

WATER UTILITIES REFORM IN THE ARAB REGION

LESSONS LEARNED AND GUIDING PRINCIPLES

First Edition
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Foreword

The water sector in the Arab region suffers from chronic problems and faces many challenges in terms of water supply and sanitation services. These challenges are common in most of the Arab countries and are summarized in the following:

- Limited water resources; which lead to a large gap between available resources and increasing demand for water due to the high rate of population growth, rapid urbanization and economic development.
- The impact of political instability in the Arab region (Arab Spring); which lead to internal and external migration in many Arab countries, has dramatically increased the demand for water in the host countries and damaged the infrastructure in the countries of the Arab Spring
- Most water utilities operate under centralized management; especially in the field of planning and determining tariffs, regulations and laws that regulates the work of water utilities (salary scales, and employment regulations)
- Brain drain from the public sector to the private sector within the same country or from one country to another
- Limited financial allocations in many facilities in the area of training and capacity building, technology transfer and limited financial resources for the implementation of mega projects in water supply and sewage treatment plants
- Many Arab countries have reached lending ceiling, thus cannot take any more loans to implement water projects
- Very limited initiatives from the national private sector to finance strategic projects

Building on these circumstances and to overcome those challenges; the stakeholders in the water sector in the Arab region should go beyond the traditional management. Most of the water utilities are being operated based on centralization with reference to absolute laws and regulations. Thus it is now emergently crucial for utilities and decision-makers to adopt the effective solutions and the find proper environment to face all these ongoing challenges.

Here arises the role of the Arab Countries Water Utilities Association (ACWUA) and other community-based organizations, in raising awareness at all levels within utilities, especially at the top and middle management levels that have the direct influence over decision makers, in emphasizing the need for development of new policies, and the amendment of existing legislations that would encourage the reform processes in water utilities.

According to its mandate, ACWUA is playing a fundamental role in promoting and supporting water utility reform initiatives in the Arab world. Through the initiation of the (Utilities Reform) Technical Working Group (TWG), ACWUA introduced different Utilities' Reform topics for research and discussion: Commercialization, Public Private Partnership and Decentralization, Tariff Reform among others. Throughout the last three years, the Utilities Reform TWG members met many times to share their countries' experiences, exchange knowledge in the form of case studies, and discuss potential aspects of reform to be included in a best practice guide or guiding principles and lessons learned. This publication includes the results of these meetings and discussions, where case studies from seven countries were produced in a previous publication, then results of the case studies were thoroughly analyzed and identified good and bad practices when dealing with reform initiative, this synthesis is coming as an end product for the Utilities Reform Technical Working Group titled: "Water Utilities Reform in the Arab Region: Lessons Learned and Guiding Principles". This publication is a milestone in the Arab water sector where it paves the way for better implementation for utilities reform and spot out the hurdles and constraint preventing any utility from getting a successful one. The group meetings, publications and all their associated activities were financially supported by the Swedish International Development Cooperation Agency (SIDA) within a three-year support project.

I would like to express my sincere thanks to the authors of this publication, our committed TWG members who showed real dedication to this project and contributed with their expertise to bring out this honorable work.

I would like also to thank the Swedish International Development Cooperation Agency (SIDA) for supporting the production of this publication.

Last but not least, I would like to thank ACWUA Secretariat team and the TWG advisory team from (ECO Consult) for their efforts throughout the two-year working period of the TWG up till the point this publication became available to serve the water and sanitation sector in the region.

Sincerely Yours,



Eng. Khaldon Khashman
Secretary General

Acknowledgement

This publication is based on the knowledge and contributions of ACWUA's Utilities Reform Technical Working Group members. It builds strongly on a set of regional case studies presenting regional experience in the topic of utilities reform that the Technical Working Group members and supporting consulting team have previously developed. It constitutes the culmination two years worth of effort and hard work that showcases this regional experience as developed and communicated by regional experts for the benefit of regional utilities, drawing on their accumulated knowledge and lessons learned and taking account of common situational, environmental, socio-economic, institutional, financial and technical challenges in the process. This publication and the hard work that led to it would not have been possible without the support of the Swedish people represented by the Swedish International Development Agency and their Technical Advisor Mr. Samuel Walker. ACWUA would like to acknowledge all those efforts that led to producing this guide.

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Acronyms

ACWUA	Arab Countries Water Utilities Association
AFD	French Development Agency
AW	Aqaba Water
BMLWE	Beirut Mount Lebanon Water Establishment
BMZ	German Federal Ministry for Economic Cooperation and Development
BOOT	Build-Own-Operate-Transfer
BOT	Build-Operate-Transfer
BWE	Beka'a Water Establishment
CAPWO	Cairo Alexandria Potable Water Organization
CDR	Council for Development and Reconstruction
CSO	Civil Society Organization
DBFOT	Design-Build-Finance-Operate-Transfer
DBO	Design-Build-Operate
DGGREE	General Direction of Rural engineering and Water Exploitation
EPC	Engineering, Procurement and Construction
EWA	Electricity and Water Agency
EWRA	Egyptian Water and Wastewater Regulatory Authority
GARWP	General Agency for Rural Water Projects
GCC	Gulf Cooperation Council
GCWR	General Commission for Water Resources
GDA	Group for Agricultural Development
GDP	Gross Domestic Product
GIC	Group of Collective Interest
GIS	Geographic Information System
GIZ	The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (German Society for International Cooperation)
GWP	Global Water Partnership
HCW	High Commission for Water
HCWW	Holding Company for Water and Wastewater
HWC	Higher Water Council
ICA	Israeli Civil Administration
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
IWRM	Integrated Water Resources Management
JVA	Jordan Valley Authority
JWC	Joint Water Committee
JWU	Jerusalem Water Undertaking
LC	Local Corporation
LCCA	Life Cycle Cost Analysis
LCD	Liter per Capita per Day
MAI	Ministry of Agriculture and Irrigation
MCM	Million Cubic Meters
MDG	Millennium Development Goal
MENA	Middle East and North Africa
MEW	Ministry of Environment and Water
MHC	Ministry of Housing and Construction
MHUUD	Ministry of Housing, Utilities and Urban Development
MOE	Ministry of Environment
MOEW	Ministry of Energy and Water
MOF	Ministry of Finance
MOI	Ministry of Irrigation
MOW	Ministry of Works
MWE	Ministry of Water and Environment
MMI	Ministry of Water and Irrigation
MWRI	Ministry of Water Resources and Irrigation
N/A	Not Applicable

NGO	Non-governmental Organization
NLWE	North Lebanon Water Establishment
NOPWASD	National Organization for Potable Water and Sanitary Drainage
NRW	Non-revenue Water
NUCA	New Urban Communities Authority
NWC	National Water Council
NWRA	National Water Resources Authority
NWSA	National Water and Sanitation Authority
NWSS	National Water Sector Strategy
NWSSIP	National Water Sector Strategy and Investment Program
O&M	Operation and Maintenance
ODA	Official Development Assistance
OECD	Organization for Economic Co-operation and Development
OMS	Operation and Maintenance Support
ONE	National Office of Electricity
ONEE	National Office of Electricity and Drinking Water Supply
ONAS	National Office for Sanitation
ONEP	National Office for Drinking Water Supply
PMU	Performance Monitoring Unit
PNA	Palestinian National Authority
PPIAF	Public-Private Infrastructure Advisory Facility
PPP	Public Private Partnership
PSP	Private Sector Participation
PWA	Palestinian Water Authority
R&D	Research and Development
ROAI	Regional Offices for Agricultural Investment
SCADA	Supervisory Control and Data Acquisition
SIDA	Swedish International Development Cooperation Agency
SLWE	South Lebanon Water Establishment
SNDE	Societe Nationale D'Eau
SONEDE	National Company for Water Exploitation and Distribution
SPC	State Planning Commission
SYP	Syrian Pound
TAP	Transparency – Accountability - Participation
TOR	Terms of Reference
TWG	Technical Working Group
TWSLC	Taiz Water and Sanitation Local Corporation
UAE	United Arab Emirates
UN	United Nations
UR	Utilities Reform
USD	United States Dollar
USEPA	United States Environmental Protection Agency
USP	Utility Support Program
VIP	Ventilated Improved Pit
WAJ	Water Authority of Jordan
WBWD	West Bank Water Department
WSP	Water and Sanitation Program
WSS	Water Supply and Sanitation
WSSA	Water Supply and Sewerage Association
YWC	Yarmouk Water Company

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1

INTRODUCTION

1.1 Background

Most of the Arab region is faced with acute water shortages that put tremendous pressure on utilities to develop and sustain adequate water supplies to be able to meet existing and future demand. Climate change, population growth and economic development are at the heart of the ever-increasing gap between water demand and available supplies. Developing additional water supplies from non-traditional water resources such as desalination adds financial burdens on the utilities which subsequently become in need of government support and subsidies. As a means to confront all those challenges, many utilities see the need for performance and efficiency improvements-particularly related to improved services, financial sustainability, and customer satisfaction; for developing water infrastructure responsive to current and emerging needs; and for providing services within an environment conducive to good performance and satisfied customers.

In accordance with its role and mandate of serving its constituency in upgrading their competences by improving their performance in the delivery of water supply and sanitation (WSS) services, the Arab Countries Water Utilities Association (ACWUA) adopted a leading role in the region in presenting and examining approaches to improve the efficiency of the Operation and Maintenance (O&M) systems and standards, to implement reform and restructuring initiatives to improve operational performance, to extend services, to advance management systems, and finally to exchange expertise in developing operation and maintenance procedures and applications.

Accordingly, ACWUA initiated interdisciplinary Technical Working Groups (TWGs) comprising qualified experts from ACWUA member utilities to address specific utility issues in different high priority areas in the water and sanitation sector after conducting a needs assessment exercise for its constituents. To this end, ACWUA obtained the necessary funding to launch and activate the Utilities Reform (UR) TWG from the Swedish International Development Cooperation Agency (SIDA).

The UR TWG comprised seven¹ members representing seven different ACWUA utilities and their respective countries working together for a two-year period of engagement in the TWG. The UR TWG relied primarily on its members' expertise in utilities reform in their respective organizations and countries, and complemented those competencies through information gathering, literature review and stakeholder consultation.

1.2 Overview

During the two-year period of engagement of the TWG, the members met twice to three times annually to design a work plan and schedule; design the outlines for the final deliverables of their work; present their respective experiences in reforming WSS services; exchange knowledge in that respect regionally; and present a future outlook that would serve ACWUA in further identifying improvement opportunities in the WSS sector regionally. The TWG members also participated in international and regional conferences presenting their experiences and reaching out to other WSS professionals and experts.

The first deliverable of the UR TWG was a compilation of the regional case studies² report, presenting individual experiences in the area of utilities reform starting with a country background with focus on water resources, uses and service providers; the institutional and legislative framework governing the sector; strands of reform applied including decentralization and commercialization; and opportunities for and models of partnering with the private sector.

Building on the group discussions of the aforementioned case studies, the publication in hand provides an in-depth analysis of the regional experience in this area, success factors, opportunity for replication and improvement and lessons learned- based on a framework developed by the TWG members. The above mentioned aspects are all compiled in this- the second and final of two deliverables of ACWUA's current UR TWG based on an outline linked to the analysis framework also developed by the TWG members.

