
JWSC	Joint Water Service Councils
JWU	Jerusalem Water Undertaking
l/c/d	Litres per Capita per Day
M^3	Cubic Meter
M^3/hr	Cubic Meter per Hour
MCM	Million Cubic Meter
MDG	Millennium Development Goals
MENA	Middle East and North Africa Region
MFI	Microfinance Institutions
MGWA	Madaba Governorate Water Administration
MUS$	Million United States Dollars
MWI	Ministry of Water and Irrigation (Jordan)
NGO	Non-Government Organizations

NRW	Non-revenue Water
OBA	Output-based aid (payment scheme)
ODA	Official development assistance
OECD	Organization of Economic Cooperation and Development
O&M	Operation and Maintenance
ONAS	Office National de l'Assainissement
PIDG	Private Infrastructure Development Group
PPIF	Public Private Investment Fund
PPP	Private Public Partnership
PSP	Private Sector Participation
PWA	Palestinian Water Authority
SONEDE	Société Nationale d'Exploitation et de Distribution des Eaux
SS WSP	Small Scale Water Service Providers
UN	United Nations
UNECE	United Nations Economic Commission for Europe
UNICEF	United Nations International Children's Emergency Fund
UNDP	United Nations Development Program
WAJ	Water Authority of Jordan
WB	World Bank
WBG	World Bank Group
WHO	World Health Organization
WSS	Water Supply and Sanitation
WSSA	Water Supply and Sewerage Authority
WSSS	Water Supply and Sanitation Services
YWC	Yarmouk Water Company

EXECUTIVE SUMMARY

The main objective of the current study is to contribute in developing a better understanding of the potential for private sector participation (PSP) in Water Supply Services Delivery, with emphasis at the local level (i.e. municipal, governorate, provincial or district, rural areas) and at the financial sustainability. More specifically, the Study aims at enhancing the knowledge of the local authorities on the main challenges and opportunities related to the PSP in water service delivery; identifying the necessary steps for creating / further improving the enabling environment for PSP including the legislative, institutional and capacity of involved stakeholders and providing advice on tested financial sustainability mechanisms that are necessary for functional/effective PSPs in water service delivery.

The study will be especially useful for policy and decision makers in the water sector at the national and local levels in the Mediterranean partner countries, notably those who are currently in the process of decentralizing hydro-administrative authority towards local governments, and/or have initiated the process towards private sector participation in water services.

This document was primarily developed through a thorough desk study that reviewed relevant previous work and reference materials, manuals, toolkits and checklists developed by different organisations, institutions and experts on the PSP concept. It was found that the vast majority of the available reference material, report similar PSP models and arrangements regardless of the scale of application; be it local, regional or national. Based on this, it can be claimed that the various tested PSP models listed under this study, if adapted, can be also applicable to the Mediterranean Countries at local level. A determining element for consideration regardless of the scale of application (whether national, regional or local) concerns the type of stakeholders engaged in the model's implementation and the stakeholder's area of jurisdiction. The concept and substance of the models are similar and can be modified to suit local conditions.

The range of model choices that local authorities can consider, to involve private sector in water service delivery, varies from service management contract to full divestiture models. However, the main challenge remains with the selection of the suitable PSP model (or the mix of models) that best fits the local legal, regulatory and institutional capacity of each country.

The fact that some PSP models worked better in some countries while not in others can be attributed various reasons, notwithstanding the inadequate legal, regulatory and institutional environment. This also concerns the often hasty implementation of the various arrangements, without providing the partners with sufficient time to adequately comprehend the allocation of roles, obligations and responsibilities or the opportunities and challenges involved in such partnerships.

To create the suitable enabling environment, governments as well as local authorities often need to undertake a comprehensive and transparent governance reform involving the legal, institutional and regulatory settings. For this process to be successful, the endorsement by all relevant stakeholders is a prerequisite, including at the policy-making and implementation levels. It also necessitates that governments allocate the required human and financial resources to implement these reforms.

Although many Mediterranean countries have initiated or are amidst such reform processes, the culture for undertaking transparent reform is still not well developed, especially in cases where there is political interference in setting the regulatory framework. In addition, the tariff policies that are in place in many countries render the

water services sector unattractive to private sector participation and keep the services dependent on the level of subsidies that the public authority may provide. However, under the escalating economic crisis and the shrinkage in available public financial resources, such subsidies-based models of water service delivery cannot be considered sustainable.

To better address the objectives of the current study, the document is organized in six main sections, discussed in chapters 1-6 respectively. Section 1 discusses the main PSP models and the associated opportunities and risks; Section 2 defines the main roles and responsibilities of the various partners -including local authorities- under the different PSP models. Section 3 identifies the necessary steps for creating and/or further improving the enabling environment, including the legislative and institutional frameworks and the needed capacity of the involved stakeholders; Section 4 summarizes the financial instruments and mechanisms needed to ensure sustainable PSP in water services delivery at the local level. It also briefly delineates the context of some innovative financing mechanisms. Section 5 highlights the skills required to manage PSP at local level; and finally Section 6 addresses the various risks involved with PSP in water service delivery at the local level and summarizes the means to mitigate their impacts.

To assist local authorities with leveraging additional financial resources to ensure a more sustainable service delivery, the development of apposite tariff regulation is essential so as to ensure the generation of adequate revenue stream that would attract both lenders and the private sector to invest in water service delivery. In addition, local authorities are encouraged to follow the principle of “water pays for water”; meaning to use revenue generated from the tariffs to cover the operation and maintenance costs while using government money to pay for expanding the infrastructure at the early stages of the partnership and only approach other market based financial sources after the legislative, institutional and regulatory capacity of the country is developed. To further ensure the financial sustainability of the service, a number of available financial instruments and resources are also presented; among these sources the 3Ts (tariff, tax and transfer) concept is presented in more detail and is coupled with an analysis for its operationalisation .

Furthermore, this study defines the types of risks encountered with the PSP in water service delivery and summarizes the means to mitigate the different types of risks that the partners could face. Moreover, it provides the local authorities with an insight on how to best allocate the different risks among the partners. More precisely, local authorities are advised to allocate the risk to the party that is best able to manage it or deal more effectively with its implications. At the same time, the needed capacity of the local authorities to properly manage the partnership is highlighted and attention is drawn to the importance of clarifying the role of the regulator vis-à-vis the service provider with emphasis on the need for the regulator to monitor the performance of the service provider in terms of outcome(s) rather than monitoring the operation itself.

INTRODUCTION

Water and sanitation are universally accepted as vital for human life, dignity and development. Accentuating this further, access to both clean water and sanitation services was recognized by the United Nations General Assembly on 2010 as a human right. This intensifies the obligation and accountability of governments to increase their political commitment and will to invest in improving access to these two vital elements in order to meet Target 10 of the Millennium Development Goal#7 (*to halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation*).Global investment needed to attain this target is estimated at US $72 billion per year, 18 billion of which in Developing Countries(Hutton and Bartram, 2008). Despite the escalating global economic crisis, development aid for water and sanitation reached 7.8 billion in 2010 (3.6 billion grants and 4.2 concessional loans) and progress toward the achievement of Millennium Development Goal (MDG7) was substantial with 2 billion people gaining access to improved water services and 1.8 billion people gaining access to improved sanitation services between 1990 – 2010 [World Health Organization (WHO)/United Nations International Children's Emergency Fund (UNICEF) Joint Monitoring Program (JMP), 2012]. Despite this important progress, the JMP report indicates that almost 70% of the countries are falling short in meeting their national water and sanitation access targets respectively. This clearly indicates the huge global challenge, be it natural, economic, social or political, that countries are still facing in achieving their targets.

The Southern Mediterranean region is among the regions facing serious and intricate social, economic, environmental and political challenges. Among the most critical challenge is the increasing water scarcity, coupled with overexploitation and pollution of water resources, the trans-boundary nature of most water bodies, climate change implications, vague and largely inadequate governance set-up as well as increasing water demand resulting mainly from rapidly increasing demographic and urbanisation trends. Based on 2006 United Nations' estimates, the population of the region is expected to reach 255 million inhabitants in 2025; of which 179 million people will be living in urban centres.

Recent studies reveal that the public sector in most countries of the region has not so far succeeded in meeting these challenges, and that, -as in 2010- nearly 26 million people remain without adequate water supply. In addition, the investment needed for improving the water supply infrastructure in the region over the coming 10 years is substantial; for example, aboutUS$21 billion are needed for Algeria, Tunisia, Morocco, Jordan and Egypt (Pérard, 2008). Therefore, most Governments of the Southern Mediterranean countries are amidst reform processes of the water sector so as to potentially enhance private sector participation as a mean to contribute to the improvement of water service delivery; raise the capital needed to expand service coverage at the local level; build the technical, regulatory and institutional capacity of the local authorities to better manage the sector; improve the service efficiency and reduce the non-revenue water (NRW). Some countries such as Morocco, Jordan and Algeria started the re-organization of the sector almost 12- 15 years ago. Others such as Tunisia, Egypt, Palestine, Israel and Lebanon are still at the beginning of the process, while some others such as Syria and Libya have yet to start, (Pérard and Mattei, 2007).

In light of the above mentioned challenges and given that the PSP experience in water services in the region is still developing, the current study tries to shed light on the main lessons learnt from the various international experiences. It will further build on the PSP experience in the Mediterranean Region (even if limited) to assist local governments and authorities to better understand challenges and opportunities related to the development of a

successful PSP in water service delivery and enable them to choose the most appropriate model that best fits their legal, institutional and regulatory environment. Therefore, this study tries to highlight the main guidelines and steps that are necessary to enable local authorities to adopt the most appropriate model that suits their local conditions.

The study reviews the PSP models that are mostly in use worldwide and provides clarifications on the roles and responsibilities of the various partners within each model. Moreover, the risks encountered in each model are also highlighted so that local authorities can make informed decisions on what model to choose, when, where and how to allocate risks in order to ensure a successful PSP arrangement within their areas of jurisdictions. In addition, the main steps to create the enabling legal and institutional environment are delineated, whereby local authorities are provided with a useful guiding tool on how to conduct transparent reforms that is a prerequisite for creating such an enabling environment. To help local authorities attain more sustainable PSP models, a number of financial instruments are listed. Local authorities may choose one or a mix of these instruments to ensure financial sustainability of the service. Finally, and while learning from previous experiences on how to better plan PSPs, various risks encountered within the partnership areidentified and the capacity needed for both public and private partners to manage such risks and ensure a well working relation is also summarized.

Finally, it is important to mention that this study does not aim to answer all the questions related to PSP in water service delivery at local level, but to provide a guiding tool instead that can be used and adapted as needed. However, and in order to assist local authorities and users with their planning, reference material is provided at the end of each section for further information and use.

1. Concepts and Approaches towards PSP in Water Service Delivery at the Local Level

1.1 PSP MODELS IN WATER SERVICE DELIVERY

The main types of private sector participation models in water service delivery, as reported in available literature, [e.g. (Organization of Economic Cooperation and Development (OECD)2009, p19), (United Nations Economic Commission for Europe (UNECE), 2008, p2-3), (Asian Development Bank (ADB), 2000), (World Bank (WB)- Public Private Investment Fund (PPIF), 2006)], can be summarized as follows:

1. ***Service contract****: the participation of the private sector is very limited. It provides specific technical and administrative tasks, such as repairs, meter reading or payment collection. The private sector does not bear any commercial risk regarding water supply. The contract period rarely exceeds one or two years but can be renewed. This contract is adapted to all situations even when the regulatory framework is particularly weak.*
2. ***Management contract****: the private sector takes over operation and management responsibilities. However, the user remains legally the client of the public entity. The private contractor is paid on target-based payment defined in the contract or a "fee per unit" basis: per volume of water sold, per number of connections, reduction in NRW, etc. The Government may provide the service provider, whether public or private, the authority to interfere with the staffing of the utility in order to ensure more efficient service provision. The duration of the contract is usually three to five years and the private company does not bear commercial risks regarding water supply.*
3. ***Lease / affermage contract:*** *differs from the management contract in the sense that the private sector is renting the assets and assumes the legal responsibility for operating and maintaining the service in exchange for payments for the use of the fixed assets. The difference between lease and affermage is only in the payment where the operator is paying a fixed fee in the case of lease while he is paying a proportional amount to the volume of water sold in the affermage contracts. Users become direct clients of the private contractor, who bears a much more important part of commercial risks. However, the operator is not in charge of capital investment for new infrastructure but is still responsible for the rehabilitation and maintenance of the existing infrastructure. However, the public partner must coordinate the investment program with the operator .In exchange for greater risks, the leaseholder receives a part or the totality of the water revenues. Because revenues/profits depend on sales and costs, the leaseholder has a direct incentive to improve operating efficiency and increase sales. The duration of the contract is usually 10to 12years.*
4. ***BOT contract****: the private sector is in charge of designing, building and financing new investment projects. It also has to operate and maintain it for the concession period and then hand it over to the public sector. This mechanism has the advantage of not increasing the sovereign debt. This type of contract is usually used for the construction of water production and desalination plants and the sale of bulk water to the public provider rather than for water distribution. Currency risks and the significant length of the legal negotiation process increase the cost of the projects financed under a BOT contract. Therefore, the contractor may encounter a high commercial risk if the negotiation process takes long time, and if he is borrowing in local currency, he might encounter currency devaluation risk (i.e. commercial risk). BOOs (build-own-operate) are similar to BOTs except that they do not involve the transfer of assets to the public sector after a pre-determined period of time. The*

private operator thus remains responsible for carrying out all the investment required to meet its service obligations. Under BOOT (build-own-operate-transfer) schemes, the private sector obtains the capital needed for construction, builds and operates the infrastructure for an agreed period of time (anywhere between 15 and 30 years) and then, transfers ownership back to the relevant government. BOTT (build-operate-train-transfer) is another variation of BOT whereby the private operator commits to train the public sector to allow a smoother transfer. It was used in several projects in South Africa. Other permutations of the activities for which the private sector takes responsibilities exist and typically involve design, build, operate, maintain and finance.