1 The seven Arab countries examined were Morocco, Egypt, Yemen, Jordan, Palestine, Syria, and Lebanon.

2 The countries included in the Case Studies report were Morocco, Egypt, Yemen, Jordan, Palestine, Lebanon and Syria.

The publication starts with a detailed explanation of the methodology and work plan that the TWG members and supporting advisory team followed to come up with the final output in Section 1 "OVERVIEW". The tools that were used are presented and explained- including the questionnaires and the analytical framework used, and how they translate into this publication. The challenges that were faced during the working period of the TWGs are also highlighted, to be taken into consideration in similar future programs.

This is then followed by an elaborate description of the challenges faced by utilities in the region and the associated conditions, environment and circumstances that the utilities operate in starting with the severe water scarcity conditions in the region, the high costs of developing water resources, the social paradigm governing perceived water value and resulting impacts on the performance of utilities.

The publication then presents attributes of good performing utilities according to universally acknowledged good practices including financial viability, well identified levels of services, technical efficiencies, healthy assets, committed leadership and trained staff, customer satisfaction and sustainable management of water resources.

Upon the analysis of the case studies and experiences shared, examined and discussed, the main themes of utilities reform as relates to regional experience, challenges and opportunities are presented in the next section (Section 2 "REGIONAL EXPERIENCES AND CHALLENGES"). In specific, the existing characteristics pertaining to water governance as it is currently within the region, along with lessons learned and important notes are presented, including institutional setups, decentralization, corporatization and regulation. Regional experience in Public Private Partnerships (PPPs) is also presented and analyzed with lessons learned. Last but not least, tariff reform is discussed in relation to the existing tariffs and bases for tariff setting and level of stakeholder engagement in the process. This is followed by a summary that highlights- based on the outcomes of this program and emanating from its findings, the areas where the need exists for further investigation and development, and that constitute core areas that ACWUA will invest in to further support its constituents.

The following Section (Section 3 "GUIDING PRINCIPLES") presents guiding principles in the areas of governance, corporatization, decentralization, PPP and tariff reform building on the successes and failures in reforming water utilities as reported in the case studies publication (the first deliverable of the URTWG).

1.3 Approach and Methodology

The approach that was adopted throughout the implementation of this program involved ACWUA reaching out to its individual utility members' experiences in utilities reform, and compiling this experience collectively in plenary. This not only presented those various experiences in the region, but it opened the door to discussions, agreements, disagreements and knowledge exchange.

The whole program was also a platform for participating countries and members to exchange regionally available knowledge- not only in the subject topic of the TWG, but in other related aspects and specific issues born from the various needs and requirements in each of the participating countries. The various levels of knowledge available in this one platform created such a learning opportunity.

The main findings of this program revealed much detail about the Arab experience in the topic of utilities reform as will be discussed later in this report, taking into the account the similarities related to regional context, opportunities and challenges. It also relates this experience to universally acknowledged good practices and guiding principles in utilities reform, within the limitations and influence of such regional context and challenges. Thus, the outcome of this program is a tool that aims at creating a better understanding of the experience within the region in the area of water utilities reform, the opportunities and challenges involved, and how this experience can benefit other countries in the region embarking on reform.

The methodology applied during the implementation of this program entails primary and secondary research mechanisms:

- Primary research mechanisms were utilized for the collection, presentation discussions of data/information, and development of case studies from each participating TWG member/country. The activities implemented for this purpose included:
 - Developing a detailed Terms of Reference (TOR) and associated work plan for the TWG, explaining the objectives of the program, related activities, expected outcomes, and implementation plan and schedule. The TOR and work plan were developed in a participatory manner involving conducting regional workshops and working sessions that included the TWG members, the consulting team members, and ACWUA.
 - Developing - also in a participatory manner in regional workshops involving the TWG members, the consulting team members, and ACWUA - an outline for case studies and an associated technically based questionnaire consistent with the information/data needed per the case studies outline.
 - Administering the questionnaire and collecting pertinent data/information from each individual member/country. The results were presented in plenary in a regional workshop, setting the stage for discussions and exchange of opinions and experiences in the interim.
 - Developing in a participatory manner in regional workshops involving the TWG members, consulting team members, ACWUA and representation of industry experts, an outline for the utilities reform good practices guide and a detailed questionnaire consistent with the information/data needed per the guide's outline.
- Secondary research mechanisms applied by the TWG members and the consulting team members to supplement all the outputs of the primary research activities explained above. Such mechanisms entailed examining available resources, literature, experiences in developed and developing countries, and universally acknowledged good practices in the topic of the TWG, and allowing for comparative analysis of the data/information compiled from all the TWG participating members, and synthesis of the analysis results to be shaped into the final deliverables of the program, highlighting the regional experience and accompanying challenges and opportunities.

1.4 The Water Situation in the Arab Region

The Arab region is one with a diverse profile and characteristics; from low income economically challenged underdeveloped countries to middle income low natural resources developing countries, to extremely well off and economically stable countries abundant with natural resources. However, one agreed upon characteristic of almost the whole region is the very scarce conditions it suffers from in terms of the availability of water resources.

Table 1 below gives an idea about the distribution of population, economic and water resources indicators across the Arab countries. As presented, the distribution of population varies and with it the Gross Domestic Product (GDP) per Capita, exhibiting variable levels of economic prosperity and living standards. The available renewable freshwater resources per capita also provide an idea about the scarcity of water with almost all the Arab countries having a per capita supply of less than 1,000 cubic meters- the water stress threshold according to experts (the chronological trend is depicted in Figure 1 below), whereas the annual freshwater withdrawals³ provide an idea about the pressure on water resources per country. Water and sanitation services indicators are also presented in alignment with the Millennium Development Goals (MDGs) indicators.

3 Very high values indicate extractions from desalination plants.

Table 1: Selected Demographic, Economic and Water related Indicators for the Arab Region
(Source: World Bank, 2011)

Country	Population	GDP per Capita (USD/Cap)	Improved Water Source ⁴ (% of population with access)	Improved Sanitation Facilities ⁵ (% of population with access)	Annual Renewable Internal Freshwater Resources per Capita (cubic meters)	Annual Freshwater Withdrawals, Total (of internal resources)
Algeria	37,762,962	5,258	83.9	95.1	298	55
Bahrain	1,292,764	18,334 ⁶	100.0	99.2	3	8,935
Djibouti	846,646	1,464	92.5	61.3	354	6
Egypt	79,392,466	2,973	99.3	95.0	23	3,794
Iraq	31,760,020	5,687	84.9	83.9	1,108	188
Jordan	6,181,000	4,666	96.2	98.1	110	138
Kuwait	3,124,705	56,514	99.0	100.0	-- ⁷	--
Lebanon	4,382,790	9,148	100.0	--	1,095	27
Libya	6,103,233	10,456 ⁸	54.4 ⁹	96.6	115	618
Mauritania	3,702,763	1,154	49.6	26.6	108	400
Morocco	32,059,424	3,044	82.1	69.8	905	43
Oman	3,024,774	23,731	92.3	96.6	463	94
Qatar	1,910,902	90,524	100.0	100.0	29	793
Saudi Arabia	27,761,728	20,778	97.0	100.0	86	986
Sudan	36,430,923	1,539	55.4	24.0	641	124
Syria	21,961,676	2,747 ¹⁰	89.9	95.2	325	235
Tunisia	10,673,800	4,350	96.4	89.8	393	68
United Arab Emirates	8,925,096	40,363	99.6	97.5	17	2,665
West Bank and Gaza	3,927,051	1,209 ¹¹	85.0 ¹²	92 ¹³	207	51
Yemen	23,304,206	1,361	54.8	53	90	170

Population growth, economic development activities and climate change have placed further pressure on the already strained water resources in the region. Extreme climate variability (increased aridity; shifts in rainfall patterns; reduced groundwater recharging patterns; and more frequent extreme weather events such as floods and droughts) are impacting the availability of water resources and the provision of services. Increasing urbanization is also impacting the distribution of water resources geographically in each country and also sectorally in terms of type of use. Whereas the allocation of water for domestic use is increasing, inherent policies are supporting agricultural activities that counter the increasing urbanization trends – although with a marginal contribution of the sector to the GDP.

4 The improved drinking water source includes piped water on premises (piped household water connection located inside the user's dwelling, plot or yard), and other improved drinking water sources (public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs, and rainwater collection).

5 Improved sanitation facilities include flush/pour flush (to piped sewer system, septic tank, pit latrine), ventilated improved pit (VIP) latrine, pit latrine with slab, and composting toilet.

6 2010

7 Data not available

8 2009

9 2001

10 2010

11 2005

12 2010

13 2010

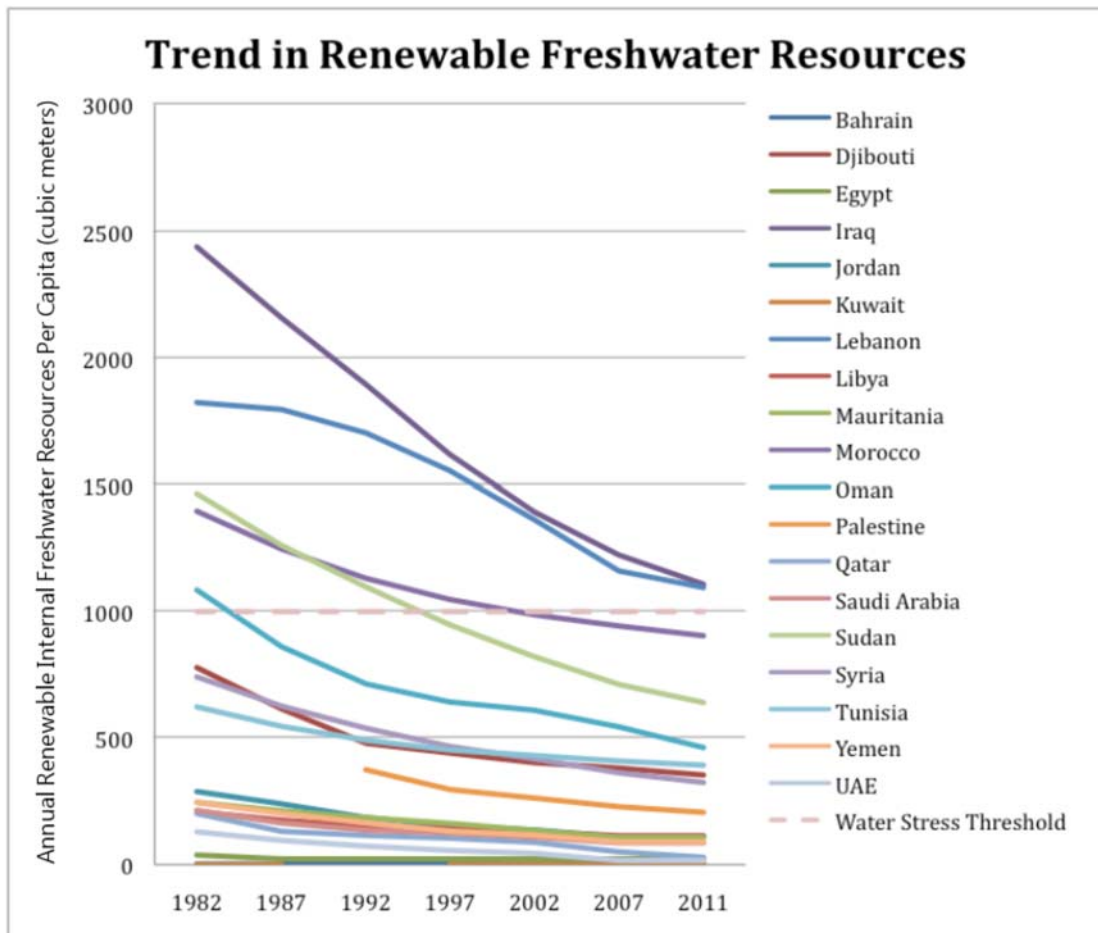


Figure 1: Trend in Renewable Internal Fresh Resources per Capita in the Arab Region
(Source: Calculated from World Bank Databank, 2012)