5. ***Concession contract:*** *is similar to the lease contract, but concession contracts are developed to attract private capital to invest in expanding the service and serve more customers. So the private sector is in charge of the investment and in bringing in capital. Improving operation efficiency and reducing NRW are also key issues here, as in other PSP forms. The concessionaire is also responsible for the expansion and the rehabilitation of the network (in addition to the O&M). As in the lease contract, users are direct clients of the private contractor. The duration of the contract ranges between 25 and 30years. At the end of this period, the private operator hands over the installation to the state.*
6. ***Joint venture contract:*** *the state or municipality and a private operator co-own the water operator. Usually, the private sector holds the largest part of the newly created company, but in some cases the state can have a "golden share". The two shareholders share responsibilities and benefits. Even if this agreement seems adapted to the politically sensitive case of water supply, such kind of contract can be very unstable.*
7. ***Full Divestiture:*** *under this contract type, the assets are entirely sold to the private sector. The private sector is in charge of financing, operation, management and bears all the risks. However, the private sector remains overseen by the public sector and independent regulatory agencies.*

It should be noted that governments or local authorities may adopt one specific PSP model or may choose a hybrid that may potentially combine more than one model, depending on the local conditions as well as on the financing arrangements that could be agreed upon between the public and private partners. Whatever the choice, governments and local authorities need to make sure that:

- They have proper and transparent legal and governance systems in place.
- Proper/adequate capacity for the government body or local authority to manage the PSP model and monitor the performance of the private sector.
- The interest/benefit of the community, especially the poorest segments, is safeguarded by any Private Public arrangement.

In addition, when governments or local authorities decide to adopt any PSP model, they need to be aware that:

- Service and management contracts are less risky for the private sector and may offer the opportunity for the local authorities to benefit from the skills and capacity that the private sector is bringing under this model.
- Although the management contract model is costly, it is simpler to implement and can often be considered as a probation for both the private and public partners to build trust and relation which may form the basis to move to other advanced forms of PSP such as concessions (as in the case of Morocco).
- Concession can mobilize much of the needed capital and human resources, but is not likely to be adopted unless the market dynamics in the country are well developed and the private sector is certain that a proper risk mitigation mechanism is in place and that their rights are safeguarded by the local laws existing in the country.
- BOT can also mobilize the capital needed for investment and contribute to reducing the burden of sovereign

debt where the private sector is bearing all of the commercial risk.

- The full divestiture model is totally dependent on the maturity of the legal and institutional setup as well as the reform stage in the country, where full privatization is allowed under local laws and assets can be sold to the private sector. This also includes the development of clear regulatory models, where –in many cases-an external or independent regulator is commissioned to monitor both parties' obligations and rights.

To assist local authorities and governments to better understand the challenges and opportunities encountered with the application of any of these PSP models, the following section will shed light on the various international as well as Mediterranean experiences, will draw upon the main challenges and lessons learnt from the unsuccessful experience and will build on the successful ones.

1.2 LESSONS LEARNT FROM DEVELOPING COUNTRIES AND MEDITERRANEAN PSP EXPERIENCE IN WATER SERVICE DELIVERY

1.2.1 Summary of Experience from Developing Countries

International PSP experience in water service delivery has shown many successful contracts in different regions of the developing world, including Latin America (Colombia, Chile, Guayaquil in Ecuador, and several concessions in Brazil and Argentina), Sub-Saharan Africa (Cote d'Ivoire, Gabon, and Senegal), Asia (Eastern Manila in the Philippines), Eastern Europe and Central Asia (Yerevan in Armenia).Since 1990, sixty-eight (68) developing countries have brought private sector participation (PSP) into their water sector. By 2005, 54 of those countries still had the private sector engaged in operational water projects (consisting of more than 220 contracts) (Marin and Izaguirre, 2006). It is estimated that by 2007, in these countries, water had been supplied by the private sector to more than 160 million people. Of these, about 50 million people were served by successful Public Private Partnership (PPP) contracts. These are contracts that have brought significant benefits to the population and where a working relationship has developed over time between the public and private partners, while about 45 million people had been served by contracts that were either terminated early or not renewed at expiration, (Marin, 2009, p2-p7).

The main reasons behind the failure of public private partnerships in water service delivery in some developing countries such as Colombia, Argentina and eastern part of Manila, Philippines, can be summarized as follows:

- Poor understanding of the opportunities and risks involved in private sector participation in a complex sector (as is the water sector). The private sector's intention was to acquire more assets and maximize profit while the governments' intention was to attract private funding or meet certain requirements to access more international funds.
- Inadequate framework conditions that governed the relation between the public and private bodies.
- Non-clarity in the roles and responsibilities of both the public and private partners.
- Inadequate governance (both legal and institutional) setup.
- Difficult/dire economic situation in the countries.
- Rapid conclusion of PSP contracts, mainly concession contracts, without sufficient time for careful planning and design of the appropriate PSP type of contracts that best serve the local conditions in these countries.
- Difference in culture among the contractors and local governments or consumers.

Experience with failure sin some developing countries however, has raised the awareness of the public towards the service quality they should be receiving and it has motivated the emergence of many local companies to

participate in local service delivery. For example, in East Manila in the Philippines as well as in several PPP projects in Argentina, Brazil, and Colombia, local private investors have proved their capacity to deliver good performance, and become credible players. Not only do these new operators provide much needed competition in the sector, but they also have a better capacity to manage the various risks inherent in the urban water utility business. Their understanding of local culture allows them to establish more easily a viable partnership with local authorities and better mitigate political risks. They are also probably better suited than their international competitors to service small cities and towns, where the needs are considerable (Marin, 2009, p9).

1.2.2 Summary of the Southern Mediterranean Countries (SMCs) Experience

Private sector participation in water service delivery in the Southern Mediterranean Region has grown substantially over the past decade, where the number of population served by private sector contracts in the MENA Region alone rose from 7 to 13 million people during 2000 – 2007 (Marin, 2009, p25).

Although private sector participation in water service delivery in many Southern Mediterranean Countries is still mostly restricted to service and management contracts, some countries have adopted more advanced PSP models, such as concession contracts. The different examples are summarized hereunder:

Morocco is the most active country in outsourcing water supply. It is the only country in the region, which has awarded concession contracts. The duration of the contracts varies between 20to 25years. Currently, 20-30% of the population in Morocco is served by the private sector. The Moroccan government awarded a thirty-year concession contract for a power-water-sewerage operation in the Rabat and Sale regions, following a similar project implemented in Casablanca in 1997[2].

In **Jordan**, four contracts with the private sector have been signed since 1999; one management contract for water supply in Amman and three BOT for wastewater treatment. This effort is supported mainly through incentive-based contracts on performance output. However, BOT contracts are also in place, like the one for the Khirbet Al-Samra wastewater treatment plant (the largest in the country treating 75% of the total wastewater produced) that has been operational since its upgrade in 2007 or the Disi-Amman Water Conveyance project, presently under construction. Also of interest is the effort towards commercialisation of public water utilities, which are state-owned (subsidiaries of the Water Authority of Jordan) but operate as private companies; the example of the Aqaba water company is perhaps the most impressive in terms of achieving financial independence and improved performance and efficiency through a management contract. This success has motivated both the Ministry of Water and Irrigation (MWI) and the Water Authority of Jordan (WAJ) to consider this model for establishing similar companies to serve the Amman Governorate, and following the conclusion of the management contract with LEMA. As a result, a new water company (Miyahuna) was established to provide water supply and sanitation services to Amman Governorate in 2007 and where four of LEMA's contractor's key staff were employed by Miyahuna for six months to oversee the transition arrangements (World Bank, 2007).In 2010, a third public company, the Yarmouk Water Company (YWC), was set up to serve all the region of the northern governorates of Jordan. YWC is 100% subsidiary of WAJ. Overall, the government's intention is to serve 90% of the population

[2]Information retrieved from Concept Note of Expert Consultation Workshop on Finance and Water in North Africa and the wider Mediterranean Region (Madrid, 24 Feb. 2010), organised by the MED EUWI Secretariat/GWP-Mediterranean and the EUWI-Finance Working Group with the support of Spain, Greece and the European Commission. The key findings of the workshop have been fed into: GWP & EUWI Finance Working Group, 2012, *Unlocking finance for water security: building capacities and raising awareness,*http://www.euwi.net/files/Unlocking_finance_for_water_security_FINAL_0.pdf

through similar types of companies. In the meantime, micro-PSP is being used as a fast-track option to achieve service improvements in preparation for all kinds of PSP in the operation and management of water and wastewater systems in Jordan (SWIM-SM, 2013) **(See details on Jordan's case study in Annex 1).**

Algeria, after a few years of experience with service contracts, signed for the first time a BOT contract for a desalination plant in 2001, and outsourced the water supply of Algiers in 2005 by awarding a management contract to Suez. After the first five years, more responsibilities might be delegated to the private sector and the contract could turn into a concession contract. In total, Algeria has signed 9 contracts and almost 10-20% of the population is served by the private sector.

Water service delivery in **Palestine** is generally organized under two main models: delegated public management and direct public management. The first model includes two major utilities, namely the Jerusalem Water Undertaking in Ramallah (JWU) and the Water Supply and Sewage Authority (WSSA) in Bethlehem. Under this model, water service delivery is delegated by a number of municipalities to these semi-autonomous utilities, which operate almost in the form of public companies, to provide the service. The direct public management model includes 8 main water departments within municipalities of large cities and 240 smaller service providers at local village and town levels. Local municipal and village councils as well as public water utilities are responsible almost for the full water management cycle starting from the water resource development to the service delivery including investing in infrastructure through external aid and developing tariff and collecting bills. **More information is provided on this case study in Annex 1**.Despite the highly controversial political and economic situation in Palestine, the government has also tried to engage the private sector to deliver water services. A management contract was awarded in 1996 for water supply in Gaza and one in Bethlehem. Although both contracts made a good progress in improving the operation efficiency and in reducing non-revenue water (NRW) especially in the case of Bethlehem, both contracts were ended due to the deteriorated political situation.

Lebanon has also tried to engage the private sector in providing water service delivery, despite its unstable geopolitical situation. Two contracts were awarded in Lebanon for water supply in Tripoli and Baalbek, where about 10% of the population was served by the private sector during the contract period. However, the failure of negotiation to extend the contract resulted primarily from the following reasons: institutional complexity; unclear responsibilities and the presence of two contracting authorities; and the weak monitoring and arbitration by the Ministry of Energy and Water in charge of regulation. As a result the water service provision has returned to public authority. In total, Lebanon has signed nine contracts, seven of which are Build, Design and Operate (BDO) for wastewater treatment, in addition to several tasks or project-specific contracts signed with local contractors for a maximum of one year duration. In addition to that, the water sector reform, initiated by virtue of Law 221 of May 2000, has contributed to the reduction of institutional fragmentation of the sector by merging the 21 water authorities into 4 regional water establishments; it has also provided the Water Establishments with mandates to attract capital investment, set tariffs and monitor water quality, (MED EUWI, 2010). **More information is provided in the case study in Annex 1**.

The presence of a strong public water agency for the development and distribution of water, SONEDE (Société Nationale d'Exploitation et de Distribution des Eaux) and ONAS (Office National de l'Assainissement) for wastewater management in **Tunisia** with remarkable performance has included limited private sector participation concerning contracts in wastewater only. Water management in Tunisia is centralized and rather politicized. SONEDE and ONAS are committed through Contract-Programme to achieve specific service and infrastructure goals. The performance of these agencies has been impressive on a number of indicators. For example, Tunisia has

one of the lowest rates of unaccounted-for water in the region. Unaccounted-for water was about 30 per cent in 1987, and decreased to 21 per cent in 1997 and to 18.2 per cent in 2004 (World Bank, 2005a). In addition, 100 per cent of urban residents have access to safe drinking water with household connection rates at 98 per cent. Contrary to other cities of the southern Mediterranean region, Tunisian cities usually have continuous water supply. The bill collection rate of SONEDE, which is also in charge of the billing activity of ONAS, is very high at over 99 per cent.

In **Egypt**, private sector participation is also restricted, although the first contract signed in the region in 1992 was for the Cairo Wastewater plant. However, another BOT contract for Wastewater Treatment Plant in the Suez Economic Zone was suspended. In 2006, the Egyptian government adopted a new long-term policy of pursuing partnerships with the private sector to expand and increase the country's infrastructure investments. In addition a Public Private Partnership Central Unit was established in the Ministry of Finance. According to the PPP Unit, some 10-15% of the annual infrastructure needs (new investment and maintenance – not just in water) could be mobilized through PPPs. With the sanitation sector leading the PPP activity in the country, the first BOT contract was signed in the summer of 2009 for the construction of the New Cairo Wastewater Treatment Plant[3]. The Government has several additional projects in the pipeline for the coming years with at least two of them (6th October and Abu Rawash Wastewater Treatment Plants) being already at the pre-qualification stages[4].

Israel has recently started to restructure its water industry to allow for private sector participation. However, the Israeli National Water Company MEKOROT, as a bulk supplier, is still in control of more than 80% of Israel's water. It sells the water to local municipalities and councils who then delegate the service delivery to end users' local corporations. So far, the main private sector involvement was in the form of a 25-year BOT contract signed for the construction of the mega desalination plant in Ashkelon (EMWIS, 2005; (PARETO Group, 2012)[5].

Finally, water supply and sanitation services are also provided by public agencies in both **Syria** and **Libya** with no presence of private sector engagement yet. However, the (United Nations Development Program (UNDP), 2010) expects that more roles are anticipated for private sector participation mainly in water supply management of large cities in the near future in Libya. Due to the current dramatic change that took place in Libya and is on-going in Syria, it is important to consider a new assessment to better understand any potential role for PSP in water service delivery in the two countries.