Adding to the naturally occurring population growth patterns in each country, the volatility of the political situation in the region and of late the Arab spring, have created several crises where displaced individuals are forced to leave their countries and flee to more secure neighboring countries, yet exacerbating the water situation there, and creating emergency conditions that require in some cases non-existent immediate and substantial resources for the displaced population. Specific examples include the Palestinian situation and the refugee camps in Jordan, Syria, and Lebanon, and the Israeli occupation that is controlling water resources in the West Bank and Gaza and preventing the Palestinian population there from basic WSS services. Other conflicts in the region resulted in internal displacement cycles such as the invasion of Iraq that sent Iraqis to Jordan and Syria; the Israeli attack on Lebanon that led to a wave of refugees in Jordan, Syria and the Gulf Cooperation Council (GCC) countries; the Libyan uprising that sent Libyans to Tunisia and Egypt; and the Syrian Civil War that necessitated the construction of refugee camps in Jordan and Lebanon and resulted in a large number of displaced Syrians also in Egypt and the GCC countries.

And where people are not being displaced due to conflicts and wars, managing the trans-boundary water resources is proving to be yet another challenge. An estimated 66% of the surface freshwater available in the region originate from external sources (the Nile river in Egypt; the Tigris and the Euphrates in Iraq; and the Yarmouk river in Jordan), creating another complication to their management, where conflicting interests of countries dictate the nature of relationships between them, and water resource management options. And if this is not enough, trans-boundary issues also exist between countries within the region itself with conflicting priorities and resource management issues.

Whereas in some countries in the region, addressing water scarcity through the development of very costly and energy consuming non-conventional water resources (i.e. desalination plants) is possible and easily achievable, such as in the GCC countries, however, in other countries in the region, such solutions are considered not feasible and difficult to implement due to the unavailability of energy sources required or the lack of available funding for them.

Resulting Challenges Faced by Utilities in the Region

The water situation and adverse conditions that are impacting the available water supply as well as demand, are taking their toll on the utilities that are charged with providing WSS services in each country in the region:

- Dwindling water resources translate into difficulties in providing services to customers continuously in many countries in the region. This is reflected by intermittent water supply (Jordan, Yemen, Palestine, Lebanon, Iraq...), and results in stressful O&M conditions that impact the quantity and quality of water supplied, the level of services provided and consequently customer satisfaction, and also the WSS infrastructure integrity. These stressful O&M conditions and difficulties entail a high level of expenditure the utilities need to undertake, related to capital investment projects for the rehabilitation and replacement of the assets that deteriorate rapidly due to intermittent supply.
- In those cases where governments choose to develop new water resources- conventional and non-conventional, this comes at a very high price that needs to be paid for either by the governments that choose to, such as the oil rich countries in the GCC investing heavily and currently at the forefront of users of the very highly energy intensive desalination technologies, or by private investors who aim at recouping their investments in due course, or by the customers paying for the service.
- The dominant social paradigm that water is not an economic good, rather a public good that needs to be provided to all for free. This does not make provisions for the cost of developing water resources, or the infrastructure constructed, operated and maintained to distribute this water to its end users. Subsequently, and especially nowadays with the Arab Spring and the political volatility in the region, governments are not ready to remove any subsidies they are paying to the cost of services. However, these subsidies are yet another burden that not all countries are able to support, thus leading the utilities into the vicious cycle of deterioration of assets.
- The fact that water is being for the most part perceived as a public good results in governments- local and central- that are not ready to relinquish the reins of WSS completely, albeit at the price of less than optimal performance and humble resources and capabilities. This also results in a multitude of roles played by those governments: owners, operators, regulators... Table 2 below summarizes the institutional setup in selected Arab countries.

Table 2: Institutional Setup of Water Sector in the Arab Region
(Source: Compiled from URTWG Inputs, 2013)

Owner	Operator	Regulatory Functions with ¹⁴
Morocco		
Water	<ul style="list-style-type: none"> Bulk: mainly ONEE as owner and operator (more than 80%). Other 20% as own production from distributors (Autonomous Agencies) Distribution: municipalities by law. 	<ol style="list-style-type: none"> Ministry of General Affairs and Governance Inter-ministerial committee (Ministry of Interior, Ministry of Energy, Water and Environment, Ministry of Finance). For the private sector there regulation by contract and follow up by a delegating authority.
Sanitation	<p>Municipalities use four models:</p> <ol style="list-style-type: none"> Direct management Creating Autonomous Agencies (In 12 large cities). Delegating to ONEE (around 600 small and medium cities). Delegating to private sector (4 concessions in big cities). 	<ol style="list-style-type: none"> Ministry of General Affairs and Governance Inter-ministerial committee (Ministry of Interior, Ministry of Energy, Water and Environment, Ministry of Finance). For the private sector there regulation by contract and follow up by a delegating authority.
Algeria		
Water	<ul style="list-style-type: none"> Algérienne Des Eaux Municipalities 	<ol style="list-style-type: none"> Ministry of Water Resources (The Directorate of Drinking Water Supply). Hydraulic basin agencies.
Sanitation	<p>l'Office National de l'Assainissement</p> <ol style="list-style-type: none"> l'Office National de l'Assainissement. The Company for Water and Sanitation of Algiers manages the 57 municipalities in the Wilaya-State of Algiers 788 municipalities manage services directly. 	<ol style="list-style-type: none"> Ministry of Water Resources (The Directorate of Sanitation and Environment Preservation). Hydraulic basin agencies.
Tunisia		
Water	<ul style="list-style-type: none"> SONEDE responsible for operation, maintenance and renewal of water production, treatment, transport and distribution facilities (in urban area). DGGREE responsible for irrigation/drainage, rural infrastructure and water supply for rural populations. GIC and GDA are the operators for water supply in rural area 	<p>Ministry of Agriculture, Hydraulic Resources</p>
Sanitation	ONAS	<ol style="list-style-type: none"> Ministry of Agriculture, Hydraulic Resources Ministry of Environment and Sustainable Development
Mauritania		
Water	<ul style="list-style-type: none"> SNDE National Office for Water Supply in Rural Area. Municipalities 	<ol style="list-style-type: none"> Regulation authority Ministry of Water and Sanitation National Council for Water
Sanitation	<ul style="list-style-type: none"> National Office for Sanitation. Municipalities 	<ol style="list-style-type: none"> Regulation authority Ministry of Water and Sanitation National Council for Water

Owner	Operator	Regulatory Functions with ¹⁴
Egypt		
Water	HCWW	AD listed companies in each governorate
Sanitation	HCWW	EMRA EMRA
Yemen		
Water	MEW	1. GARWP. 2. NWSA 3. Local Corporations.
Sanitation	MEW	1. NWSA. 2. Local Corporations.
Bahrain		
Water	EWA	1. EWA 2. MOW
Sanitation	EWA	1. EWA 2. MOW
Jordan		
Water	<ul style="list-style-type: none"> • Bulk: JWA, WAJ • Retail: WAJ, some of the water companies owned by WAJ 	<ul style="list-style-type: none"> • Bulk: WAJ, private sector (Disi Production and Conveyance System) • Retail: WAJ, Water Companies owned by WAJ, private sector (service contracts)
Sanitation	Collection and Treatment: WAJ, some of the water companies owned by WAJ	<ul style="list-style-type: none"> • Collection: WAJ, Water Companies owned by WAJ • Treatment: WAJ, Water Companies owned by WAJ, private sector
Palestine		
Water	<ul style="list-style-type: none"> • Bulk: WBWD, PWA, municipalities • Retail: JWU, WSSA, municipalities, village councils 	<ul style="list-style-type: none"> • Bulk: WBWD, PWA, municipalities • Retail: JWU, WSSA, municipalities, village councils, joint service councils
Sanitation	WSSA, municipalities, village councils (where applicable)	JWU, WSSA, municipalities, village councils, joint service councils (where applicable)
Syria		
Water	MHC	13 water authorities working across the country under MHC
Sanitation	MHC	13 water authorities working across the country under MHC
Lebanon		
Water	The water establishments	Four regional water establishments
Sanitation	The water establishments	Four regional water establishments

¹⁴ Regulatory functions are included instead of citing a regulator due to the unavailability of an autonomous regulatory body in any of the countries included in the review. Further detailed information about regulation of the sector are presented and discussed in another section of the guide.

1.5 Understanding the Attributes of Good Performing Utilities that Trigger Reform

A well functioning utility is one that is conducting its business the right way, and providing its services to its constituents successfully, regardless whether it is state owned, or publicly owned, or privately owned. There are certain functional indications that the business is going well in the WSS industry, and those have to do with the type of services provided, and the functions that need to be carried out that are specific to the industry. Those indications include financial viability and good health; a level of service responsive to the needs of the customers; well maintained assets; technical efficiency and know-how carried out by well trained staff; satisfied customers; and doing all that and accounting for the sustainability of the resources. Noteworthy is that all such indications are interlinked with a substantial amount of interdependency involved.

Financial Viability

Good financial health is essential for the success of any business, and similarly the business of water and wastewater utilities. Providing services means in general terms sizeable capital costs as investments in assets and infrastructure development, and running expenses for operating and maintaining those assets- all on the demand side. On the supply side, and being a service provider, and to cover all those expenses, the utility has only three sources of revenues according to Peter Borkey's water group at the Organization for Economic Co-operation and Development (OECD), namely: tariffs and other user charges, tax based subsidies, and external transfers such as Official Development Assistance (ODA).

Understanding the full life-cycle cost of the utility and establishing and maintaining an effective balance between long-term debt, asset values, operations and maintenance expenditures, and operating revenues is the key to achieving financial viability. This will also result in identifying tariffs that need to be in place to cover all those costs. Transparency and accountability in running the utility helps make these tariffs as acceptable as possible within the communities once they are properly engaged. They also need to be adequate enough not only to recover cost, but also to provide for reserves, maintain support from bond rating agencies (when and if needed), and plan and invest for future needs.

Well-identified Levels of Services

In simple terms, the optimal level of service to be provided by a water utility to its customers is the provision of safe water in adequate quantities, sufficient pressure, and quality per applicable standards to its constituents. In a wastewater utility the optimal level of service would be to operate and maintain wastewater collection facilities and treatment in compliance with applicable standards, and consistent with public health, customer, and ecological needs.

On a more specific note, a good performing utility would have each level of service assigned clearly and explicitly according to the prevalent conditions. Usually these levels of services are identified as such in a utility business plan, and also in the associated asset management plan, as each and every one of them will result in specific targets and associated actions that the utility needs to implement in order to achieve those targets. Such actions can be related to capital investment (e.g. expansion of network), or to O&M (e.g. improve pumping efficiency). Working to achieve them impacts the bottom line of the utility based on how they are achieved.

Maintaining such levels of services at all times requires collaborative and proactive efforts by the utility leadership and staff members to identify business risks (legal, regulatory, financial, environmental, safety and disaster related), and to establish tolerance levels and preparedness for those risks in order to manage them effectively and without negative impact.

Technical Efficiencies

A successful utility is one that carries out its business and provides services up to the required levels of services at the lowest cost possible and in a timely, reliable, and sustainable fashion, minimizing resource use, loss and impact on every day operations. This entails that the utility possesses the required capacity and resources in terms of proactive leadership, well trained and incentivized staff with technical know-how, and the adequate financial means to implement all activities. Continuous improvement is essential to the whole process, and being aware of information and technology developments in order to adopt them in a timely manner in the utility. Examples of these technology developments includes- among others- utilizing modern leak detection tools and mechanisms; using high efficiency pumps; making use of renewable energy sources to operate pumps and equipments where possible; risk-based reliability-centered asset management practices; complete and accurate Geographical Information System (GIS) based asset registry; utilizing remotely readable water meters; integrating the various functional units within the utility in terms of data and information and workflows as needed; and conducting Life Cycle Cost Analysis (LCCA) to minimize expenses.

Of course all these tools and mechanisms come at a substantial cost, and require a fully committed leadership that works hand in hand with utility staff members, and supports their implementation in the utility's every day business. However, on the long run they result in efficient operations and cost savings that can be transferred to more investments in improvement mechanisms, or even in capital improvements.

Healthy Assets

The utility runs its business by means of its assets-human and infrastructure. Maintaining healthy infrastructure means accounting for all of them in a complete and accurate registry; identifying critical assets in terms of the associated risk acceptable and consistent with customer, community and regulator supported levels of services; understanding the conditions of those assets, and the costs associated with operating and maintaining them including all functions involved within the utility to do that; and coordinating with the community for repair, rehabilitation and replacement activities in order to minimize disruptions and nuisances. This is all in line with good asset management practices, which eventually reflects on technical efficiency within the utility, and by extension customer satisfaction and good financial health.

The starting point within the utility as described earlier is to have a GIS based comprehensive asset registry that includes all assets- fixed and rotating. The registry should include information on age, location, size and/or capacity, original and replacement cost, installation date and expected service life, maintenance and performance history, and construction materials and recommended maintenance strategies.

Among all the assets within the registry, the utility needs to have their critical¹⁵ assets identified, and condition assessed and monitored to evaluate the risk of failure. This exercise will eventually lead to the successful implementation of risk based and predictive maintenance strategies and choose between the three R's (Repair, Rehabilitate or Replace) and maintaining a minimum life cycle cost in the mean time.

These practices inherently reflect on the quality of water supplied and wastewater effluent, as well as on the integrity of the water distribution/collection system. In a water supply system, this translates into water supplied by required quantities and quality; a reduced number of physical leakage events; lower Non-revenue Water (NRW); optimized system flow and pressure parameters; satisfied customers; regulatory compliance; and more financial benefits for the utility. In a wastewater collection and treatment system, this translates into a reduced number of collection system blockages and/or failures; effluent and sludge in compliance with quality standards; satisfied customers; regulatory compliance; and also more financial benefits for the utility.

¹⁵ Critical assets are those that have a high risk of failing (old, poor condition, etc.) and major consequences if they fail (major expense, system failure, safety concerns, etc.) (The United States Environmental Protection Agency (US EPA)'s "Asset Management: A Best Practices Guide"; 2008.

Committed Leadership and Well-trained Staff

Any measures that need to be taken to improve performance and enhance efficiencies within a utility will not be effective or even possible without the commitment and dedication of its leadership, hand in hand with the hard work of its well trained, knowledgeable and motivated staff members. The culture within the utility needs to be participatory, collaborative and dedicated to continuous improvement and learning processes. Technical knowledge needs to be developed, retained and institutionalized within the utility, with provisions for professional development.

Specific measures indicative of such a culture in a utility are high employee retention rates (low employee turnover rate); employees satisfied on all levels (e.g. work and teamwork, management, compensation and benefits, professional development and advancement opportunities, communication and respect); utilizing job descriptions and employee evaluations; implementing capacity building programs; and implementing succession planning.

Customer Satisfaction

One of the main attributes of a successful utility is customer orientation (Van Ginneken and Kingdom, 2008). A satisfied customer is ample proof that the utility is performing well. It is essential that the utility provides reliable, responsive and affordable service with very clear customer accepted levels of services. A customer-centric approach of carrying on with the utility's every day business entails all levels of interaction with the customers, starting with extension of services and installation of connections and meters; equitable supply management; affordable services; contracts and redress mechanisms; and consumer representation and transparency.

Good management practices of customer satisfaction involve establishing mechanisms for obtaining timely customer feedback, and maintaining responsiveness to valid customer requests and emergencies. Measures indicative of customer satisfaction include number of customer complaints received; time to respond to customer needs; level of improvement on types of complaints; and gauging customer satisfaction upon work order or periodically.

Sustainability of Resources

Natural resources are not as abundant as they were in the past, especially with the growth in population and demand for services. Climate change is another factor further exacerbating the ecological challenges that are impacting the region. In fact, based on estimates from the United Nation (UN)'s latest Intergovernmental Panel on Climate Change (IPCC) assessment, most of the Middle East and North Africa (MENA) region is expected to become hotter and drier. And per IPCC computer modeling, an estimated additional 80 million to 100 million people will be exposed to water stress by 2025, putting more pressure on already depleted groundwater resources. This is in addition to the impacts on the ecological system as a whole. Sources of energy- although abundant in the region- are not readily available in some of the countries, thus leading to high O&M costs in the utilities there.

Subsequently, the sustainability of those resources is becoming at the heart of any type of planning on the sectoral level as well as the policy level, not to mention operational levels within utilities. Sustainability approaches are being applied to decision making in the water sector, and what institutional frameworks need to be in place to support this. Such approaches are put in place to ensure sustainable development of water and wastewater utilities. They aim to manage operations, infrastructure, and investments to protect, restore, and enhance the natural environment and efficiently use water and energy resources, thus promoting economic vitality and overall community improvement. They include a variety of pollution prevention, watershed, and source water protection approaches as part of an overall strategy to maintain and enhance ecological and community sustainability. Examples include examining current and future customer needs through long-term resource supply and demand analysis, conservation, O&M optimization, and public education; resorting to technologies that reduce energy consumption such as gravity flow based networks, developing municipal water reuse systems, utilizing eco-efficient technologies in water and wastewater treatment... etc.

These attributes and associated measures, approaches and techniques presented above are indications of a well functioning utility. However, the performance of utilities is not only a function of internal factors related to the way the utility conducts its business and every day routines, but it also depends on the institutional setup and governance structure within the sector that the utility operates within, and the relationship between the utility and this external environment. The important question here is: Is one of those two factors more important than the other, and supersedes the other? How can the utility make the best use of both aspects- internal and external? And when are they considered drivers for change that trigger utility reform?

The next sections in this guide discuss these questions, and present the findings of case studies from the region examining individual experiences in utility reform.

In most cases, utility reform is associated with some specific event or with declining performance. Once reform is triggered, an incremental improvement process usually is initiated. Utility reform initiative in the Arab region, after close examination of context, underlying circumstances, and associated activities, resulted from a variety of drivers that can be summed up in the following:

- The need for support- technical and financial related to O&M in utilities to start with;
- The lack of resources needed for implementing capital investment projects;
- The need to improve and modernize operations and technical know-how within the utilities, and achieve efficiency gains in the interim;
- The need to create a customer-centric approach in service delivery and cater for customer satisfaction; and
- Addressing the challenges related to water scarcity and subsequently sustainability of resources and infrastructure.

According to Van Ginneken and Kingdom (2008), while many reform measures should progress at the same time, circumstances seldom allow this. Successful reforms combine measures to improve the institutional environment and its interaction with the utility with utility- focused steps that lead to three common functional characteristics:

- Autonomy- being independent to manage professionally without arbitrary interference by others;
- Accountability- being answerable to other parties for policy decisions, for the use of resources, and for performance; and
- Consumer orientation- reporting and “listening” to clients, and working to better meet their needs.

These characteristics apply to the relationship between the utility and the environment in which it operates as well as to the internal functioning of the utility. A typical reform path will always combine measures to change both the utility’s environment and utility reforms. That is, improvements in the environment in which the utility operates are likely to have only a limited impact if the utility does not have the systems or internal capacity in place to take advantage of it. By the same reasoning, internal reforms are limited by what can be supported by the environment. Eventually, the key to sustained improvements in performance is combining and sequencing various measures to best fit the specific situation of a given utility.

The main aspects that were investigated and analyzed in the cases of the participating seven Arab countries relating to the enabling environment for successful reform- whether the external environment the utility operates in, or the internal capacity and every day operations within- are:

- Governance structure that the utility is a part of. In specific, close examination of the institutional setup, legislation and policies, as well as regulatory functions as applied.
- The regional experiences in decentralization and corporatization.
- Engaging the private sector in PPPs and/or public-public cooperation.
- Tariff reform, the drivers behind it, and the challenges involved.

2

REGIONAL EXPERIENCES AND CHALLENGES

2.1 Sector Governance

For analytical purposes, governance structures can be divided into policies, laws, and organizations (Saleth and Dinar, 2004). Their main characteristics are transparency, accountability and participation (Figure 2: Three Key Principles of Good Governance). Policies provide the general direction to governance, whereas laws govern and set the rules of work, and authorize the organizational structure or institutional setup that implements the policy. Within this setup or structure, every-day decision making takes place to implement policies on the ground.

A review of the literature on good governance suggests that practitioners should pay particular attention to three highly complementary and mutually reinforcing principles: transparency, accountability, and participation (TAP):

1

Transparency implies openness and visibility, which should apply to almost all aspects of the conduct of governmental affairs. It is the foundation on which both accountability and participation are built. Information in the public domain is the “currency” of transparency and, together with open and visible decision-making processes, signals that there is really nothing to hide. Transparency facilitates good governance. Its absence provides cover for conflicts of interest, self-serving deals, bribery, and other forms of corruption.

2

Accountability has many dimensions, both internal and external. Internal accountability implies proper management of resources. External accountability refers to the responsiveness of political leaders to the needs and aspirations of the citizens. Accountability, of course, implies that the institutions—including the civil service—have the capacity to be responsive to the demands of the citizens and that salary levels and other incentives are consistent with those expectations.

3

Participation -or, as some have referred to it, inclusion—is important not just on principle but in practical terms. It represents the “demand side” of good governance. The benefits of participation are well documented on a global scale in most aspects of public governance. Participation of civil society organizations (CSOs), consumer groups, project beneficiaries, and affected communities in all stages of Bank-financed projects simultaneously can improve development outcomes and reduce opportunities for fraud and corruption.

Figure 2: Three Key Principles of Good Governance

(Source: Water in the Arab World: Management Perspectives and Innovations, World Bank, 2009)

Water sector 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 (Global Water Partnership (GWP) 2002). It can be perceived in its broadest sense as comprising all social, political, economic and administrative organizations and institutions, and their relationships to water resource development and management in terms of the legislations and enforcement mechanisms on the ground, as well as the policies, associated strategies and work plans, in addition to the processes and supporting operational practices (Figure 3). This complete system working holistically is one supportive of effective water governance.