Following this general overview of the SMCs' experience, it can be noticed that the water service delivery[6] is still dominated by the public sector, in the form of national water or wastewater agencies, public companies or regional utilities, while water service delivery at the local level is provided mainly by public utilities or authorities, municipalities and local councils directly, or through delegation to local private service corporations. Due to the immature enabling environment existing in the different countries, only about 34 contracts have been signed in total in the entire southern Mediterranean Countries during the past two decades, mostly focusing on specific or limited projects for a short period of time, with only three concession contracts signed in Morocco (Pérard , 2007,

[3] The project attracted significant interest from the private sector, with five bidders being pre-qualified and finally a consortium including the Egyptian company Orascom and the Spanish company Aqualia winning the tender.
[4] http://www.pppcentralunit.mof.gov.eg/Content/Home/Pages/siteupdate.aspx
[5] http://www.miraproject.eu
[6] Including water production, and water supply and sanitation service provision

p27). Other constraints still preventing PSP in the SMCs are discussed further in **section 3.4** and include the following:

- Most countries still lack the proper institutional capacity to manage the partnership.
- The legal and regulatory system is still not properly reformed to enable PSP.
- The roles and responsibilities of various government institutions are not well defined and certain duplication among them still exist.
- Political interference in the reform still affects its transparent conclusion.
- Lack of political will, to reform and adjust the existing low tariff system, renders the service inefficient.
- Financial market is not adequately developed yet to secure the needed capital for the private sector.
- Political and economic instability renders the region unattractive for investment.

1.2.3 Lessons from Developing Countries and Mediterranean PSP Experiences

The main, lessons and opportunities that governments and local authorities in the Mediterranean can take from the summary experience mentioned in the previous section include the following:

- Governments, and local governments as/where applicable, need to consider internal and external challenges and obstacles that render water service delivery at the local level inefficient and unsustainable. Particularly, they must be aware of the need for the following:
  - Improving the current typically centralised public water management and service delivery model requires the introduction of incentives needed to improve operation efficiency. Incentives may include linking government subsidies to the performance of utilities against national, regional or international benchmarks (e.g. service coverage, serving the poor, NRW reduction, etc.). Better performing utilities get more financial support; and tariff increase can be linked to efficient service delivery; etc.
  - Elimination of duplication in the laws and regulations that govern the performance of the public and local water service providers and making the necessary legal provisions to enable the merging of more than one local service provider into regional utilities or Joint Service Bodies to improve the efficiency (e.g. the Palestinian or the Lebanese experience).
  - Clear Definition of roles and responsibilities of reference supervisory higher authorities and ministries and avoiding duplicating roles through charging different tasks to different ministries. This will improve monitoring and control over the service of local service providers, hence improve accountability.
  - Development of proper law enforcement mechanisms to assist local service providers to take the needed actions to improve the efficiency of service delivery.
  - Development of a proper water tariff system that ensures social justice, cost recovery and resource sustainability (**see also section 3.3 and section 6)**.
  - Development of capacity building programs for local service providers to improve their technical, administrative and financial abilities towards improved service delivery (**see also section 5)**.
  - Allocation of sufficient budgets for infrastructure maintenance to help reduce NRW and improve service quality. Increasing service quality will encourage customers to pay their bills and, together with reducing NRW, will enable local service providers to generate sufficient cash flow to sustain their services.

In addition to the above-mentioned challenges, when authorities decide to involve the private sector in local service delivery, they need to:

- Make sure that the existing institutional and legal setup is mature enough to enable private sector

participation. This includes the existence of more transparent and more accountable governance systems.

- Select the most appropriate form of PSP contract that suits local conditions and best addresses community needs, without compromising the resource quality and other health and environmental aspects.
- Allow sufficient time for careful planning and for building the relation between the private and public partners.
- Develop clear monitoring mechanisms and set benchmarks with clear performance indicators and adjust contract conditions in a way that best serves the interest of the community without jeopardizing the private sector interest.
- Define the framework conditions robustly and delineate the risk-sharing among the partners very clearly.
- Encourage and build the capacity of local private companies to take part in service delivery at the local level.
- Develop clear roles and responsibilities for both the public and private bodies and allow for more stakeholder consultation and participation to ensure more transparent implementation of the PSP contract.

Some of these considerations are addressed in more detail in the subsequent sections of this study. Additionally, **more information on the challenges, opportunities and further details on PSP in water service delivery, is available into the references listed below**:

Suggested Readings

OECD (2009) " Private Sector Participation in Water Infrastructure, OECD Checklist For Public Action"

OECD (2007a) "OECD Principles For Private Sector Participation In Infrastructure"– Principles for PSP in infrastructure,

SWISS Cooperation , Implementation Guidelines - Manual for Sustainable Municipal Water Services,

United Nations - UNECE (2008)"Guidebook on Promoting Good Governance in Public-Private Partnerships", World Bank PPIF (2006), "Approaches to Private Participation in Water Services – A Tool Kit", World Bank, Washington D. C. – USA

2. Roles and responsibilities of the partners under different PSP options

2.1 WHO ARE THE PARTNERS IN WATER SERVICE DELIVERY?

In order to ensure a successful partnership in water service delivery at the local level, it is important to clearly define the partners and their roles and responsibilities. When local authorities in the Mediterranean decide to adopt any form of partnership they should be aware that:

- The public private partnership in water service delivery is not simply a direct relation between the public authority and the service provider or the operator at local level.
- The complexity and nature of a segmented sector like water, with overall responsibilities for resource management and service provision often split horizontally between different Ministries, and vertically across national, regional and local authorities, render PPP a rather multi-stakeholder partnership that includes the community, the consumers, various government bodies, other public or private organizations, donors and non-government organizations.
- Not all partners have the same capacity to deliver, and certain duplications in the mandate of some public

partners may result in low synergy, limited coordination and inconsistency in their work, conditions that may affect the overall partnership.

To assist local authorities in developing successful partnership models with service providers, the following sections will summarize the main roles of the various partners during the stages (starting from setting the framework conditions to operation, monitoring, capacity development and financing) of the different PSP models.

2.2 ROLES AND RESPONSIBILITIES UNDER VARIOUS PSP MODELS

Governments play a major role in creating the enabling environment and they set the framework conditions that govern the relation between the public and private partners. More precisely, the role of the *government* under all types of partnership models can be:

- To conduct sector reform to create the necessary enabling legal, regulatory and institutional environment.
- To build the regulatory capacity of local authorities to enable them to involve the private sector in their water services, benchmark operators' performance, design and execute PSP transactions, and manage public-private partnerships.
- To create a competitive market for sector inputs such as engineering and construction services, labour, electricity, etc., and allow utilities to phase in competitive procurement from the private sector.
- To enable local service providers to consolidate assets, resources and customer bases to exploit economies of scale and scope by forming regional utilities or joint service councils.
- To provide incentives to help small towns attract the resources needed to improve services in a cost-effective manner.
- To develop financing mechanisms to cover transition costs related to the shift from pure government subsidies toward more user-generated cash flows in accordance with detailed transition plans that should be developed for this purpose; link budget transfers and other incentives to local authorities with the achievement of reform targets; and promote public-private partnership by making it an intrinsic part of the local authorities' reform plans and guaranteeing the contractual obligations in a PPP arrangement.
- To create more synergies among the different authorities, taking into account the existing human and financial capacities, and strengthen the information-sharing and the timelier coordination amongst them.
- To facilitate a more inclusive dialogue among all stakeholders. To secure needed human and financial resources and to make information publicly available in an understandable/easy to grasp format in order to make sure that the dialogue is developed in a focused, representative and transparent manner. This may include the organization of training sessions to various stakeholders on the relevant issues.

Since water service delivery and management at the local level is usually tasked to local authorities, their role may include the following tasks as reported in the Guidelines for Sector Reform and Successful Public – Private Partnership, Ministry of Urban Development and Poverty Alleviation (Government of India, 2004). The identified tasks need to be considered alongside the role, mandate and type of responsibilities of the local authorities:

- Preparing least-cost investment and system modification plans to meet service targets, taking into account financial and economic costs as well as demand, based on the ability and willingness of the consumers to pay;
- Undertaking an independent assessment of the existing service provider, the infrastructure, and the quality of services, and identifying gaps in the provider's ability to meet public service obligations and market demand in an efficient manner;

- Developing a subsidy plan and tariff system to allow for cost recovery and providing a reasonable return on investment;
- Determining an optimal structure for the service provider, including the creation of regional water utilities;
- Establishing sound and transparent management, accounting, reporting and accountability systems;
- Identifying the optimal forms of public-private partnerships which can operate under the prevailing legal, regulatory and political environment;
- Engaging a qualified transaction adviser, pre-qualifying eligible private partners, preparing bid documents, managing the bidding process, and completing the handover to the selected private partner; and
- Ensuring adequate and affordable services to low income customers.

When it comes to *service providers*, whether private or public, certain requirements are needed in order to enable them to deliver a proper service, as well as fulfil their respective responsibilities. The main responsibility of the water service provider can be:

- To provide skilled management and operational staff.
- To have the responsibility and accountability for the planning, design, expansion, and operation of the integrated water system.
- To streamline procurement procedures (within the regulatory framework and with appropriate fiduciary supervision over public funds).
- To secure the capital needed for investment in improving service delivery or in implementing new infrastructure under certain PSP models such as BOT, Concessions, etc.
- To develop innovative ways to reduce costs and increase efficiency.
- To conduct business in an ethical way and develop corporate social responsibility.

In the meantime, the main requirements for the service providers to enable their participation in local service delivery can be:

- Access to adequate water resources (within environmental safeguards and on equal terms with competitors' such as non-network service providers);
- Access to capital on affordable terms;
- Access to a competitive market for engineering and construction services;
- Predictable revenue streams from tariff and non-tariff sources within which to plan operations and investments, and meet service obligations;
- Easy access to their customers, control over supply assets, and ability to remedy breaches of contract by the customers (while ensuring appropriate safeguards for these customers);
- Proper law enforcement mechanisms are in place and laws are enforced in an effective and fair manner.

Once the government decides on PSP model, the roles and responsibilities entrusted to each of the private and public partners under the different PSP models are shown in Table 1.

Table 1: Roles and Responsibilities of the Public and Private Sector in Water Supply Service Management Models

	Service Contract	Management contract	Affermage/Lease	Concession	BOT	Joint venture (JV)	Divestiture
Setting Performance Standards	G[7]	G	G	G	G	G	G
Asset ownership	G	G	G/G	G	P[8]: During contract period /G: after contract period is finished	Owned by the new JV established by G and P	P
Capital investment	G	G	G/G	P	P	Shared according to the % of ownership of each P and G in the JV	P
Commercial risk	G	G	G/Shared	P	P	by the newly formed JV	P
Operations/ Maintenance	P	G/P	P/P	P	P	By the newly formed JV	P
Contract duration (Years)	1-2	1-2	3-5 / 8-15	25-30	20-30	Unlimited	Unlimited
Basis of operator compensation	G	G	Fee is fixed or based on performance. Lease: fee paid by municipality Affermage: revenue shared.	Users	G	Users	Users

Source: Adopted from (OECD 2007-b, p10), (OCED 2009, p18), (Perard and Mattei 2007, p10), (ADB 2008)

The role of *stakeholders* (users, consumers, community representatives, NGO's, etc.) can be summarized as follows:

- To facilitate the adoption of related regulations and to strengthen the accountability mechanisms by allowing better information flow that can lead to improving service reliability.

[7] Government
[8] Private

- To develop ownership on the part of the users and the communities, better protection of consumers' rights and the monitoring of the service provision.
- To develop the needed capacity to understand the information available on the water service performance and to get organized under effective frameworks to better influence decision making towards better serving the community's interest.

A clearer picture on the roles and responsibilities of the various organizations, their coherence and interrelation developed under the various stages of partnerships is presented in Table 2 below.

Table 2: Roles and Responsibilities of the Various Stakeholders in Water Service

Government – all levels – and regulatory bodies	Private sector	Users/NGOs/Communities	Donors/International Financing Institutions (IFIs)
Framework Conditions			
Establish the enabling environment: the institutional, regulatory and legal frameworks. Build, with the involvement of users, the general consensus on the definition of the desired service provision. Responsible for overall policy and objectives setting, incl. consistency across main program, cross-border agreements. Review and adapt policy instruments and objectives as conditions change. Implement and enforce policy framework.	Comply with service quality and environmental standards and agreed tariffs. Respect and support local efforts to develop adequate regulation.	Advocate for weaker communities. Represent users in regulatory decisions, in stakeholders' dialogue.	Contribute to co-ordination of efforts. Promote adoption of internationally agreed standards (such as anti-corruption conventions, ISO norms and ILO principles).
Operations			
Contract design and bidding process, in accordance with overall institutional and regulatory settings. Accountability to users. Consumer protection, representation and involvement in regulatory decision making. Manage local water resources. Regulation of water quality, environmental regulation, economic regulation to oversee monopolistic market.	Based on contracts: service delivery and operation; technical planning; customer relations (incl. complaints analysis); revenue collection; maintenance,	Build bridges between formal and informal providers, users and other stakeholders.	
Capacity Development			

Government – all levels – and regulatory bodies	Private sector	Users/NGOs/Communities	Donors/International Financing Institutions (IFIs)
Political will and commitment: fight against corruption, objectives in terms of universal service and services to the poor, commitment to financial sustainability of the sector. If a decentralization process is underway: allocate roles across public agencies, devolve responsibilities, build capacities in line with responsibilities, and establish co-ordination mechanisms. Create capacity and space for dialogue between the different stakeholders, including involving communities in discussions on service level, technology choice, prices. Help develop consumer trust and knowledge through information campaigns.	Raising Population awareness through targeted communication, participation in local action. Proposition of pro-poor and environmental-friendly technologies.	Support development and capacity building of user associations (eventually together with government programs). Raise awareness on hygiene, water conservation, pollution.	Support capacity building (of users, government, practitioners), incl. support for project design, to develop better understanding of the key elements of a PPP, to promote informed involvement of civil society, to assist regulators and governments in tariff setting and adjustments, to facilitate access to funding.
Monitoring			
Support and contribute to collect and monitor information on the sector. Supervision and enforcement of contractual arrangements. Control of compliance with standards, approval of tariff levels and their periodic & extraordinary revisions, collection and provision of information on quality of services. Develop outreach to small-scale informal providers. First conflict mediation instance.	Reporting of economic, environmental and social performance. Impact evaluation on environment and of consequences of the technology choices for the poor, tariff setting and investment planning.	Participate in monitoring of quality of services and contribute to accountability of officials and providers.	Collect and share experience across countries.
Financing			
Organize, plan, cost and formulate tariff policy and funding. If necessary, subsidies should be allocated in a stable, transparent and targeted way. Contribute to funding.	Financing obligations as defined by contract. Support sustainability of the sector through efficient management.	Users should pay for services received and contribute to maintenance of water systems.	Contribute to funding, incl. through risk mitigation schemes that leverage additional funds.

Source: (OECD 2009, p31)

More information about the roles and responsibilities of the various actors under the different PSP models is available in the below references.

Suggested Readings

OECD (2007a) "OECD Principles For Private Sector Participation In Infrastructure"– Principles for PSP in infrastructure,,

Pérard,E. (2008)"Private Sector Participation and Regulatory Reform In Water Supply: The Southern Mediterranean Experience", OECD Development Center, Working Paper # 265

Asian Development Bank ADB (2008) "Privatization Revisited: Lessons from Private Sector Participation in Water Supply and Sanitation in Developing Countries", ERD working paper # 115., Written by HerathGunatilake and Mary Jane F. Carangal–San Jose, Manila - Philippines

OECD (2001a), "Engaging Citizens in Policy Making: Information, Consultation and Public Participation", OECD

OECD (2001b), "Handbook on Information, Consultation and Public Participation in Policy-Making", OECD

OECD (2009) "Private Sector Participation in Water Infrastructure, OECD Checklist for Public Action

Ministry of Urban Development and Poverty Alleviation, Government of India (2004). Guidelines for Sector Reform and Successful Public – Private Partnership in India, 2004

3. Arrangements to create the enabling environment with focus on financial sustainability

3.1 IMPORTANCE OF CREATING A SOUND ENABLING ENVIRONMENT

The previous sections of this study have shown that the proper enabling environment is a prerequisite for private sector participation in water service delivery at different levels, including at local, and that failure of certain PSP contracts in some developing countries was mostly related to the lack of this enabling environment. In order to ensure the creation of such environment, governments and local authorities of the Mediterranean countries need to be aware that:

- The main components of a sound enabling environment include good governance, transparency and rule of law, proper regulation and protection of all forms of rights (property, contractual, etc.), creating a competitive environment, facilitating the entry of the private sector, fighting corruption and facilitating access to capital market.
- Such environment provides a solid ground for good market dynamism, whereby innovation and competition is geared toward improving economic performance and encouraging local entrepreneurship.
- Proper regulatory policy would improve the investment climate through providing strong guidance and benchmarks by the government and setting out what the private sector can expect from the government and vice versa. On the antipode, poorly designed or weakly applied regulatory policies can slow business development, divert resources away from productive investments and hamper entry into markets.
- Proper enabling environment would determine the outcome of any public private partnership. It would also delineate the synergy between the public (in setting the "rules of the game"; effective contract enforcement;

and effective regulatory mechanisms) and the private sector (innovative ways to reduce cost and increase efficiency, ethical conduct of business and corporate social responsibility) which will ultimately achieve the desired, and socially optimal, outcomes of such partnership.

In addition, local authorities need to be attentive that a sound enabling environment should fulfil the following:

- All stakeholders are consulted and consider the reform legitimate.
- Overall sector policy and structure are clear and sensible (vis-a-vis the country context and the desired PSP models).
- Service improvement benefits customers, tariffs cover costs (the level of recovery and the type of covered costs as defined by the governments' policy), and subsidies address pressing social concerns.
- Risks are allocated to the party best able to manage them.
- Rules and institutions are developed in a way that allow the terms of the arrangement to respond to unpredictable circumstances; thus, be flexible but with due consideration to issues of equity and fairness.
- The arrangement is embodied in clear and enforceable legal instruments.

To further address the creation of a proper enabling environment, the following section summarizes the steps that can be taken to this effect.

3.2 HOW CAN AN ENABLING ENVIRONMENT BE DEVELOPED?

While one of the aims of creating the enabling environment is to conclude a successful partnership in water service delivery, governments and local authorities need to be aware of the challenges this may entail. More specifically that:

- The process of creating the enabling environment is somehow not as easy as it sounds. It faces many challenges and requires time, capacity and resources. It often requires a genuine and transparent reform of the existing policy, institutional as well as legal and regulatory settings.
- The culture of enhancing transparent reform would certainly vary from one country to another and would very much depend on the existing level of democracy and governance setup in each country. It is obvious that the reform would lead to a change in the existing governance and institutional setting, and transparency would mean more accountability and more law enforcement.
- The reform may face serious political, institutional and resource (financial, human, etc.) obstacles even under solid democratic systems, and may face resistance simply because human nature is always susceptible to change, especially for those whose interests may be affected by it. Therefore, the reform should be carefully planned and supported by all relevant stakeholders who believe in the change and in its outcome and who are ready to allocate the needed time and resources to its implementation.
- Water sector reform cannot attain the desired outcome if it is not planned as part of a more holistic set of economic, social and probably cultural and behavioural changes. The prospects for improved and sustained water reform in a country depend largely on other factors such as macro-economics, demographics, social and political stability and good water governance[9]. Water governance doesn't depend only on specific institutions

[9]Water Governance refers to the range of political, social, economic, and administrative systems that are in place to develop and manage water resources and the delivery of water services at different levels of society. It compromises the mechanisms, processes, and institutions through which all involved stakeholders, including citizens and interest groups, articulate their

that are mandated to govern water. It also depends on the overall governance context, in which water issues are placed within a country.

- A well-defined regulatory environment needs to be established before delegating water services. The non-existence of such environment and the lack of understanding by both the public and private partners of the core value of partnership will likely cause the failure of public private partnerships in water service delivery.

Despite all the above mentioned challenges, several Mediterranean countries have undertaken or are in amidst undertaking water sector reforms to create the enabling environment for PSP in water service delivery, whilst some other have not started yet (as mentioned under section 3 of this manual). In order to develop a better understanding of the main reform components, a summary of the required steps to enable reform is listed hereunder, while a checklist for developing a reform process is provided in Annex 2. It is noted that the information provided below heavily touches upon reform processes conducted and/or led by central governments and concern the national level; however, these modalities have a direct impact on local authorities and need to be considered for a successful PSP conduct.

Legal Reform

In order to enable reform, governments need to amend/modify/improve the existing national laws This will facilitate the engagement of the private sector in providing service be it at national or local levels. To this effect, governments should:

- Ensure that laws are developed in a way that protects the reform process from any political interference.
- Form a national reform team or create a national reform unit that is composed of experts from the relevant ministries, local authorities and relevant stakeholders and supported by external consultants.
- Provide a clear mandate for the reform team and assign specific tasks for the various team members to develop the reform process properly.
- Provide for relevant stakeholders' consultations in the early stages of the reform process.

Once the legal framework is developed and approved by the relevant competent legislative bodies, systematic reform of major components such as policy and institutional, regulatory and other components can be performed. A proposed practice for undertaking the reform is listed hereunder:

Institutional and Policy Reform

- Separate service provision from policy-making and regulation to ensure greater transparency, accountability and efficiency.
- Define a financing strategy for the sector, detailing a transition plan which complements budget funding with revenues generated from customers and seeks to leverage private investment through an effective use of robust cash-flow projections and public guarantees.
- Enable local authorities to set progressively improving public service obligations and key performance indicators for service providers and provide them with the necessary authority, incentives and transition

priorities, exercise their legal rights, meet their obligations and mediate their differences.(GWP Background Paper 7, 2003) *http://www.gwptoolbox.org/images/stories/gwplibrary/background/tec_7_english.pdf*)

support.

- Introduce specific **pro-poor incentives and mechanisms**, ensuring that low-income consumers also benefit from service improvements and are able to afford the basic level of service. This would include:
  - Reviewing how public subsidies could be better targeted to encourage an increase in coverage and reduction in price for low-income groups.
  - Conducting affordability assessments coupled with (as needed and feasible) willingness-to-pay assessments.
  - Direct income support (for example, in the form of vouchers) to ensure vulnerable households can afford a basic level of service.
  - Capital subsidies to offset the unmet cost of extending the network to poor areas.
  - Setting coverage and performance targets which encourage network service providers to collaborate, in the short and medium term, with off-network suppliers such as vendors, tanker services and independent network systems to reach difficult communities. However, whenever-off-network suppliers charge higher prices than the service providers, special arrangements should be made to ensure that low income consumers are not made more vulnerable by such a disparity. Arrangements may include supplying vendors and tankers with water for free and agree on the price they can charge to those communities. In addition, service providers may agree with the off-network suppliers and vendors to charge the same price they charge for the network water; and subsidize the difference.
  - Provide for flexible payment schemes through enabling the poor to pay in instalments or develop subsidized credit schemes to enable them to get connected to the service.
  - Perform regular consumer satisfaction surveys tailored for low-income communities.
- Mitigate adverse impacts of reform on employees, contractors and other legitimate stakeholders. This could be done through:
  - Anticipating and planning for the disruption in the lives of staff employed by the service provider and contractors, including setting aside secure financing for covering severance costs, retraining and support for reemployment in other areas. A credible program is necessary to mitigate resistance to reforms.
  - Affected staff, through their representatives, should be consulted in the design of the reform program in general and in designing the safety net needed to mitigate the impact of disruption.
- Provide guidance on managing scarce water resources in an equitable manner. This would be done through:
  - Considering seasonal variation and climate change impact on resource availability and set priorities to meet the demand of the various sectors (e.g. Domestic first).
  - Setting appropriate charges that reflect the economic costs of raw water extraction from surface or ground water sources and help rationalizing demand.
  - Developing proper mechanisms for monitoring, measurement and verification of the quantity and quality of the abstracted water. This may include hiring independent institution to do the monitoring.
  - Setting quality standards of the water to be supplied.
- Establish principles of regulatory reform.

Regulatory Reform

National governments need to design a regulatory system to support sector reform that can accommodate private sector participation. In doing so, governments need to:

- Know that there is no single international practice for designing a regulatory system and that the reform process is always dependent on the country's specific environment.

- Make sure that regulatory tasks are clearly defined and provided for in the national law. Moreover, local authorities should determine the type of regulatory tools and mechanisms that will be used to incorporate various regulations in the PSP contracts.
- Consider that the regulatory reform would intersect with the regulations of other sectors, which are of prime importance for creating the enabling environment for PSP. These include:
  - Health regulations including setting and enforcing water and sanitation quality standards and level of supply necessary for basic health and hygiene.
  - Environmental regulation including monitoring the sustainability of water resources, water abstraction rates, and wastewater discharge quality, and guiding the necessary changes in environmental policy, taxation and penalties.
  - Economic regulation (e.g. setting and enforcing tariffs) to oversee monopolistic market, monitoring of sector and consumer protection. This topic will be discussed further under the following section.

Regulatory reforms may be implemented by relevant government bodies; an independent regulator; contracting or outsourcing regulatory functions to third party to undertake activities such as tariff reviews, benchmarking and dispute resolution (Eberhard, 2007). These models are not exclusive and often hybrid models are adopted. Moreover, transition from one model to another is also possible as institutional and human resource capacities get built up.

3.3 HOW DOES THE ENABLING ENVIRONMENT CONTRIBUTE TO FINANCIAL SUSTAINABILITY?

Creating the proper enabling environment is expected to contribute to improving the efficiency and maintaining the sustainability of the service delivery in a way that maximizes the anticipated benefits to the community from any PSP in water service delivery. For example, developing adequate regulations, especially economic regulations including the design of tariffs and setting the price of service, will assist the private sector or the service provider to derive the expected revenue stream from the service delivered, which can contribute in leveraging other sources of funds that are necessary to ensure the financial sustainability of the service. However, in designing the regulation of the tariff system of the water service at local level, local governments and authorities need to strike a balance between the following objectives:

(1) Setting rates that strike a socially acceptable compromise between the interests of investors and consumers (rent extraction).
(2) Providing signals and incentives for suppliers and investors to increase efficiency (supply-side efficiency).
(3) Providing signals and incentives for efficient consumption of regulated utility services (demand-side efficiency).
(4) Allowing regulated firms to earn sufficient revenue to attract the needed capital (revenue adequacy).
(5) Ensuring that prices are just and reasonable, and contribute to universal service goals without creating significant distortions (fairness).

In addition, local authorities need to know that:

- Tariff reforms are probably the most significant component that would make water supply investment viable from the private sector's, lenders' and investors' point of view. This will help the private sector project the cash flows that can be generated from the service, which may provide a kind of guarantee for lenders about the

status of the service provider and will facilitate easy access to loans or other forms of financial sources.

- Without tariff reform, governments will need to fund the difference between the low water tariff paid by the consumers and the higher payment made by the governments to the private sector. This situation is unlikely to be sustainable in the long-term as reported by ADB (2000). However, sometimes charging customers less than the full cost is acceptable at least for a period, to promote social acceptance of the proposed tariff reforms, and thus realize their political sustainability.
- Useful techniques to ensure social acceptance of new tariff can include phasing in tariff increases over time and linking tariff increases to clear improvements in service.
- The government may also keep the tariffs for poor people below cost. This is done to ensure that poor people can afford sufficient quantities of service to meet some socially acceptable "basic needs" level of service or because of wider social benefits (PPIF, 2006).
- Another form of ensuring financial sustainability for PSP is related to the local tax reforms and the incentives that may be provided for the private sector to encourage further investment and development in the improvement of the service. These incentives include:
  - Tax exemption on the main investment in expanding and improving the infrastructure.
  - Proper compensation of taxes on imported items which are necessary to improve the service efficiency.
  - Financial guarantees and insurance against local currency devaluation. Alternatively, fixing exchange rates to prevent currency exchange risks.

More details on tariff reforms and financial sustainability will be discussed further under section 6 of this manual.

Following this overview analysis of the requirement for setting the proper enabling environment to encourage private sector participation in water services, it is useful to review the current state of water sector reform in the Mediterranean region and to highlight the main issues and gaps that still need to be addressed.