Since the Dublin conference in 1992, and the declaration of Dublin Principles¹⁶ on water and sustainable development, significant international goals were set that relate to water governance. In fact, the water crisis globally was identified as one resulting from unrealistic objectives, inadequate consultation, corruption, poor contracts

16 The declaration sets out recommendations for action at local, national and international levels to reduce the scarcity, through the following four guiding principles:

- Principle 1: Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment
- Principle 2: Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels
- Principle 3: Women play a central part in the provision, management and safeguarding of water
- Principle 4: Water has an economic value in all its competing uses, and should be recognized as an economic good

and the lack of transparency. In international fora, it is referred to as one of governance, and the importance of making water governance effective was always highlighted. Such failures were found to be common throughout the developing world whether the service provider is public or private (Rogers and Hall, 2003).



Figure 3: Components of Effective Water Governance
(Source: Water Governance in the Mediterranean, 2012)

The development of water sector governance in the developed world was typically driven by internal forces (economy, population, declining resources, political pressures). The developing world is under those same internal pressures in addition to external pressures from donors, and international Non-governmental Organizations (NGOs). The governance structure of the WSS sector in the region is presented below, with an overview of the policy and legislative frameworks pertaining to WSS services as well as the institutional setups in place.

2.1.1 Policy and Legislation

Morocco

Successive Moroccan governments have strived to give water utilities great importance by developing and updating the national strategy in this field whenever necessary. The strategy includes very specific and defined goals and objectives in terms of demand management; supply management and development; protection of water resources and preserving the ecosystem; climate change; legislative and regulatory framework reform; and modernization of service provision.

There is also a Water Law in effect issued in 1995¹⁷. The foundations of this law focus on decentralized management and the creation of water basin agencies; stakeholder participation; economic use of water through effective economic mechanisms; and adopting IWRM for the sustainable management of water resources regionally in a participatory approach.

¹⁷ Water Law currently revisited and a reform process for the legislative and regulatory framework is taking place.

Supporting the Water Law and its tenets is the Community Charter¹⁸, that addresses territorial decentralization. In its final form it addresses developing local governance; modernizing local administration; strengthening civil unity; and improving public utilities management- and addresses in specific supply and distribution of drinking water, electricity distribution, and sanitation.

In terms of delegation of authority, the Law of Delegated Management supports Morocco's policy of engaging the private sector in the water sector management. The law is very clear and definite in terms of the provisions of delegating the management of a public utility to an entity- public or private. It is based on the principles of competition and transparency; the delegate holding the risk of management; follow up and monitoring the contract; the situation of the assets involved; and provisions for arbitration and subcontracting.

Morocco's efforts towards restructuring the water sector so far have been fruitful, the Water Law and consolidation of a robust legislative framework being at its center. The law is considered comprehensive in the areas it addresses (such as institutional development; decentralized decision making on the basin level; strategic planning; water rights and allocation; and development, management and regulation of water resources; pricing; and penalties), and is conducive to the institutional development that has taken place since it came into effect. However, compliance remains an issue on differing levels, especially when it comes to regulation.

Morocco's legal and policy frameworks are also conducive to the participation of private sector whether as a cost cutting measure or as an incentive for the private sector to get involved in the water sector and improve the inherent technical capacity and improve its performance.

Egypt

There is no one law governing the water sector in Egypt. There are however various laws related to water resources management, specifically environmental protection (examples include Law no. 96 of 1950 related to residential wastewater disposal into the public sewer network and Law no. 48 of 1982 related to protecting Nile River and watercourses from pollution). Other laws exist pertaining to irrigation and drainage such as Law 12 for the year 1984 for the Irrigation and drainage and Law no. 213 of year 1994 related to organizing management, benefiting from development of irrigation systems, and the foundation of Water Users Association Union.

The Holding Company for Water and Wastewater (HCWW) and subsidiary companies were formed by virtue of Law 203 of 1991, articulated for that specific purpose, followed by the relevant presidential decrees transferring control over water and wastewater facilities' assets from local administration units to the holding company, and transferring control over water and wastewater facilities' assets from the New Urban Communities Authority to the holding company. The Egyptian Water Regulatory Agency (EWRA) was also established by another presidential decree.

In terms of private sector participation, the current concession laws applicable to the water and sanitation sector (Law 129 of 1947 and Law 61 of 1958) are perceived as risky to investors due to them giving the government only the right to amend any type of concessions and limit its profitability. To mitigate that, a new Law for Regulation of PPP (Law 67 of 2010, thereafter PPP Law), was passed in Parliament in 2010.

Many initiatives were taken to reform the WSS sector, including developing a water resources strategy up to 2050; developing efficiency standards for water use; development and implementation of water conservation plans; an urgent plan for the improvement of water and sanitation services in Egypt was developed with the specific objectives of covering all regions that suffer from poor water services, improving supply, increasing capacity, rehabilitation of treatment plants, drilling wells and constructing new networks; developing a master plan for Egypt for WSS services up to 2037; and developing a national strategy for urban sanitation.

Similarly, a draft Water Law was developed by the High Water Committee under the authority of the Ministry of Housing, Utilities and Urban Development (MHUUD). The new law should address granting EWRA licensing power and monitoring utilities performance; tariff setting; and customer engagement. The final draft was approved by

18 The Community Charter was initially adopted in 1976 and later updated twice in 2002 and 2009.

the Minister in 2009, and sent to the Cabinet for approval before it is submitted to the Parliament to be passed. New legislation and policies in the area of local governance and regulatory reform are also under development, with unclear consequences for private sector participation in water infrastructure.

Close examination of the policy and legislative frameworks conclude that there is emphasis on participation and decentralization; new reforms encourage community participation in environmental issues, and the existing institutional changes support the role of both private and public sector stakeholders. Still, the regulatory function lacks the proper capacity, political will and functionality to be established.

Currently the government of Egypt is working on the most important piece in the legal framework which is the Water Law. The principles considered within this new legal framework for WSS services address tariffs that ensure cost recovery; stakeholders and customers engagement; empowering the regulator; encouraging fair competition; sustainable utility services and viable utilities—financially, technically and otherwise; and enabling utilities to secure capital funding. In terms of private sector participation, the current legislative framework allows for private investments, although certain clauses in the law places a high risk on the private investor as it enables the government to unilaterally make changes to the contract that may affect its feasibility for the investor.

Yemen

One Water Law in Yemen (Law 33 of 2002 and later its amended form Law 41 of 2006) provides legal grounds for controlling groundwater abstraction, and supports decentralization through encouraging the formation of water basin committees that would closely coordinate their water management implementation with the local corporations. Other decrees also are in place such as the Presidential Decree for the creation of the Ministry of Water and Environment (MWE), and another Decree regarding the regulatory framework of MWE.

In terms of private sector involvement, the current investment law allows for foreign and national investors in the sector (Privatization Law 45 of 1999). The government of Yemen is committed to encouraging PPPs in the WSS sector, however, water scarcity, political and financial instabilities in the country are stumbling blocks in that regard.

There is also a group of national policies that direct the management and performance of the sector including the National Water Sector Strategy and Investment Program (NWSSIP), the National Poverty Reduction Strategy, and WSS sector reform introducing decentralization. The NWSSIP is considered very important considering that it presents a unified and agreed upon vision of the sector by all stakeholders, and taking into account previous experiences and lessons learned from preparing and implementing strategies for the sector, in addition to identifying clear goals and associated targets. It enables creating the right formula for achieving the MDGs and supporting the Poverty Reduction Strategy.

A close examination of the policy and legislative framework in place in Yemen, management of water resources in Yemen has been inadequate historically, especially related to property rights, over abstraction of groundwater, low water charges, and poor allocation of water resources. As a major step towards implementing improved water resources management, the Yemeni government prepared a Water Law which was ratified by Parliament in 2002.

The law provided a framework that supports the preservation of valuable water resources essential for sustainable WSS services, but it did not address those services directly. Furthermore, the political and economic climate and difficulties that prevailed in Yemen in the past decade resulted in limited institutional capacity to undertake mandates properly and successfully control over abstraction. They also slowed down the implementation of restructuring activities and left without specification the executive procedures that need to be instated for the proper implementation of the law such as developing the necessary plans and strategies, and the identification and articulation of standards, conditions, and controls, and enforcement mechanisms.

Jordan

There is no Water Law in effect in Jordan, rather, there is one by-law (54 of 1992) to establish the Ministry of Water and Irrigation (MMI) in response to Jordan's recognition of the need for a more integrated approach to national water management. The Water Authority of Jordan (WAJ) was established by virtue of Law 18 of 1988 and its amendments as an autonomous corporate body with financial and administrative independence, responsible for the provision of water and wastewater services and the management of water resources and regulating ground water use. The Jordan Valley Authority (JVA) was established by virtue of Law 19 of 1988 and its amendments with the responsibility of developing the Jordan Valley and developing water resources there for irrigation and for operating the multi-source supply system there.

With regards for the engagement of the private sector, WAJ Law was amended in 2001, where Article 28 was introduced to allow for Private Sector Participation (PSP) in water and wastewater service delivery through the assignment of any of WAJ's duties or projects to any other body from the public or private sector, or to a company owned totally or partially by WAJ. This amendment enabled WAJ to corporatize utilities and enter into Build-Operate-Transfer (BOT) contract arrangements and other PSP options. Prior to that, WAJ outsourced services to the private sector including design and construction services and management contracts.

In addition to the applicable laws and by-laws, policy and strategy and planning documents exist that provide the direction and guidelines for the sector. Those include the irrigation water policy, the water policy that sets guiding principles for the performance of the sector, a groundwater policy, and a wastewater policy.

Also in place are the national water strategy (2008 – 2022) in Jordan that established the vision for major areas of the water sector and identifies future plans and actions to be taken. Similarly, there is a WAJ strategy that is periodically updated and that defines the directions and objectives of WAJ, and a JVA strategy that sets the strategic directions and objectives of JVA-both in alignment with sector policies and overarching strategy.

Historically, the legal framework governing the Jordanian water sector evolved around institutions established within the sector, where laws were passed to create institutions that address specific sector management issues, thus creating the potential for overlap in authority and responsibility, or to say the least unclear roles and responsibilities among the various players within the water sector and from other sectors as well (e.g. agriculture, environment and health). This requires clarification of institutional mandates and effective coordination measures, without which lines of accountability will be compromised, in addition to duplication of efforts, which subsequently impairs effective enforcement and implementation.

In terms of policy and legal framework, Jordan have well-developed water policies, but stronger supporting legal instruments are needed. Available policies address the key elements in the sector management such as institutional development, strategic planning, and managing water resources. Other important elements need to be enhanced such as allocation and regulation. The supporting legal text for policy elements also need to be enhanced further.

Palestine

The main legislative framework that governs the management of the water sector in Palestine is the Water Law number 3 of 2002 and proposed amendments. Other supporting laws including the Environment Law (7 of 1999) and the Agriculture Law (2 of 2003).