3.4 STATUS OF ENABLING ENVIRONMENT FOR PSP IN THE SOUTH MEDITERRANEAN REGION

The main steps and remaining gaps related to the water sector reform in the various Southern Mediterranean Countries was reported by a number of researchers and institutions including (Pérard, 2008; MED EUWI, 2009 for Egypt; MED EUWI, 2010 for Lebanon; Kislev, 2011 for Israel; UNDP, 2010 for Libya; and the Reform Plan of Palestinian Water Sector, 2011). The findings are summarized below in Table 3.

Table 3: Progress and gaps related to the water sector reform in the various Mediterranean Countries

Country	Main Reform Features	Regulation	Tariff	Gaps and Needs to Improve
Algeria	New water Law in 2005 provides for PSP in water supply and sanitation services (WSSS). Municipalities can delegate Management to independent operator.	To create independent regulatory agency in charge of monitoring public and private water provision and	Tariff was reformed from the flat rate to progressive tariff	The final decision for creating a regulatory agency still needs to be approved in a specific law. Such a decision would strengthen the institutional framework, lower financial risks in the sector and thus contribute

Country	Main Reform Features	Regulation	Tariff	Gaps and Needs to Improve
	Government given more power to regulate water quality and protect areas with vulnerable ecosystems. It specifies penalties for breaking environmental regulations and calls for the creation of a "water police" to enforce them.	setting tariffs		to attract private investors.
Jordan	Management of the water sector is centralized. Private sector involved in service provision. Political interference is usual	Water Authority of Jordan (WAJ) and Project Management Unit (PMU) are assigned the regulatory tasks. WAJ is responsible for Public water services and for water resource management while PMU is responsible for regulating water service providers.	Tariffs not reformed. Prices are set by the Ministry of Water and Irrigation (MWI)	Pricing policy inefficient. Progressive tariff structure with subsidies for the poorest communities is adopted. However, prices are set too low to be sustainable and disparities in water tariff among different users will contribute to the un-sustainability of the tariff applied. Users in Jordan Valley pays much less than those domestic and industrial users in Amman
Morocco	Service decentralized. Municipalities were given the choice of direct, delegation to ONEP or other independent provider. This resulted in 13 independent public operators and 4 private operators under a concession contract.	The water code of 1995 decentralized water. It created the Supreme Water Council (involving all major water sector stakeholders) as the key organ for national level water policy and the River Basin Organizations with the mandate to manage, regulate and protect water resources at regional level. ONEP is the national office for water supply at national level; both	The water code is advocating for 'users pay principle' and full cost recovery. The code also allows the imposition of water abstraction and pollution taxes. Tariff is also set by an inter-ministerial committee and designed as Increasing	More people in the rural areas are still not served and connection fees to service are not affordable by most of the rural communities. More innovative approaches are needed to ensure the connection of these areas.

Country	Main Reform Features	Regulation	Tariff	Gaps and Needs to Improve
		in bulk and retail while the Directorate General of Hydrology plans and develops water resources.	block rate tariff which includes four categories that ensures access to low income people and avoid water waste	
Tunisia	Water management in Tunisia is centralized. SONEDE and ONAS are committed through Contract-Program		Tariff revised as needed. It is set by a ministerial council. Adjustment decision does not always follow economic rationality	Tariff system does not seem sustainable in the long term. Water and sanitation tariff structures are applied uniformly across the nation. Thus, they do not reflect the real economic cost of water and differences of cost from one region to another. The second pricing problem is the high level of cross subsidies among customers.
Egypt	Centralized water services. All agencies regrouped under one single holding company. 90% of infrastructure development, O&M is financed through sovereign sources and general-tax system, agricultural user-fees and municipal and industrial user fees	A regulatory agency, the "Central Authority for the Drinking Water and Sanitation Sector, and Protection of the Consumer" was created	Tariff was not reformed and prices are set very low: Egypt Pound (EGP[10]) 0.30/m^3 for domestic use in Cairo. Tariff setting is centralized and local authorities don't participate in setting the tariff	The lack of financing reforms is a concern since costs have increased significantly. Revenues cover only 40 per cent of the total costs because of subsidies, inefficiency, high levels of leakage and non-paying state customers. Water supply administration is centralized; local governments have neither technical competences nor budgets to manage water services.
Palestine	Fragmented and decentralized. New sector	Can't be enforced	No clear tariff, each	Complete reform to ensure well-functioning institutions with

[10] Equivalent to 0.14 US$

Country	Main Reform Features	Regulation	Tariff	Gaps and Needs to Improve
	reform in progress		operator sets his own	clear roles and responsibilities and which are able to monitor and enforce regulations
Lebanon	Reform combined 21 agencies into 4 regional ones	Centrally regulated	Tariff flat, not reflecting reality	Water act not approved, tariff not reformed, NRW is high including non-metered water. Human capacity to manage is weak Roles and responsibilities are not clear and institutional setting is complex. Political and Commercial risk is high
Israel	The water law of 1959 was reformed in 2001 and 2006. The 2001 reform provided the option to Municipalities to transfer water supply service from Municipalities to local corporations. The 2006 reform made the formations of local corporations obligatory and water service to be transferred to these corporations. As of 2011, 52 water corporations were established in 132 communities.	Two regulatory agencies: the Public Utilities Authority (PUA) - Water and Sewage, responsible for the quality of the services and tariffs; and the Superintendent of the Corporations, to license these companies, monitor the agreements between them and the local governments they serve, and approve their development plans The two regulatory agencies were merged in one Agency, Governmental Water and Sewage Authority	Tariff is set by the Water Authority's Council which comprises eight members from ministries and other related bodies. Tariff structure is complex. It is based on cost recovery and takes geographical variation into account. It also includes scarcity value and considers the number of family members in each household.	Investment in developing water infrastructure is still relying on Government money – Budget transfer. There is a proposal to revert back the tariff setting to the Parliament which may encounter some political interference.
Syria	Reform plans adopted 2010 – 2011, to support decentralization and autonomy of water establishments.		Tariff is set as increasing block tariff. It doesn't allow recovering the full costs.	NRW is still very high may reach 40%. Water used by public institutions is free of charge. It accounts for nearly 13% of total water supplied. Physical losses are nearly 27%. No incentive is

Country	Main Reform Features	Regulation	Tariff	Gaps and Needs to Improve
			(only part of maintenance and development costs). Water is heavily subsidized. Revenue collected by water service providers is transferred to the central ministry of finance. This doesn't provide incentive to perform efficiently.	given to water service providers to perform efficiently and the revenue collected is transferred to Ministry of finance. The service provider may borrow this money for their operation, but with interest rate of 17%.
Libya	Centralized, General water authority responsible for water management	Water and environmental law is the main regulatory tools	Not addressed	Leakage is very high, and revenue loss reaches 50%.Tariff not well developed. Technical and institutional capacity building is needed.

Source: Compiled from (Pérard, 2008), (Nizam, 2011), (MED EUWI, 2009) for Egypt, (MED EUWI, 2010) for Lebanon, (UNDP, 2010) for Libya and (Reform Plan of Palestinian Water Sector' 2011), (Kislev, 2011).

It can be concluded from the above table that although many countries in the Mediterranean have undertaken reforms or are in the process of reforming the water sector, many gaps still need to be addressed to ensure the sustainability of water service delivery. One of the most significant issues is the tariff design and the political interference in designing and implementing the regulatory reform. The financially unsustainable tariff systems (their design as well as the tariff collection systems) and the delay in their reform will certainly affect the sustainability of water service provision in most Mediterranean countries regardless of whether the water service provider is public or private. Moreover, political interference is not conducive to developing transparent reforms and is unlikely to lead to the creation of a proper enabling environment for private sector participation.

Before closing the section, it should be noted that the main issues identified above are not meant to be exhaustive, nor do they represent all issues related to the creation of the enabling environment or tackling financial sustainability of the water service delivery. They are meant to provide a solid introductory review and raise awareness among the governments and local authorities in the Mediterranean Region toward the importance of these issues. More **details/information is available in the below references**:

Suggested Readings

EUWI Med (2010), "Framework conditions for Private Sector Participation in Water Infrastructure in Egypt", Mediterranean Component of the EU Water Initiative

EUWI Med (2011), "Framework conditions for Private Sector Participation in Water Infrastructure in Lebanon", Mediterranean Component of the EU Water Initiative

Kislev, Y., (2011)"The Water Economy of Israel", Hebrew University of Jerusalem, Faculty of Agriculture, Israel

Nizam, A., (2011), Water Sector Reform in Lebanon and Impact on Low Income Household", 4th ACWUA Best Practice Conference, Water and Waste water Utilities Reform, Changes and Challenges, Sharm Sheikh, Egypt

OECD (2009) "Private Sector Participation in Water Infrastructure, OECD Checklist for Public Action

OECD (2007a) "OECD Principles For Private Sector Participation In Infrastructure"– Principles for PSP in infrastructure

OECD (2006), "OECD Risk Awareness Tool for Multinational Enterprises in Weak Governance Zones", OECD

Palestinian Water Authority (2011) "Draft White Paper on Water Sector Reform" Ramallah – Palestine

Pérard, E. (2008)"Private Sector Participation and Regulatory Reform In Water Supply: The Southern Mediterranean Experience", OECD Development Center, Working Paper # 265

SWISS Cooperation , Implementation Guidelines - Manual for Sustainable Municipal Water Services,

UNDP WGP – AS, (2010) "Water Supply and Sanitation In Libya: Gap Analysis, National Needs Assessment And UNDP Interventions: Strategic Entry Points Identification

World Bank PPIF (2006), Approaches to Private Sector Participation in Water Services – A Tool Kit", World Bank, Washington D.C. –USA.

4. Tested financial sustainability mechanisms for PSP options at the local level

4.1 SOURCES OF FUNDS AND EMERGING FINANCIAL INSTRUMENTS

Traditionally, the main sources of funds for investment in the infrastructure sectors, including water and sanitation were secured from public budgets. The introduction of private sector participation (PSP) in the 1990's was often based on the misconception that private operators would bring financing with them via concession contracts or other similar contracts with investment obligations(OECD, 2010). According to a World Bank study on the track-record of public-private partnerships for urban water utilities (Maren,2009), "*earlier expectations for increased private finance have proved unrealistic*". This study points out that private financing of urban water utilities has been limited when compared with other infrastructure sectors, as it represented only 5.4% of the total investment commitments in private infrastructure between 1990 and 2000. Investment commitments by private operators went down sharply in the aftermath of the Asian financial crisis, from a peak of USD 10 billion in 1997 to a low of about USD 1.5 billion in2003, and have not recovered since.

Moreover, the escalating global economic and financial crises and the increasing competition for scarce public funds with increased public debt burdens, place natural limits on the ability for public funds to meet investment requirements in the water sector. This means that local authorities need more than ever before to:

- Evaluate how public financing can be used in an optimal manner so as to leverage other forms of financing sources including the repayable funds from the market (banks, private investors, etc.).
- Blend various forms of finance so as to achieve the optimal financing package that allows meeting key policy objectives, such as increasing access to water and sanitation, (OECD, 2010).

In general, the sources of finance that are already available for the sector as reported by (PPIF, 2006) include:

- *Equity from a project promoter (for example, an international operator, local company, or financial investor)*
- *Equity from other investors (for example, insurers, pension funds, mutual funds, or private shareholders)*
- *Loans from local or foreign banks*
- *Bonds*
- *Export credit guarantee finance*
- *Loans from development agencies*
- *Grants from development agencies*

The emergence of new forms of credit guarantees, the availability of instruments to finance private and municipal projects without sovereign guarantees, and the proliferation of new modalities for public private sector partnerships opened up opportunities for resource mobilization and risk sharing, which were not available to most developing countries a decade ago (Panayotou[11],2010; OECD, 2010).

While these innovative financing mechanisms have brought in new, previously inaccessible sources of funds for sector investments and have, in combination with a more realistic pricing of services, enhanced the financial sustainability of the water service sector, the gap between the available funds and that needed to meet the MDG targets still remains huge. The gap will be even wider if more ambitious targets are set by governments such as to guarantee the human right to safe and clean drinking water and sanitation (OECD, 2012). Despite the clear benefits for human and economic development, insufficient resources are currently allocated to meet the MDG targets for sanitation and drinking water (in some countries).

Closing the financing gap will require countries to mobilize financing from a variety of sources, which may include:

- Reducing costs (via efficiency gains or the choice of cheaper service options).
- Increasing the basic sources of finance that can fill the financing gap, *i.e.* tariffs, taxes and transfers (commonly referred to as the "3Ts").
- Mobilizing repayable finance, including from the market or from public sources(OECD,2012).

Without undermining or reducing the importance of the other two financing sources, the 3Ts concept has received wide endorsement/recognition and appears to be a promising ways to ensure financial sustainability. Therefore, it is deemed appropriate that it is addressed / discussed further in this study along with its link to other sources of finance.

11(*www.un.org/esa/sustdev/documents/15pana.PDF*)

4.2 "3Ts" AND FINANCIAL INNOVATION TO LEVERAGE MORE FINANCIAL RESOURCES

4.2.1 3Ts Financing Source

The 3Ts refer to the mix of tariffs, taxation and transfers from Official Development Assistance (ODA) and other forms of solidarity that provide revenues for water service providers and fill the financing gap(OECD, 2010).

Given that water service delivery is capital intensive and financing costs represent a sizeable share of the "revenue requirement" to be covered via the 3Ts, reducing the cost of financing should be a key objective of all water service providers, as it can help reducing the need for subsidies and bringing tariffs down. Therefore, the governments or local authorities need to (as appropriate and relevant considering their respective roles and responsibilities):

- Set a proper tariff policy that would ensure revenue adequacy, and define the supply costs that are to be covered by tariffs and those costs that are to be covered by the budget (possibly with a timeframe for phasing out subsidies). Establish flexible mechanism for tariff adjustment to compensate for unpredicted changes in cost that are beyond the service providers' control.
- Create incentives to enhance operation efficiency by reducing costs and increasing revenues up to an acceptable benchmarked efficiency level.
- Define a schedule to eliminate price distortions, including those caused by cross-subsidies and non-payment and define credible funding mechanisms to compensate for such subsidies.
- Assess the "ability to pay" of the different consumer groups and define mechanisms to provide vulnerable and low-income groups with targeted income subsidies to ensure their access to an adequate level of service. Tariff to be town or city specific, taking into account supply costs for varying service levels, ability and willingness to pay, and access to financing (on affordable terms) to cover transition costs; Be aware that the 3Ts are recognized widely as fundamental sources of finance for Water Supply and Sanitation (WSS) services. For example, the concept of 3Ts was seen by the European Federation of National Associations of water and waste water services (EUREAU) as the ultimate source of finance that can provide future cash flow to fulfil budgetary requirements, unlike other forms of finance such as loans, equities and bonds that should be repaid or pay a return; Know that implementing the 3Ts would require broader reforms to ensure the appropriate governance and regulatory arrangements are in place; Be aware that it is likely to adopt a different mix of the 3Ts to leverage, and eventually repay or compensate other funding sources; principally loans, bonds and equity. Encourage and direct water service providers to use the revenues from the 3Ts to finance the on-going operating costs and ordinary maintenance of water supply and sanitation services while mobilizing repayable finance to ensure full cost recovery and close the financing gap, as shown in Figure 1.