There is also a National Water Policy developed by the Palestinian Water Authority (PWA) in 1996 that is based on the principles of sustainable development, and was developed to guide the structure and tasks of water sector institutions and the water sector legislation. Similarly, A Strategy for Water Management in Palestine was later issued by PWA in 1999. Strengthening national policies and regulations, and enforcing water pollution control and protection of water resources are among the eight key elements of the Strategy. It emphasizes the need to improve the legal framework by introducing new regulations and instructions.

In terms of engaging the private sector, the existing legal framework is inadequate to fully govern and regulate such providers and their management on the operational level. However, such a gap can be bridged on contractual basis without the need to introduce major legislative amendments. Issuing regulations by the Council of Ministers might be needed to satisfy the legal requirements, but the agreements themselves may accommodate the relevant terms and conditions that reflect the adopted policies. They need to be carefully designed to incorporate functional controls and checks to ensure effective performance.

The PWA was established after the first version of the Water Law in 1996, and the National Water Council (NWC) was founded after the revision of the law in 2002. The law also entrusted PWA with the role of regulator and overseer of regional water utilities to be established, but there were no operational tools to support putting them in place. In contradiction, local municipalities and local governments are responsible by law for managing water services, and did not relinquish their responsibilities for the sake of PWA.

Additionally, the relationship between the institutional setup of the sector and infrastructure development was not clarified, still keeping service provision and associated infrastructure within the hands of municipalities as per inherited laws.

A reform plan is available but not fully in place, and needs to be enforced.

Syria

In Syria, the legal framework governing the WSS sector includes laws and presidential decrees and ministerial decisions. The main laws include Water Law no. 31 of 2005; Law no. 2 of 2005 for tasks entrusted to institutions, companies and public facilities; Contracts Law no. 15 of 2002; and Labor Law no. 50 of 2004. Presidential Decrees for tasks entrusted to WSS institutions and financial management of institutions, companies and establishments of an economic nature. Ministerial Decrees include resolutions for the operation of WSS institutions in governorates and other regulations.

In terms of policy documents, the most prominent is the Tenth Five-Year Plan (2006-2010) which was developed with the social market economy principle as a basis. In this national document, a section is allocated to WSS sector forming a vision and goals and associated targets up to 2025 for service coverage (water supply and sanitation services); performance (NRW, cost recovery, and training); administrative development (level of autonomy and private sector participation); local development plans in line with national policies; enhancing revenues and controlling costs; and IWRM.

In broad terms, there is no specific water policy or legislative framework to manage water resources for all sectors in Syria, because the policies and laws represent operational tools for the objectives of the government at the national level, and only the introduction of planning to the various sub-sectors.

Another issue is that legislations in place are highly centralized, and not conducive of modern management and staff development within the sector, thus creating inefficiencies within institutions and restricting any substantial performance improvements. In terms of engaging the private sector, there are no laws that regulate and govern any type of such partnerships as this direction has not been present so far although encouraged by donor agencies such as the World Bank.

Lebanon

The water sector in Lebanon is governed by Law 221 of May 29, 2000 and its amendments, which is based on IWRM. The Law mandated the consolidation of all water agencies, committees, and projects into four water establishments, through which authorities have been defined for each as mandated in the Law 221 above. There also exist a number of by-laws and regulations that also govern those public water establishments.

A National Strategy for the water sector formulated by the Ministry of Energy and Water (MOEW) is also in place. It addresses water resources optimization; planning and capital investment; optimized operations and performance; service coverage; institutional development; irrigation management; tariff restructuring; participation of the private sector; and the Water Law.

In terms of private sector participation, there were no laws or regulations in place that supported establishing partnerships with the private sector for the management of the water sector on a larger scale until the issuance of Law 228 in 2001. It addresses private sector participation and regulation through defining terms and scope, and encourages the water establishments to adopt commercial principles in their management, to qualify for future partnerships with the private sector.

The most important result of the Reform included the issuance of Law no. 221 of May 29, 2000, which constitutes a transitional point towards improving the performance of the sector, and reforming it and creating a sound base for accountability. However, delaying the issuance of related by-laws and regulations, that govern functions and responsibilities of MOEW and water establishments till the end of 2005, has hampered the aforementioned law from being enforced. Another issue is the lack of clear enforcement mechanisms of the law as it stands right now.

2.1.2 Sector's Institutional Setup

Morocco

The Water sector in Morocco comprises several tiers and institutions mandated with various functions (Figure 4). On the policy level, the Supreme Council for Water and Climate advises on national strategies related to climate and water resources; developing the national water master plan for the Kingdom and IWRM plans in water basins and allocation of resources. Members of the Council represent the state, water basin agencies, the National Office for Drinking Water Supply (ONEP), and the regional offices for agricultural investment, as well as representatives from the water users (regional councils, scientific research institutions... etc) elected by their counterparts.

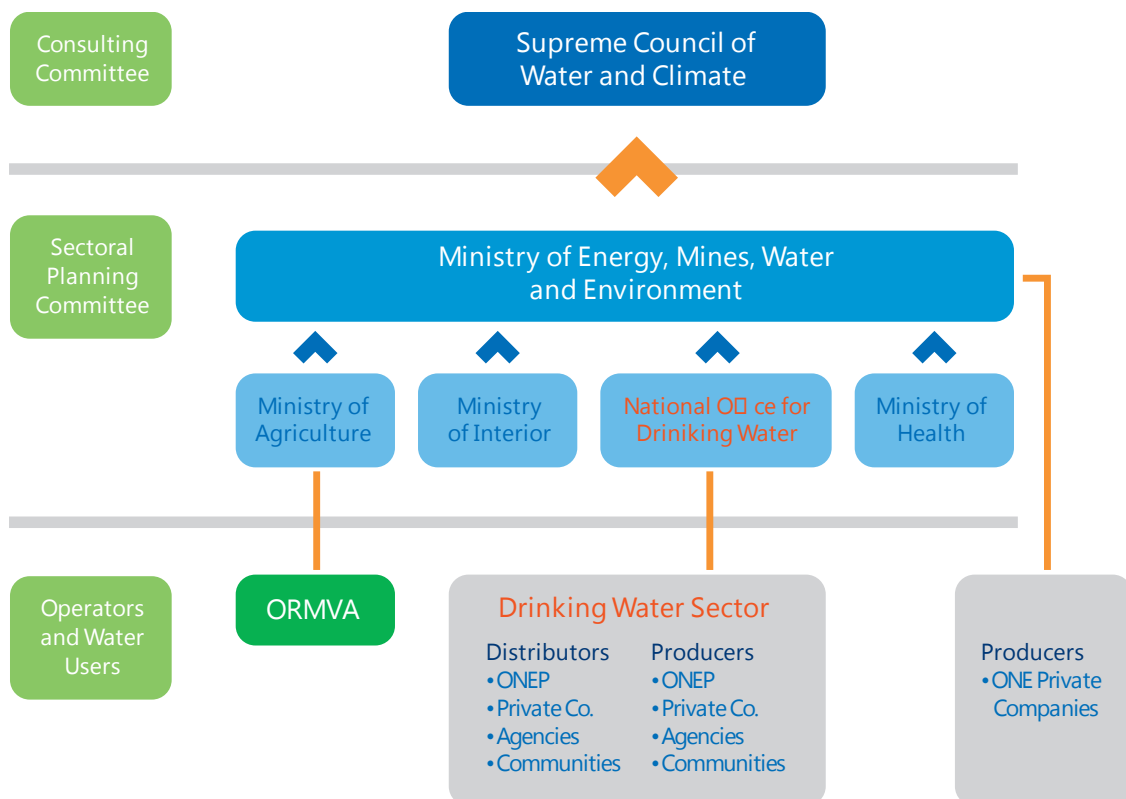


Figure 4: Moroccan Water Sector Institutional Setup
(Source: Planning Directorate/Needs and Resources Planning Section/ONEP, 2012)

The Ministry of Energy, Minerals, Water and Environment is the line ministry responsible for the management of water and other natural resources, including identifying, management and monitoring water resources and planning for their development; the transport of water; preservation of water infrastructure; and research and development in the field of water- among others.

Nine water basin agencies¹⁹ (public institutions under the relevant line ministry) are assigned with preparing the master plan for IWRM for resources under its jurisdiction and ensuring its implementation including all necessary studies; granting licenses and concessions for the use of the public water domain; developing water and wastewater quality criteria in cooperation with the government authorities in charge; and the management of and monitoring the use of water resources. Those water basin agencies are managed by a Management Council with representation from the State, the related public institutions, concerned chambers (agricultural, industry, commerce... etc), regional councils, ethnic groups and water users associations.

In terms of Water Supply, more than 80% is supplied by ONEP²⁰. The Office is a public institution with industrial and commercial character and financial independence. It is responsible for planning for and programming projects for the supply of water and for the sanitation services within the Kingdom; monitoring quality of produced and distributed water and collected and treated wastewater; providing distribution services and collection and treatment services as and when commissioned by local municipalities; and supporting relevant ministries technically in what is related to the WSS in the legislative and regulatory areas. In terms of the distribution of water and the collection and treatment of wastewater, the responsibility lies by law with the municipalities, but they can delegate the management four ways:

- Delegation of management to private companies for sanitation services and electricity and drinking water distribution (Lydec: SUEZ Group in Casablanca since August 1997; Redal: Veolia group in Rabat since January 1999; Tanga Omandis: Veolia group in Tangier since January 2002; and Amendis Tetouan: Veolia group in Tetouan since January 2002).
- Management through the municipalities' independent agencies for major cities, and there are currently 12 agencies in each of Agadir, Marrakech, Lejdidah, Asfi Settat, BeniMellal, Kenitra, Meknes, Fez, Taza, Wajdah and Larache. Those are public institutions with a commercial and industrial character and financial independence. They are subject to the supervision of the Ministries of Interior and Finance, and are monitored by the State's financial control for public companies and other bodies. Each agency is managed by an administrative board and a management committee, and a Director to manage the work.
- Delegation of management to ONEP²¹: The office manages the distribution of drinking water in small and medium-sized towns, if local municipalities are interested (595 centers in 2011), and starting in the year 2000 providing sanitation services in some of the centers where it is responsible for drinking water distribution upon their request (83 centers in 2011).
- Management through local municipalities for the rest of the other municipalities.

In terms of irrigation water, the Regional Offices for Agricultural Investment (ROAI) are branches of a public institution with civil and financial independence and reports to the Minister of Agriculture. The office performs tasks related to storing, collection, distributing and transfer of water from or to agricultural exploitation institutions.

In conclusion, the institutional setup of the Moroccan water sector enables it to perform well in general through its many important actors. This entails defined roles and responsibilities for the various players and a high level of coordination to maintain effectiveness, and involvement of all players (centralized and decentralized) in the decision making process. It is noted however, that the availability of adequate and technically adept human resources needs more attention.

19 Morocco has nine water basins: Souss-Massa-Dera, Tensift, Bouregreg, Um Erbi'a, Loukkos, Sebou, Grace-Ziz, Sakia El Hamra, Wad el Dahab, and Moulouya.

20 The other 20% are produced by the distributors themselves

21 In April 2012 ONEP and the National Office of Electricity (ONE) were consolidated into a single institution, "National Office of Electricity and Drinking Water Supply (ONEE)". The joint activities of both institutions are intended for the coordination of national strategies in those two major intertwined areas. This leads to the mobilization of energy and water resources, their pricing, securing their supplies, availability at affordable prices, production control and effective management.