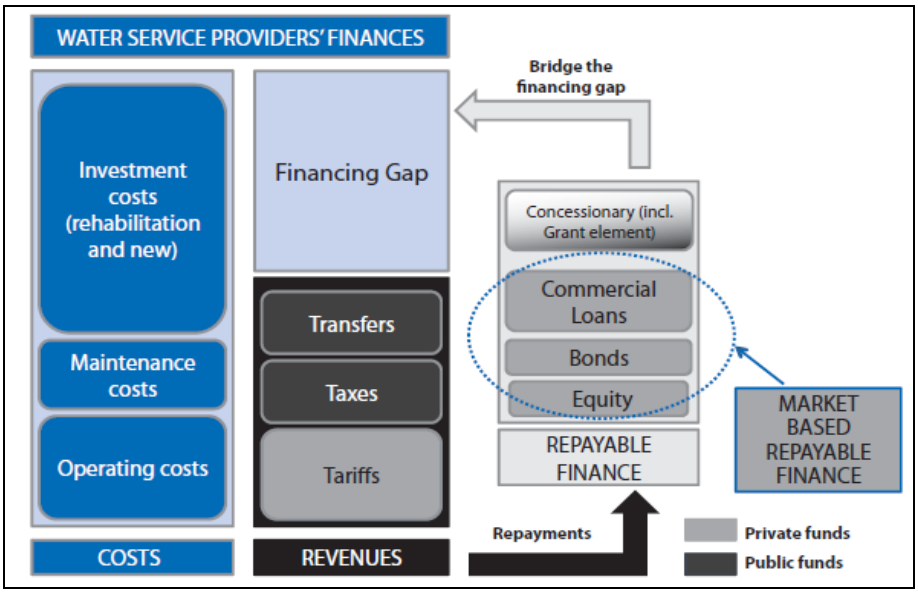

Figure 1: Sources of Finance for WSS[12]

Based on this discussion, local authorities and governments are encouraged to follow the principle that 'water must pay for water', meaning that all supply costs must be recovered from the users of water services while using public transfers (either from their own government or from external sources) to fund the development of the water sector, particularly for capital expenditure during the early stages of service delivery arrangements or contracts. However, as the countries develop and the environment for water service delivery becomes more mature, they can shift towards more use of commercial finance, reimbursed by growing cash flows from user charges(*i.e.* tariffs).

4.2.2 Financial Innovation

The main objectives of financial innovation are to increase access to repayable finance, reduce the cost of capital and extend the tenor of financing so as to leverage more repayable financing from a given stream of basic revenues, OECD (2010). Financial innovation can be initiated either through the market (*i.e.* by the providers or recipients of finance when they have spotted an opportunity) or with the support of a public sector agency seeking to catalyse market-based repayable financing with limited public funds.

Financial innovation can significantly help local authorities to leverage market-based repayable finance into the water sector. To achieve that, authorities need to increase access to commercial bank financing as follows:

- To use ODA and concessionary finance[13] in a targeted manner that can blend with commercial bank financing.
- To provide access to bank finance to smaller, local water service providers that may otherwise be excluded. This can be done via micro-finance and may also require combining microfinance with targeted subsidies.
- Increase lending to sub-sovereign borrowers via grouped lending instruments or directly without a

[12] Source: OECD 2010, OECD 2012

[13] Concessionary Finance is either grants or loans that has a grant element

sovereign guarantee.

- To extend the maturity of bank financing available to the sector, via the use of risk mitigation mechanisms such as guarantees.
- To strengthen the balance sheet of potential borrowers through the use of debt-equity swaps.
- To increase the availability of commercial bank financing to the water sector, through developing the commercial banks' understanding of the sector and developing "bankable projects".

National and local authorities can also adopt one or a mix of the following innovative financial instruments to leverage more financing for the water sector:

- ***Blending grants and repayable financing***

This form of blending financing sources is realized by combining concessionary financing with repayable finance in order to support a single project or a comprehensive lending program. Such blending can take many forms: ODA grants can be provided as interest rate subsidies, seed financing for revolving funds or contributions to the establishment of project preparation facilities.

The main objectives of blending are to attract funds that would otherwise not be attracted by a given project whilst ensuring that basic public policy goals, such as increasing access to WSS and serving the poor, are met. Such structures hold great potential in the water sector, especially in the context of the financial crisis, given that an element of subsidy is almost always going to be required.

This instrument can help national governments as well as local authorities to attract funds at the level of specific projects, or via the establishment of financing vehicles which aim to combine diverse sources of finance (such as the EU- African Caribbean and Pacific (ACP) Water Facility, various vehicles under the Private Infrastructure Development Group (PIDG) – or the Financial Corporation for the Territorial Development (FINDETER)in Colombia, which rediscounts commercial bank loans for local infrastructure development).

- ***Microfinance***

Microfinance[14]has been identified as a key way to overcome affordability constraints for providing access to services, particularly for households and small scale water service providers (SSWSPs) in developing countries. The use of microfinance has so far been limited in the water sector, partly due to a lack of awareness and limited understanding on the part of microfinance and water sector professionals of their respective sectors. Moreover, the potential for rapid development of microfinance in the water sector has been undermined somewhat by the on-going crisis which has reduced financial flows available to microfinance institutions (MFIs).

The crisis has also led to increased poverty, thereby increasing the need for microfinance products. ODA can play a role in developing the use of microfinance for WSS by providing seed financing for revolving funds or microfinance institutions as a whole. Donors and IFIs can help build awareness of microfinance products, through capacity building activities or blending microfinance with other types of financing instruments in the projects they choose to support.

[14]Microfinance entails the provision of financial services to micro-entrepreneurs and small businesses, which lack access to banking and related services due to the high transaction costs associated with serving these client categories. The two main mechanisms for the delivery of financial services to such clients are (1) relationship-based banking for individual entrepreneurs and small businesses; and (2) group-based models, where several entrepreneurs come together to apply for loans and other services as a group (*http://en.wikipedia.org/wiki/Microfinance*).

- ***Output-based aid (OBA[15])***

OBA is an innovative financing tool which has the potential to radically change the way subsidies are provided for a broad range of publicly supported goods and services. OBA subsidies are paid based on effective and measurable results to service providers, who are therefore better incentivized to deliver results. Although a growing number of pilot projects have adopted OBA principles in the water and sanitation sector, the approach has yet to be mainstreamed. As currently applied, it has a reputation for complexity and high transaction costs, to ensure - among other things - effective monitoring of the outcomes of OBA schemes, and maintain a process of transparency in OBA, which means that in most cases OBA mechanisms have been difficult to scale-up.

Therefore, if national or local governments need to increase the use of OBA they should be aware that:

- It may require the availability of pre-financing, which could be achieved by combining OBA subsidies with access to microfinance.
- To reduce transaction costs, OBA facilities should be set up at country level so that the project and service provider selection as well as contract monitoring can be carried out in-country rather than through an international institution.
- OBA principles can be adopted in the implementation of government-led programs, as done through the Total Sanitation Campaign in India.

- ***Forming grouped financing vehicles***

This can be a helpful way to provide access to financing to a large number of relatively small borrowers, particularly with the combined use of guarantees to improve credit rating. Such groupings are particularly well-suited to decentralized water sectors, in which small and medium-sized service providers are struggling to access financing on their own merit. In the sector, they have mostly been used as a basis for issuing bonds[16] in countries with fairly mature financial markets.

4.3 COMMON PROBLEMS AFFECTING FINANCING SUSTAINABILITYAND MEANS TO ADDRESS THEM

Water supply and sanitation investments exhibit similar financing problems as many other local infrastructure projects, which have been addressed either through increased access of state companies and municipal governments to the local and foreign capital markets or through concessions and privatization as discussed earlier. Regardless of how the overall financing is arranged, the types of problems are similar ranging from inability to generate sufficient revenues to cover costs due to inefficiency in operation and its associated loss of cash; either through high non-revenue water, inefficient bill collection, or inadequate selection of the investment models. The respective main problems, causes and the mitigation needed are summarized in Table 4.

[15]OBA refers to development aid strategies that link the delivery of public services in developing countries to targeted performance-related subsidies (Source: *http://en.wikipedia.org/wiki/Output-based_aid*)

[16]A bond is an instrument of indebtedness of the bond issuer to the holders. It is a debt security, under which the issuer owes the holders a debt and, depending on the terms of the bond, is obliged to pay them interest (the coupon) and/or to repay the principal at a later date, termed the maturity. Interest is usually payable at fixed intervals (semi-annual, annual and sometimes monthly). Very often the bond is negotiable, i.e. the ownership of the instrument can be transferred in the secondary market (Source: http://en.wikipedia.org/wiki/Bond_(finance))

Table 4: Problems affecting financial sustainability and their mitigation means

Problem	Main Causes	Mitigation	Examples
Insufficient Revenue Generation	No tariff reforms; Customers' inability to pay for the service or connection or both; customers unwilling to pay.	Socially balanced tariff reforms; Incentivized pricing mechanisms[17]; subsidize poor customers; amortize connection cost into monthly payments	Aguas de Illimani (AdI) - Bolivia gave option of paying a reduced connection fee in exchange for supplying labour 3-5 year financing plan to pay connection fees.
Operation Inefficiency, high fund losses and high cost	Poor revenue collection, non-revenue water, labour inefficiencies and corruption. In addition, the choice of hardware and technologies can make a big difference to costs.	Improve collection efficiency and provide training and incentives to encourage labour efficiency (performance based salary increase); reduce system losses and introduce incentive based regulation to encourage the adoption of proper technology and reduce cost.	
Choosing wrong investment model and lack of knowledge about the amount of investment needed and when.	Huge investment in infrastructure at early stages of contract requires high cash, i.e. concession contracts. Long term payback and risk of foreign exchange risk.	Direct investment to generate free cash flow at the beginning (more operation efficiency and reduction of losses). Provide guarantees against foreign exchange risk or reducing the proportion of that debt that is denominated in foreign currency	Buenos Aires and Manila were structured to bring in a lot of private finance near the start of the contract, to allow major new infrastructure investments early in the contract. These contracts ran into difficulties as falling exchange rates and other unanticipated events made it impossible for the utilities to service large amounts of foreign-currency debt

4.4 LENDERS' REQUIREMENTS FOR MONEY PROVISION TO THE SECTOR

As indicated earlier, repayable money in the form of loans or bonds is one of the main finance sources for WSS. The lenders will make sure that the money they are lending is repaid and their debt is serviced. They will generally look into the overall arrangement of the partnership and how risk sharing is allocated. In particular they may

[17] For example gradual tariff increase associated with service improvement

demand to receive various forms of guarantees from either the government or the private sector who request the money. The main interests and demands of lenders were summarized by PPIF (2006) as follows:

- Lenders may want to have possession of the physical assets or cash flows of the utility in the event of a default on debt servicing.
- Lenders may require the right to "step-in" and take over ownership of the operating company.
- Lenders will want a very low probability that the operator will be unable to service its debts, which means; either that the debt–equity ratio is low or that the project risks, related to water demand[18] and foreign exchange, are not too great.
- Lenders will also look for political commitment to the arrangement. On the private sector side, the main equity investors can generally be thought of as promoting the deal. They try to put together a winning offer to the government, while trying to attract debt finance. Since finance arrangements may not be finalized until late in the process, it can be difficult for the government to know the requirements of lenders and hence to design a financing structure that takes their needs into account.
- Lenders may require significant changes to the financing structure and allocation of risks in any partnership arrangement. When this request is submitted late in the process, it can lead to ad-hoc changes to the arrangements, putting at risk the benefits of the value for money and the transparency that a well-designed competitive process can provide. In other words, if any part of the bid conditions changed after the award, it will deprive other bidders from the same privileges or changes and renders the entire competitive process non-transparent.

To avoid undesirable outcomes and maximize the utilization of lenders' money to improve water services, national or local authorities need to:

- Initiate direct discussions with potential lenders to ensure that their views are considered.
- Compose an expert team with a good understanding of what lenders are likely to require and ask them to design features into the arrangement that increase the chance of it being financed, PPIF 2006.

The above discussion represents a brief summary of the financial instruments, mechanisms and sources that can be utilized to finance the water sector. Further information is available in the below references:

Suggested Readings

Ecologic Institute (2011) "Methodological guide on Tariffs, Taxes and Transfers in the European Water Sector", EUREAU contribution to the European Regional Process towards the 6th World Water Forum, Final Report for the WWF6 TSG7.2.

OECD (2012),"Meeting the Water Reform Challenge, OECD Studies on Water", OECD Publishing

OECD (2010), "Innovative Financing Mechanisms for the Water Sector", OECD Publication

Panayotou, T., (2010)"Innovative Financial Mechanisms For Sustainable Sector Financing", Nairobi

World Bank PPIF (2006), Approaches to Private Sector Participation in Water Services – A Tool Kit", World Bank, Washington D.C. –USA.

[18]Demand for water is not too much below forecasted levels in order to make sure that the service provider is able to generate the anticipated revenue from the service delivered.

5. Skill requirements to manage PSP at the local level

To ensure a well-functioning working relationship between the public and private sector in water service provision, it is crucial that both parties provide as detailed information as possible, to build mutual trust that enables them to fulfil their contractual obligations and implement the contract in good faith. Moreover, the arrangement should include a range of legal documents, including contracts, statutes, license, etc., to make sure that both parties' interests are met under such arrangement.

However, since these types of contracts are usually long term contracts, they may be susceptible to changes in the local environment. Furthermore, if the information provided by either party was not adequate or parties started a doubtful partnership, it is imperative that contracts provide for proper mechanisms on how to address such delicate issues, which if not well addressed may cause serious threat to the continuity of the contract. The main issues and mechanisms that local authorities need to consider, include:

- Performance towards meeting obligations of both parties.
- The arrangement must comply with the mandatory provisions of the local laws; civil codes; etc. exist in each country.
- Potential dispute resolution mechanisms which may include settling by court or arbitration. Should dispute not be settled by these two mechanisms, more sophisticated forms can be considered which may include panels of experts who can be brought in, to recommend changes, and other institutions to help the parties reach a balanced decision.
- Tariff adjustments. In many countries there are precedents for how tariff reviews or changes in state policy should be dealt with. Rather than relying on these background rules, it is usually a good idea to spell out the rules in detail in the legal document governing the partnership.
- Service standards revision or adjustment and re-negotiation of a contract. This requires setting flexible arrangements to respond to unpredictable developments, but at the same time provide assurance that the result will be fair to all parties and will be in accordance with the spirit of the initial contract and will serve the interests of the customers. In addition, the re-negotiation or adjustment mechanism which is part of the contract must establish the terms and principles that should govern the process, which may include:
  - Setting the framework by which re-negotiation or adjustment can be conducted.
  - Defining the conditions that would necessitate conducting the process, other than the conditions provided for under the initial agreement such as price revision, etc.
  - Setting the mechanism for dispute resolution, e.g., Arbitration or other forms.

Due to the complexity of the issues involved in the contract management and the various risks that may arise during implementation, the success and quality of the contract implementation is largely dependent on the capacity of the institutions put in place for maintaining and governing the partnership. Accordingly, governments and local authorities responsible for managing this partnership should have the relevant capacity and skills to properly manage the partnership. Skills needed on the local authority side may include:

- Experience in setting and adjusting tariff rates and structures.
- Ability to mobilize investment capital, and possibly provide working capital to make up for any short-falls resulting from below-cost tariffs and non-payment by customers who cannot be disconnected for non-payment.
- Capacity (both technical and human) to monitor the utility performance and its public service obligations.
- Capacity to implement labour agreements such as staff reduction, redeployment, retraining, severance, etc.

- Sufficient technical, financial and administrative competences to implement programs to build local contracting capacity.
- Capacity to ensure adequate supply of raw water while preventing unregulated extraction.
- Ability to enforce law and order, and other agreements under the PSP contract.
- Ability to foster sound utility governance.
- Ability to set a clear distinction between appropriate regulation and inappropriate interference in the private sector's job of running a utility.
- Ability to maintain a degree of competitive pressure on the private sector partner throughout the contract period.

Finally, when a government specifies the regulator's duties and decides on the appropriate staffing and skill mix for the regulatory agency, it must have a clear understanding of the dividing line between regulation and operational management. Regulatory tasks—and regulatory staff—need to be focused on desirable outcomes, not on how to achieve these outcomes(Ministry of Urban Development and Poverty Alleviation, Government of India, 2004).

More information on the skills and capacity needs of local authorities and state agencies is available in the following references:

Suggested Readings

OECD (2009) "Private Sector Participation in Water Infrastructure, OECD Checklist for Public Action

World Bank PPIF (2006), Approaches to Private Sector Participation in Water Services – A Tool Kit", World Bank, Washington D.C. –USA

Ministry of Urban Development and Poverty Alleviation, Government of India (2004), "urban water and sanitation services Guidelines for sector reform and Successful public-private partnerships", India

6. Risks and factors affecting the public sector decision for the involvement of the Private Sector at the local level

6.1 RISKS AND THEIR POTENTIAL IMPACTS

Proper risk allocation among partners is considered a key element of success in the co-operation between the responsible public authorities and the private sector. In addition, risk allocation determines the value for money, notably the efficiency gains achieved through partnership with the private sector, compared to the traditional public procurement, as reported by OECD (2008). To ensure proper risk allocation, local authorities need to follow the principles of risk allocation defined by (Irwin, 2007, p56)[19] which assigns risks to the party best able to manage it (the party *best able to influence the probability of occurrence of risks; to control the impact of the risk on project outcomes; and to absorb the risk at lowest cost*). It is traditionally agreed that the private sector is best suited to assume the commercial risks, while the public sector is better able to assume the legal, regulatory and political risks.

The main types of risks are commercial, financial, technical, legal and political risks. These types were reported by (ADB 2008), (OECD 2009) and can be summarized as follows:

Commercial risks *involve the fear that the private investors may not be able to recoup their investment and make a profit. Market-related commercial risks are essentially related to the variations in demands and revenues from the sales of water and sanitation services. It may be serious in developing and emerging countries where tariff affordability and bill collection rates are low and the revenue flows are not easily gauged.*

Financial risks *relate to currency devaluations and convertibility of local to foreign currency, especially because the revenues come mainly from user fees or government subsidies in local currency and funding is in foreign currency. This is a true constraint for international investors, but also for national operators in the context of poorly developed local financial markets.*

Technical risks *pertain to the lack of sufficient knowledge about the condition of the installations; the need for replacement, rehabilitation, and expansion; and the resulting operational risks that installations will not perform as expected. Escalation in construction costs; either due to inflation or other reasons also pose technical risks.*

Legal risks *occur as a result of contractual disputes.*

Political risk *stems from governments' expropriation of the assets or change of policy in the course of implementing a contract or from governments' reluctance to increase tariffs.*

[19] https://openknowledge.worldbank.org/bitstream/handle/10986/6638/394970Gov0quar101OFFICIAL0USE0ONLY1.pdf?sequence=1

Sub-Sovereign risk*[20]*; *emerging as a result of weak management and financial capacities of sub sovereign entities (municipalities and local councils) who are assigned to manage projects locally, and from the potential inconsistencies across multi-level government policy.*

Contractual risk: *Water and sanitation projects are usually capital intensive. They involve high initial investment, long payback periods and low rates of return. The resulting infrastructure is fixed, very specific and cannot be used for other purposes or removed from the country. Part of it (the distribution network) is hidden underground creating important uncertainties as regards the real condition of the systems and implying substantial maintenance costs. This may create a contractual risk especially in a context of poor initial information and weak regulatory environment. It may also expose governments to risk of capture by specific interest (corruption), including by the private operator.*

It is clear that the water and sanitation sector involves important specific risks that could make co-operation with the private sector more complicated and could discourage commercial financing; as pointed out by the Camdessus[21] panel (Winpenny, 2003).

In addition, local authorities need to be aware that the combination of these risks in effect amplifies the different risks as mentioned below:

- The political sensitivity of the sector contributes to increasing the foreign-exchange and sub-sovereign risks.
- Social or political risks; especially those related to tariff adjustments to match the costs, may amplify commercial and financial risks. Governments may keep tariffs lower than they should be, to meet certain social, public health or environmental objectives. PPIF (2006) referred to the following reasons as to why tariffs may not be set to recover full costs:
    - People are unwilling to pay the full cost of the service.
    - People are willing to pay, but it is considered socially unacceptable to require them to pay the costs of service provision.
    - Environmental or public health externalities (such as improving the hygiene conditions of the community, or extending the service to poor customers or even reducing the risk of environmental pollution by treating wastewater in case of wastewater service)make it socially beneficial to charge people less than the cost of the service.

Accordingly, local authorities need to design the risk allocation and plan its mitigation carefully. The main mitigation measures are discussed under the following section.

[20]This is defined as losses resulting from the inability to adequately assess financial strength of the sub-sovereign counterpart due to a missing or incomplete financial track record and losses resulting from overriding central government actions (Source: http://www.globalclearinghouse.org/InfraDev/content.cfm?id=41).

[21]The Panel was formed as a joint initiative of the GLOBAL Water Partnership, the World Water Council, and the 3rd World Water Forum in Kyoto. It was constituted in late (2001), the panel comprises 21 personalities with top-level experience in government, finance ministries, international development finance agencies, commercial banks and other funding bodies, water companies, non-governmental organizations active in the water sector, plus eminent independent professionals.

6.2 RISK MITIGATION MEASURES AND INSTRUMENTS

Risk allocation does not necessarily mean that the involved parties will effectively bear their responsibilities. Therefore, relevant incentives and monitoring mechanisms need to be developed to ensure that risks facing both the government and the private sector are dealt with properly. Governments need to be sure that the services supplied by the private sector will meet the desired standards and that the cost of services provided will not be much higher than that charged by the government especially at the early stages of service delivery by the private sector and link the price increase to progress in service improvement benchmarks. On the other hand, private investors need to make sure that the risks they might face are properly addressed.

New developments in the area of risk mitigation mechanisms can help to enhance the attractiveness of the water sector to private investors. Table 6 highlights the main types of water related risks, some of the actions that governments can take to mitigate the risks, as well as the available risk mitigation instruments.

Table 5: Water related risks, their mitigation measure and instruments

Water-related risks	Mitigation mechanisms
Commercial: Tariff affordability and resistance Project cash-flow profile Credit risk Contractual risk Performance risk Demand and markets Inappropriate technology Information gaps / hidden costs Costs of inputs (energy)	**Careful project design & review** **Partial Credit Guarantee:** Covers different events causing non-payment, incl. commercial risk. Offered by multilaterals – International Finance Corporation(IFC) – and some bilateral. Traditionally used by governments or public entities, but also recently by sub-national governments, municipalities, private companies. **Pooled financing:** to allow smaller cities to aggregate financing needs, diversify credit risk and spread transaction costs of bond issuance.
Political: Expropriation Political interference New standards and directives Sub-sovereign agencies Local stakeholder actions Devaluation	**Bilateral investment treaty, dispute resolution mechanisms** embedded in contract (i.e. the Convention on the Settlement of Investment Disputes between States and Nationals of other States – International Centre for Settlement of Investment Disputes (ICSID)) **Political Risk Insurance:** covers war and civil disturbance, expropriation and confiscation, currency convertibility and transferability (export credit agencies, investment insurers, private political risk insurers and multilaterals - MIGA) Foreign exchange risk usually covered through **government exchange rate guarantees, indexation of tariffs or local finance in LCU** (joint ventures with local partners, split-currency revenue arrangements: costs in LCU, repatriation of profits in foreign currency). Development of local capital market.
Regulatory, legal and contractual: Weak or arbitrary regulator Weak legal framework Contract enforcement	**Partial Risk Guarantee:** covers breach of contract, changes in law, license requirements, obstruction in the process of arbitration and non-payment of termination amount. Offered by multilaterals and some bilateral. **Output Based Aid:** financing is freed once the output is delivered.

Source: (OECD, 2009)

It should be noted that certain risk mitigation measures may entail important impacts on governments. For example the guarantees that are designed to shield the private sector from specific risks may constitute contingent liabilities on national budgets. The use of such guarantees should be carefully assessed by the government in order to make sure that they are not misused or used for purposes other than their designated purposes defined in the contract.

In addition, subsidies that might be granted to the operator to enable cost recovery and efficient service delivery, which are generally resulting from the default in tariff reform, may also constitute another burden. These subsidy modalities were reported by PPIF (2006) to include the following:

- *Subsidies for the cost of debt* by lending money at concessional rates. Subsequent write-offs of these loans can be a further subsidy.
- Partial guarantees to mitigate risks such as foreign exchange losses, or default during the long payback period; typically required for large water sector investments.
- *Customer bailouts.* An ad-hoc subsidy from the customer to an operator occurs when risks that the operator was supposed to have borne under the arrangement are transferred to the customers through a tariff increase in order to protect the operator from financial distress. For example, in Manila, after a rapid and unexpected depreciation of the exchange rate, tariffs were increased by more than would have been allowed under the planned regulatory mechanisms.
- *In-kind grants and tax exemptions.* Governments may also provide subsidies to private water and sanitation utilities through in-kind grants and tax exemptions. In-kind grants might take a variety of forms, such as water abstraction rights, which would otherwise be subject to some form of charging regime, or land grants for treatment works.

In any case, mitigating the risks of the water sector crucially depends on how well the enabling environment is established and the quality of the regulatory framework existing in each country. In addition, it also depends on the institutional capacities of both the service provider and the local authorities in charge of monitoring and governing the partnership.

This section addressed the types of risk sin a concise manner. More details and information on risk analysis and mitigation is available in references, such as the ones mentioned below:

Suggested Readings

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CONCLUSIONS AND RECOMMENDATIONS

1. Deriving from the above review and discussion, it can be concluded that the challenges to ensure a well-functioning public and private partnership in water service delivery range from the proper allocation of roles and responsibilities among the partners to understating the risk and how they can share it, to the capacity and will of each partner to meet their obligations under the partnership. To better address these challenges, the partnership needs to be carefully designed and roles and responsibilities among partners clearly allocated and capacity of both partners sufficient to meet their respective obligation. Regulatory tasks and staff need to be focused on desirable outcome(s), not on how to achieve these outcomes. Local authorities should have the adequate skills and capacities to best monitor and govern the partnership. They particularly should have the capacity to ensure compliance of the service provider with its obligations under the contract and to set the proper mechanism to adjust and renegotiate the contract in a way that it is fair for all parties and that best serves the interest of the community.
2. A successful partnership requires the existence of the proper enabling environment, which includes the creation of high quality regulatory framework that is necessary to ensure private sector participation in water service delivery at the local level. To create the proper enabling environment governments with the involvement of local authorities are required to conduct an integrated and transparent reform in each country, whereby water sector reform is considered an integral part of it.
3. Although many countries in the Mediterranean have undertaken or are amidst undertaking water sector reform processes, there are still many gaps towards ensuring transparent reform. Such gaps include setting proper tariff systems, establishing the opposite regulatory framework and eliminating political interference in the process. To ensure transparent reform in the Mediterranean countries and attain the designated outcome, the process needs to be endorsed at high policy level as well as by other stakeholders, and governments should allocate the needed financial as well as human resources to properly implement it. Moreover, political interference in the implementation should be eliminated and clear mandate for the reform national team should be granted to perform the process properly and to develop the needed policies including the tariff policy.
4. There are several financial instruments to assist with investing in the improvement of the water service delivery. One of the key financing sources is the 3Ts. However, the most important challenge for local authorities is how they can use innovative techniques to maximize the use of the various financing sources. Local authorities are encouraged to use the right mix of the financial sources to leverage other market based sources including bonds and loans. However, under the existing regulatory and legal framework in the Mediterranean Region, local authorities are primarily encouraged to follow the principle of “water pays for water” which means that they should use the revenue generated from tariffs to pay for the operation and maintenance while using public money to invest in expanding the infrastructure during the early stages of the contract. Once the capacities of service providers, as well as authorities, are developed and the lending environment becomes mature they can move to other forms of market based and more sophisticated financial forms.
5. The water sector involves several risks, ranging from legal, political, commercial, etc., which if not adequately addressed and without the proper mitigation mechanisms, they may cause the termination of the partnership. Local authorities are advised to follow the principle of assigning the relevant risk type to the party that is best

able to manage it and handle its outcome. In addition, it is important to develop the proper monitoring mechanism to ensure that the risks facing the partners are dealt with properly.