The outstanding players in the sector are ONEE (former ONEP), the water distributors and the water basin agencies. It can be safely stated that ONEP has been successful in its operations on the bulk supply side (planning and operation), and the distribution side.

It is also noted that the planning and policy formulation functions in the sector are well supported by the institutional setup and technical capacity within, and by the various entities involved, although it was noted that more participation of the academic and research sector would be welcome. On the other hand, it is noted that the regulatory framework suffers from fragmentation involving the intervention of a good number of institutions and parties, which weakens its effectiveness.

Egypt

As it stands now, the responsibility of running the water sector mainly lies with two ministries: the Ministry of Water Resources and Irrigation (MWRI-responsible for water resources management and related research and policy setting, water quality and the protection of the coastal zones and lakes, and for the construction, O&M of irrigation and drainage networks; and MHUUD- responsible for the provision of water supply and sanitation services to the municipal and industrial subsectors). A number of other ministries in Egypt are linked with the water sector as well such as the Ministry of Agriculture (validating use in agriculture), Ministry of Industry (for disposal of industrial wastewater), Ministry of Health (for control of impact on human health), Ministry of Interior (for enforcing applicable laws and addressing violations), Ministry of Environment (for environmental protection, follow-up and monitoring and evaluation (M&E) in general), and Local Governance (for coordinating efforts amongst different ministries). The entities working within the sector for the delivery of water and sanitation services under MHUUD in specific are:

- HCWW, responsible for the treatment, desalination, transmission, distribution and sale of drinking water and for the cleaning and safe disposal of wastewater through companies working on the local level and responsible for provision of water and sanitation services. These companies are responsible for the functions of planning, O&M, financial and commercial affairs, laboratories, projects, and human resources;
- National Organization for Potable Water and Sanitary Drainage (NOPWASD), responsible for water and sanitation sector investments in Egypt except Cairo and Alexandria;
- Cairo Alexandria Potable Water Organization (CAPWO), responsible for water and sanitation sector investments in Cairo and Alexandria; and
- EWRA, responsible for follow up, and monitoring all water and wastewater-related activities throughout Egypt, whether such activities are for governmental or non- governmental projects, according to the relevant applicable laws. EWRA works in several areas such as monitoring water quality, monitoring technical performance through performance indicators for all service providers in the sector, and research related to tariff setting.

The central government provides support to the sector by financing and executing projects of potable water and sewage water including rehabilitation and replacement, and providing a subsidy to cover the O&M costs related to water and sanitation services. Figure 5 depicts the Egyptian Water Sector Institutional Setup as it stands today.

Many initiatives were taken to reform both water and sanitation services delivered. Examples of these initiatives include the development of strategies and implementation plans including capital investment planning such as the water resources strategy for the year 2050, and developing a master plan for Egypt for water and sanitation services up till year 2037. Furthermore, an urgent plan for the improvement of water and sanitation services in Egypt was developed with the specific objectives of covering all regions that suffer from poor water services through expansion and rehabilitation and replacement of old assets. Similarly, a national strategy for urban sanitation services was developed with the objectives of using the Master Plan to develop clusters of sanitation projects on the national level; identifying priorities in terms of rural areas to be targeted; and introducing decentralized wastewater systems for some of the remote villages.

On a level related more to O&M, and as another form of reform within the sector, HCWW and affiliated companies are starting on several initiatives that aim at improving the services provided such as the commencement of developing an Asset Management plan; improving networks performance and monitoring through introducing monitoring and control systems in the sector (Supervisory Control and Data Acquisition (SCADA) System); the establishment of secondary vocational schools to improve skills of technicians in the sector; and obtaining appropriate accreditations for operators of plants and utilities.

In conclusion, the current institutional setup of the Egyptian water sector exhibits decentralization on the operational level but is centralized when it comes to policy formulation and strategy development, albeit in a participatory manner. The clear articulation of roles and responsibilities within the sector enables this configuration. However, although MWRI is considered most influential in terms of institutional development and planning, there is participation by other stakeholders in this function. Nevertheless, in this respect NGOs, universities, parliament, and private sector show a level of involvement lower than desired, whether it be in research informing policy making, or in involvement in managing the sector.

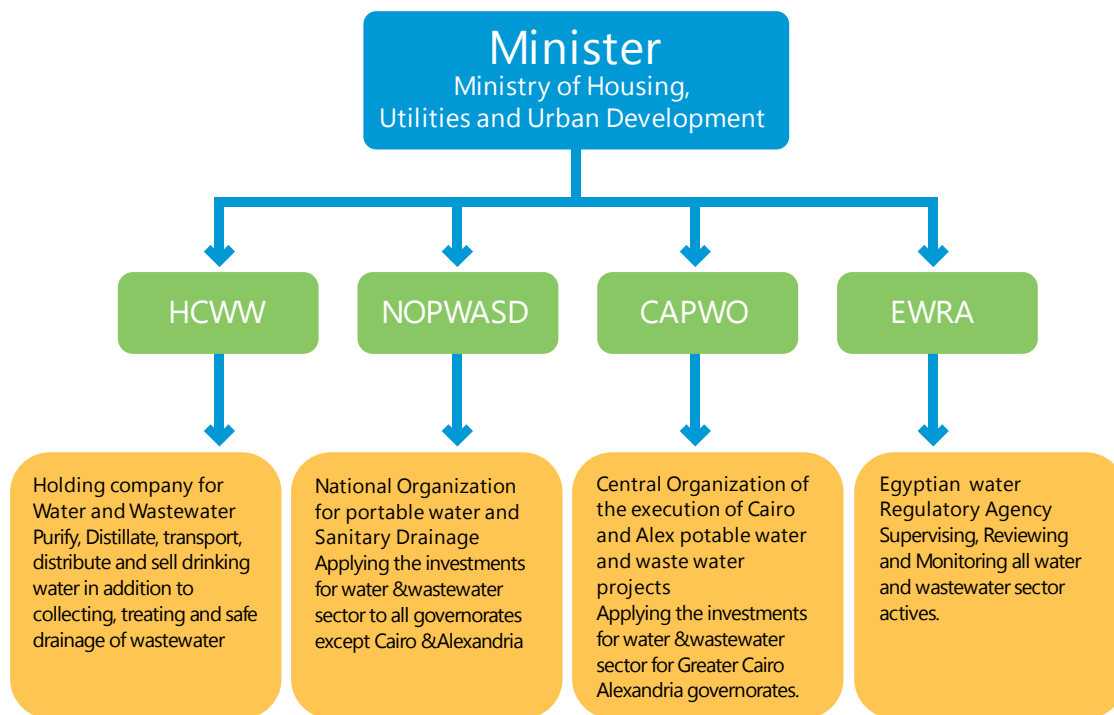


Figure 5: Egyptian Water Sector Institutional Setup
(Source: the Ministry of Water Resources and Irrigation,
Integrated Water Resources Management Plan, Arab Republic of Egypt, 2005)

Another notable feature of the current setup is the efforts that were exhibited and led to a substantial improvement in terms of capacity development and the modernization of services and tools employed in managing the sector with the establishment of the holding company and subsidiary companies. However, one of the main objectives behind establishing the holding company and subsidiary companies was to improve the financial situation of the water sector by attaining efficiency gains thus reducing costs, and increasing revenues, subsequently reducing the amount of subsidy that the central government needs to provide the water sector with. This has not been achieved so far mainly due to low tariffs that do not allow for cost recovery. In addition, although roles and responsibilities are clearly defined, but they still need to be instituted in the proper places. An example is the responsibility for capital investment planning and implementation, which is currently in transition (from NOPWASD to the holding company), as until now, subsidiary companies cannot receive direct state budget funding. Another example is EWRA, which is not assuming the responsibilities it is mandated with and lacks the proper enabling environment to do so in terms of the availability of the political will.

Yemen

As it stands now, the water sector in Yemen is grouped into four sub-sectors; three of them being the responsibility of MWE (water resources management sector; WSS for urban regions; and WSS for rural regions), and one being the responsibility of the Ministry of Agriculture and Irrigation (MAI) (the irrigation sector). Figure 6 below illustrates the institutional setup of the sector in Yemen.

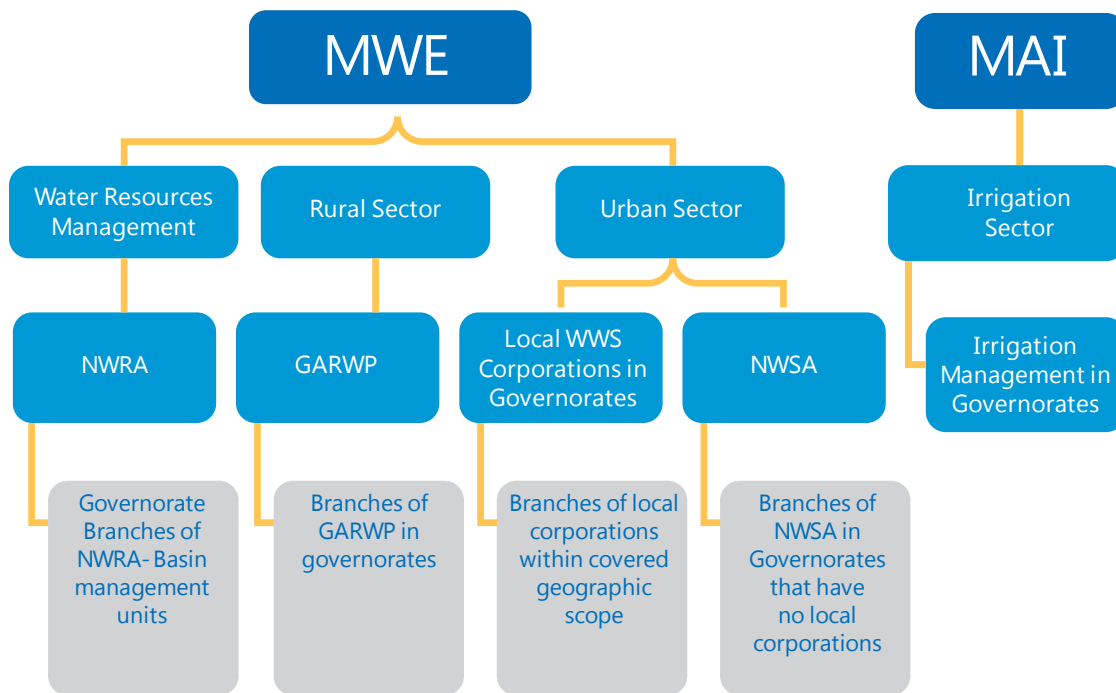


Figure 6: Yemeni Water Sector Institutional Setup
(Source: Yemen Statistical Yearbook, 2008)

Functions of water resources management were combined and brought together under the umbrella of the National Water Resources Authority (NWRA) established in 1995, and later in 2003 under the authority of the MWE. NWRA is in charge of monitoring wells drilling and related violations, in addition to conducting awareness programs and monitoring of water basins' management. Its responsibilities require proper coordination with WSS bodies- also under MWE- for the purpose of allocating water resources and managing wastewater as another source for reuse.