6. Based on the developing countries' PSP experience in water service delivery, it can be derived that the success of the partnership was mostly related to the clear understanding by both parties of the core values of the service delivery. On the other hand, the failure in some partnerships was primarily the result of a lack of understanding on the part of the service providers of the local culture, politics and governance in these countries. Local authorities are encouraged to develop the capacity of local contractors[22], who are in a better position to understand the local culture and policy of the country, to enable them to participate in water service delivery.

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[22] This can be achieved either through joint venturing with more experienced service providers for limited time periods, after which the local contractor takes over as the needed experience is acquired. Otherwise, the local contractor can be requested to start with limited tasks, which can grow gradually with increased capacity.

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ANNEX 1: CASE STUDIES FROM THE MEDITERRANEAN REGION

1. PALESTINIAN CASE ON WATER SERVICE DELIVERY

Water supply management in Palestine is organized under two main models; delegated public management and direct public management models. The first model includes two major utilities, namely; Jerusalem Water Undertaking in Ramallah (JWU) and the Water Supply and Sewage Authority (WSSA) in Bethlehem. Under this model water supply management is delegated by a number of municipalities to these semi-autonomous utilities to manage water supply. The utilities are governed by a board of directors representing the participating municipalities and operate almost in the form of public companies. The direct public management model includes 8 main water departments within the municipalities of large cities and 240 smaller service providers at the level of local villages and towns. The percentage of West Bank population served under the delegated public management model is nearly 18% while it is 82%in the case of direct public management (57% serviced by the smaller service providers and 25% by the main service providers), Rabi (2010).

The environment under which these local service providers operate is somewhat controversial. They face many external challenges; political, economic, and environmental, whilst the internal challenges range from social, cultural, institutional and legal. The political challenge is probably the most serious external challenge that limits their proper performance. Most of them rely on water purchased from Israel and this is often subject to the Israeli will to sell them water in the needed quantities, at the requested time. This leaves them permanently under threat and renders the service they provide unreliable. In many of these locations, customers receive water (in the best case scenario) once a week during the summer period. This may reduce to once a month or even less in other places.

This situation creates a vicious cycle of negative consequences that translates in the end into poor services and deteriorating infrastructure. Customers who don't receive water are not willing to pay for the poor service. This generates huge accumulated debts on the local service providers who end up running under deficit all year round and weakens their capacity to rehabilitate and develop infrastructure. In an attempt to overcome this critical situation, some of the small service providers, operating within geographic proximity to each other, started to cluster together and form what starts to be known as Joint Water Service Councils (JWSC). The main objectives are to reduce the fragmentation in the sector, and the operation and maintenance costs and improve services to target customers within their command areas. Each JWSC may include between 4 – 12 villages who agrees to share costs and attract investment in improving the infrastructure either through grants or long term soft loans from the International Donors or Lending Institutions channelled through the Palestinian National Authority either directly or through special mechanisms such as Municipal Development and Lending Fund (MDLF), that has been established to build the capacity of these councils and others.

Despite all these efforts to improve the water service delivery, this form of Palestinian public service model in local water service delivery still suffers from low performance efficiency and poor service similar to the other typical monopolistic public models that exist elsewhere in the region. The internal challenges facing both models play an important role in limiting the ability of these local service providers from improving their service. The unclear roles and responsibilities and duplication in laws and regulations, where more than one institution is charged with the

same task and the weak enforcement mechanism of the laws and regulations are all contributing toward the unreliability of service delivery at local level.

Moreover, the restrictive external environment (mainly political instability resulted from occupation) that limits the ability of the local service providers to improve their performance, even when there is a will to do so at national, political as well as service providers' levels is still the main constraint that restricts the improvement of water service delivery in Palestine. It is also the main constraining element that may limit private sector participation in local water service delivery even under the on-going water sector reform and the proposed changes in the water law to enable private sector participation. The ending of the two management contract, mentioned earlier, in the early 2000 was just an example on the influence of political instability.

2. THE LEBANESE CASE ON WATER SERVICE DELIVERY23

Water service provision in Lebanon prior the year 2000 was fragmented among nearly 21 Water Offices and 209 local committees established throughout the country. However, in the year 2000 the Lebanese Government reformed the water law to centralize the service under four Public Water and Sanitation Establishments (PWSE) according to a new law 221/2000and its amendments (Law 241and Law 377), but the implementation of such law was delayed until the year 2005. In addition, the established PWSEs have not yet received the human and financial resources needed to perform their services as autonomous bodies.

Moreover, the reform didn't provide for clear separation in roles and responsibilities for example article 2 of law 377 assigned the responsibility to manage sanitation to the Ministry of Energy and Water while article 6 of the same law kept the responsibility of sanitation management in the hands of Municipalities and union of municipalities. In the same time, the reform initiated by Law 221 does not tackle the fragmentation of responsibilities in planning and executing investments. This legal ambiguity leads, in practice, to a dispersion of functions and responsibilities between the Establishments and the municipalities, which is not conducive to the effective development of the sector. For example, sanitation services are not subject, so far, to any billing apart from taxes collected by the municipalities for the maintenance of networks. Responsibility on the operation of future wastewater treatment plants and networks is, thus, confronted with the ambivalence of legal provisions and the consequent financial arrangements.

This legal ambiguity not only influences negatively the coherence between the policies of the water sector and other sectors (agriculture, energy, environment), but also the consistency of intra-sectorial policies and investment programs, particularly between the national and local levels.

Until now, the Lebanese legal framework has not been yet amended to allow advanced forms of concessions and lease/affermage for private sector participation. Private sector participation in the water sector in Lebanon has been limited to service contracts for the conduct of specific tasks or the operation and maintenance of pumping stations and small wastewater treatment plants. The contracts are normally awarded to small local private companies and aim at tackling the lack of human resources and capacities within the Public Water and Sanitation Establishments. The contracts' duration is limited to one year, reflecting more the annual programming budget cycle than the operating needs of the plants. The awarding process and the supervision of these contracts are

[23]The case study was compiled from the EUWI – MED study on "Framework conditions for Private Sector Participation in Water Infrastructure in Lebanon".

advantageously flexible for the administration. However, the use of these contracts is circumstantial and is not included in a comprehensive outsourcing approach seeking to make a better/more targeted use of these contracts.

The only experience to date, has been limited to a service and management contract for drinking water services in the urban area of Tripoli (400 000 inhabitants - 10% of the Lebanese population). This contract included two components: the construction of infrastructure and enlargement of the water treatment plant of Bahsass, extension of the secondary and tertiary network of Tripoli) and institutional support targeting performance improvement of the Tripoli Water Office (replaced later by the Regional Establishment of Water and Sanitation of North Lebanon). The management contract, over 4 years, was awarded to the company Ondeo, Liban. It started in 2003 and was completed in 2007, without renewal due to the failure in negotiation among the public and private partner. Such failure to extend the contract resulted primarily from the following main reason: institutional complexity; unclear responsibilities and the presence of two contracting authorities; and the weak monitoring and arbitration by the Ministry in charge of regulation which is Ministry of Energy and Water, has returned water service provision to public authority.

Regarding revenues in the drinking water sector, the applied tariffs and the collection rates are under the responsibility of the Sanitation and Water Establishments. Currently, they do not allow the recovery of costs, even the operational ones. The tariff structure currently applied for potable water, is based on a fixed annual fee for a contractual volume of $1m^3$/day. This annual fee varies from 140 000 Lebanese Pounds (LBP) (Békaa-South Establishment) to 200 000 LBP (Beirut Mount Lebanon Establishment).Cost recovery rates are difficult to evaluate, mainly due to the absence of volumetric metering and leakage detection mechanisms. Among the 4 Water and Sanitation Establishments, only the Beirut Mount Lebanon Establishment (BML) succeeds in covering the operation costs. The two Establishments of North-Lebanon and South-Lebanon manage to cover the operation costs excluding the energy costs, which represent respectively 43% and 50% of their operation costs. The Békaa-South Establishment does not manage to cover its operation costs, even without considering the energy costs. However, cost recovery is not achieved because of the weakness in bill collection induced by non-payment of bills by consumers but also by public administrations and local authorities. Only the Establishment of Beirut Mount Lebanon, that shows a bill collection rate of 66%, is able to cover its operation costs. Unreliable consumers' inventory and cumbersome legal procedures for water cut-offs are the major constraints to improved bill collection rates.

It is worth noting that the Ministry of Energy and Water is indirectly subsidizing the O&M costs of the Water and Sanitation Establishments by managing service contracts for pumping stations that fall under their responsibility.

3. MICRO-PSP EXPERIENCE IN JORDAN[24]

Micro-PSP is a relatively new concept in Jordan, which was proposed as a fast-track option to achieve improvements in the services provided by the water utilities. Due to its limitations, the Micro-Scale PSP approach had to be seen as a preparatory stage for all kinds of PSP in the operation and management of water and wastewater systems in Jordan. In addition to the objectives of cost reduction, management innovation and performance improvements, the creation of a market for local private companies to support the reform process in Jordan's water sector was perceived as a crucial economic issue in favour of adopting Micro-PSP in the country.

[24]Source: SWIM-SM (2013)

Micro-PSP was first implemented in Madaba Governorate Water Administration (MGWA) between 2005 and 2011. The situation of MGWA was dominated by severe problems in the customer management areas: customers were lost due to faulty application processes, and bills were often estimated and not distributed, while the collection of fees was ineffective. Ten years before the Micro-PSP started, NRW ranged from 49-66% and offered high value improvement potential of approximately 1.9 Million Jordan Dinars.

The target goals of Micro PSP in MGWA included:

- Improved water and wastewater revenue.
- Reduced customer outstanding amounts.
- Improved customer management efficiency.
- Installation of computer aided customer management.
- Technical and administrative development of customers' management organization.

Madaba was chosen as a pilot region for several reasons including:

- Relatively large improvement potential.
- Relatively small customers' base.
- Proximity to the water authority at the headquarters, making the general transactions and logistics easier.
- Strong interest from the local stakeholders.

Due to the limited knowledge base of the competent companies in the tasks relevant for the Micro-PSP contract, a very detailed preparatory phase was adopted involving (a) the organisation of meetings, workshops and consultations to ensure an appropriate level of understanding of the planned activities and (b) the provision of sufficient time to enable the transfer of know-how to the private sector.

The Micro-PSP project allowed the private sector to participate in Jordan's water sector and contribute to its water and wastewater services, which resulted with considerable cash flow improvements. The funding required for the Micro-PSP is normally much less than that required for large-scale PSP models and the preparatory phase is shorter. The resulting experience offers good illustration on the potential of Micro-PSP and the associated challenges.

ANNEX2: CHECKLIST FOR UNDERTAKING REFORM TO FACILITATE PRIVATE SECTORPARTICIPATION

- Set up a state-owned enterprise reform unit with expert staff specializing in state enterprise reform and privatization. This unit reports to a key economic minister with the endorsement of the president, prime minister, or cabinet.
- Commission a scoping study of the water utility — its actual and potential operations — on the basis of maximizing economic value to the community. Review earlier studies and proposals for similar entities. Prepare action plans for government, utility, and the sector. The scoping study and related activities would be in collaboration with, or through, the reform unit of government.
- Explore, as part of the scoping study, the costs and benefits of separating natural monopoly businesses (pipelines, key plant, etc.) from parts of the utility that can be made competitive or contestable.
- Identify and rank risks and assess the best way of mitigating and managing them.
- Advise government on the most suitable PSP option. Lay groundwork for privatization tenders — including preparation of scope of markets and business operations.
- Review laws, regulations and other factors affecting possible re-organization of water supply utilities. Prepare draft documentation of required legislation and amendments to existing legislation and regulatory arrangements.
- Support for capital market reforms — these enable lengthening of the terms of local finance — thereby reducing the need for foreign exchange (FOREX) exposure.
- Assess water resource issues, basin management, and general review of issues affecting watersheds and water sources. Prepare water resources management strategy — overseen by a key minister and the policy unit. Consider feasibility of facilitating a system of entitlements to water — tradable water rights.
- Assess data on non-revenue water, scope for revenue increase with new assumptions regarding maintenance and investment.
- Review tariff structures, cost breakdowns, profit and loss accounts, and balance sheets. Ideally, assess these data by smallest feasible business unit.
- Assemble financial model of utility, capable of answering a range of alternative questions on revenue with and without efficient management of bulk and retail distribution systems.
- Review the quality and quantity of bulk supply and develop a feasible time scale for meeting international standards.
- Implement sound commercial tariff structures, billings, and collections.
- Implement an independent regulatory authority to monitor contract performance, tariff structure, and indexation arrangements. Ensure authority's staff has the necessary training and expertise.
- Define scope of market, component businesses. Areas to be covered include: quality standards, targets to reduce non-revenue water, investment obligations.
- Prepare bid information documents, scopes of works, tender documents, basis for bids (tariffs or concession fees).
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Source: Asian Development Bank 2000