WSS in the urban sector is managed either by local corporations, or by the National Water and Sanitation Authority (NWSA) which oversees branches in governorates that do not have local corporations. There are around 15 local corporations in the governorates, and around 36 water utilities in sub-urban cities, centers, and governorates that do not have local corporations. Most corporations and utilities enjoy administrative and financial autonomy. Each local corporation has a board of directors headed by the Governor, and in Sana'a headed by the Mayor of the capital. As for branches, there is an advisory committee for each branch, headed by the head of the active local authority. Committees and boards are in charge of discussing and approving plans prepared by executive managements, as well as approving tariffs. The management of local corporations is directly responsible for daily operation of financial, managerial, and technical issues and the undertaking of new projects. For each local corporation or public utility, there is a distinctive organizational structure and different water and sanitation services tariffs based on usage category, and covering O&M costs, depreciation costs of the electromechanical pumping equipments and treatment costs. The government supports new projects through an annual investment program that is in line with the National Strategy's objectives.

WSS in the rural sector is managed by the General Agency for Rural Water Projects (GARWP), which is responsible for financing and implementing WSS projects in rural regions, while operation of those projects is entrusted to a committee formed from the local community. And due to insufficient follow-up and attention to manage such projects, many of them failed to provide services to some of the poorest communities. In terms of water for irrigation, MAI is responsible for managing this sector, including upgrading water-related infrastructure such as dams.

In conclusion, although driven by external donor agencies, the reform of the Yemeni water sector has come a long way in the past decade, and improved performance and services are clearly identifiable. The clear definition of roles and responsibilities of the various players within the sector pave the way for more improvements once targeted separately. The initiation of sector planning also served the sector well; overall, it brought significant improvement to the sector management by creating a common framework for planning, implementation, and monitoring; by creating a point of reference and forum for stakeholders to maintain continuous dialogue; creating a basis for an integrated inter-sectoral approach to water resource management through pooled/joint financing; and creating a benchmarking platform that should measure performance and lead to improved services throughout the country if properly utilized.

However, in terms of improvement opportunities, several issues arise including the need to empower NWRA to fulfill its mandate (random drilling of wells is still growing significantly without any means of limiting violations); strengthen the relationship between local corporations and NWRA to coordinate the reallocation of water resources; strengthen the relationship between MWE and NWRA on the one hand, and local committees of local authorities on another hand to allow for a decentralized implementation of policies and plans for water management and to enforce the Water Law; improve the coordination between MWE and MAI in what is related to infrastructure development for surface water; and build institutional capacity, restructure corporations and utilities, and set regulations conducive to achieving transparency and operational efficiency.

Jordan

The Jordanian water sector is facing a multitude of challenges. From a technical stand point, Jordan suffers from limited water resources; uncontrolled population spread and growth; old and deteriorated water networks; high rate of water loss; systems inefficiencies induced by the governance and institutional structure of the water delivery system; and institutional structures not providing an incentive framework that enables retaining qualified staff and subsequently managing the sector efficiently. Financially, there are limited funding sources and an inability to cover the capital and operating expenditures within the currently applied tariffs which are non-dynamic and not linked to service delivery costs. Further exacerbating the problem is the high cost of developing new water resources and increasing cost of service delivery due to increasing cost of production inputs, while at the same time central government support is decreasing. In order to deal with these challenges, MMI through the adoption of a long-term plan is working to:

1. Improve the provided services through restructuring and rehabilitation of networks.
2. Reduce NRW through procedure improvement.
3. Provide new resources and maximize the efficient use of available resources.
4. Rely on loans, grants, service charge collections, and on Government support to cover the shortfall caused by low cost recovery of O&M costs and total cost in all the governorates in Jordan.
5. Revisit the tariff structure to improve cost recovery and direct the subsidy to those who are actually in need of it.
6. Develop an environment conducive of engaging private sector in the water sector.

Three main organizations comprise the Jordanian water sector

1. MMI is responsible for formulating water strategies and policies; performing water resources planning and developing national master plans; monitoring and evaluating water resources; and conducting water, wastewater, and irrigation studies. Under the Ministry a Performance Monitoring Unit (PMU) is working to monitor the performance of, and audit the corporatized utilities; and develop PPPs and promote PSP in water services and management.

2. JVA, which is an autonomous organization under MMI, and responsible for water management in the Jordan Valley (construction, operation and maintenance of dams, supplying irrigation water to farmers, bulk supply of water to municipal and industrial sectors, and overall development of the Jordan Valley including land planning and development of tourism).
3. WAJ, which is responsible for supplying water to the municipal and industrial sectors as well as wastewater collection and treatment across Jordan. It works on groundwater development and use and the operation of municipal utilities, and owns the three limited liability companies corporatizing water utility operations in several governorates:
 - Miyahuna, covering the Amman Governorate.
 - Aqaba Water Company (AW), covering the Aqaba Governorate.
 - Yarmouk Water Company (YWC), covering the four northern governorates (Irbid, Mafraq, Ajloun and Jerash).

The remaining six governorates are served by WAJ itself. Noteworthy is that water is produced in one company/governorate and transferred across boundaries to other governorates in most cases.

The PMU works under WAJ and assumes the regulatory functions of technical monitoring and performance auditing of private companies; developing PPPs and promoting PSP; advising decision makers on tariff sector reform, PPP contract and other issues; and applying commercial principles on the retail side of municipal water supply and wastewater treatment.

In conclusion, although Jordan has made significant achievements in water sector management in the past two decades, immense challenges (external and internal) still persist that face the sector. In addition to the water scarcity problem the country faces, the abnormal population growth, the substantial increase in economic development activities, and the high capital costs associated with water infrastructure development, a number of problems characterize the current institutional structure of water governance and management in the kingdom. The issue of overlapping mandates and responsibilities and the need to separate functions exists and affects the sector management, although strong sector leadership is centralized within MMI. Needless to say, substantial efforts have been applied towards building the sector's institutional capacity; applying IWRM principles in managing resources, strategic planning and the importance of supporting data is recognized, although more informed policy making, broader stakeholder engagement and consensus building mechanisms within the decision making process need to be instated. Similarly, unsound accountability and incentive systems within the sector need to be revisited and improved. This is in addition to existing conflict of interest between the various organizations within the sector, especially for WAJ being the bulk water supplier to the water companies, and at the same time owning and regulating those companies. Direct and indirect subsidies to the sector are also another major issue that threatens the sustainability of the sector and the level of services provided to citizens. For that reason, there is emphasis on shifting some of the maintenance and construction of water infrastructure to the private sector, both as a cost-cutting measure and to stimulate private sector involvement in water development and management.

Palestine

The Palestinian water sector operates under unique circumstances due to the existing Israeli occupation and all the hurdles that come along with it. Through the Israeli Civil Administration (ICA), the Israeli authorities have controlled monitoring, supervision and control mechanisms of water resources management and/or water supply to Palestinian areas²². Palestinian water resources, including those shared with the Israeli side, are estimated by 2,989 Million Cubic Meters (MCM) per year. Out of this quantity, Palestinians use only 271 MCM, or 11%, whereas Israel

22 Israeli control over water resources continued even after the Declaration of Principles Agreement in Oslo, Norway (Oslo Accord-Gaza and Jericho First) in 1993 which included as one of its six permanent status issues water rights. A Joint Water Committee (JWC) was established to deal with the development of water and wastewater related projects in the West Bank. Most projects require the prior approval of the JWC, which also applies to Israel's projects within the boundaries of the West Bank (most of which are to service settlements). As a result of the legal jurisdiction granted to Israel in Area C (61% of the West Bank's area), projects which have obtained the JWC's approval are required to obtain a construction permit from ICA if the project or any portion of it falls within Area C. This layer of bureaucracy has reinforced Israel's control over most aspects regarding the development of both the water and wastewater sectors.

consumes the remaining 89%. Water supply in both the West Bank and the Gaza Strip is still below the required level. The majority of Palestinian residential areas suffer from water shortage. As a general average, Palestinian water consumption is not more than 80 Liter per Capita per Day (LCD). Especially in residential areas not connected to water supply systems, with a population of approximately 180,000, residents use less than 25 LCD.

As for wastewater, although wastewater networks cover most of the Gaza Strip, West Bank networks are restricted to and partially cover major cities. Around 10% of locally produced wastewater is treated and only a minor portion thereof is reused.

Palestinian and international attention to develop and rehabilitate the water sector emerged soon after the Palestinian National Authority (PNA) was established. Throughout the occupation period, the Israeli authorities systematically neglected the water sector, rendering the water infrastructure effectively fragile and marginalized. The Israeli authorities also deprived the Palestinian people from controlling, developing and managing their own water resources in accordance with national needs. And Although PWA was established with the mandate of building and developing water sector bodies; building and rehabilitating destroyed infrastructure through donor-funded projects; and delivering water and wastewater services to Palestinians, however, it is still incapable of taking the initiative to manage and restructure the sector. Whilst certain reasons originate from the available legislation, others are affected by external factors, including overlapping powers and tasks prescribed by several laws approved by the Palestinian legislature. Also, former legal terms of references had acquired a legitimate status before the PNA was established.

To ensure that its objectives are achieved, PWA had decided to review the current service system. Accordingly, PWA separated water supply and wastewater management services from local government units and worked towards establishing independent bodies, which assume full responsibilities implementing the cost recovery principle. The current Institutional setup (Figure 7) of the Palestinian Water and Wastewater Sector in the West Bank consists of four functional levels, namely: (1) Customers; (2) Water Distribution; (3) Water Supply; and (4) Policy, Planning, Development and Regulation.

The policy approval role was allocated to an inter-ministerial entity, namely, NWC; policy development, sector planning and regulation roles are the responsibility of PWA through the Ministry of Agriculture and other line Ministries. However, the National Water Council is a non functioning body. It has neither approved nor added to the policies and strategic guidance of the water sector, and more importantly the wastewater component.

Water supply matters are handled by a series of organizations, namely: The West Bank Water Department (WBWD), the PWA, various municipalities with springs and wells, as well as a number of private and agricultural operators of springs and wells.

The Jerusalem Water Undertaking (JWU) and Water Supply and Sewerage Association utilities, numerous Municipalities, Joint Service Councils, Village Councils and Water User Associations have the responsibility of distributing water supply to the beneficiaries-the domestic, industrial/ commercial and agricultural customers.

In conclusion, the Palestinian issue is a complex one, and reforming the WSS sector is governed by various factors-external and internal to the sector itself. Reviews of the performance of the sector identified multiple references and authorities, the Israeli control of the sector and Palestinian projects, the need for another water law review and the unenforced regulatory role within the sector as discrepancies. In the same spirit, the implementation or lack thereof of many reform activities or plans also result from the lack of political commitment; lack of coordination between the various players; and are also due to the conflicting roles and responsibilities of those players even per effective laws and regulations.

Although various responsibilities were entrusted to various entities within the sector, not all of them were empowered to perform their duties. To start with, the NWC which was founded as an advisory, policy forming and strategy endorsement has not been active at all since its inception. The municipalities are not relinquishing control of the water resources under their jurisdiction to PWA, backed by their own law, which is conflicting with the Water Law. The sector is in a bad situation without enough funds to support its development.

Noteworthy is that a new Water Law was passed during the first half of 2014. The main features of the law include clarifying the roles and responsibilities of all entities involved in management the water sector in Palestine; it also establishes that PWA is responsible for water resources management with a clear mandate. It discusses the issues of licenses for water resources, and a unified WSS service tariff, and establishing a national water company for bulk supply and regional utilities for distribution.

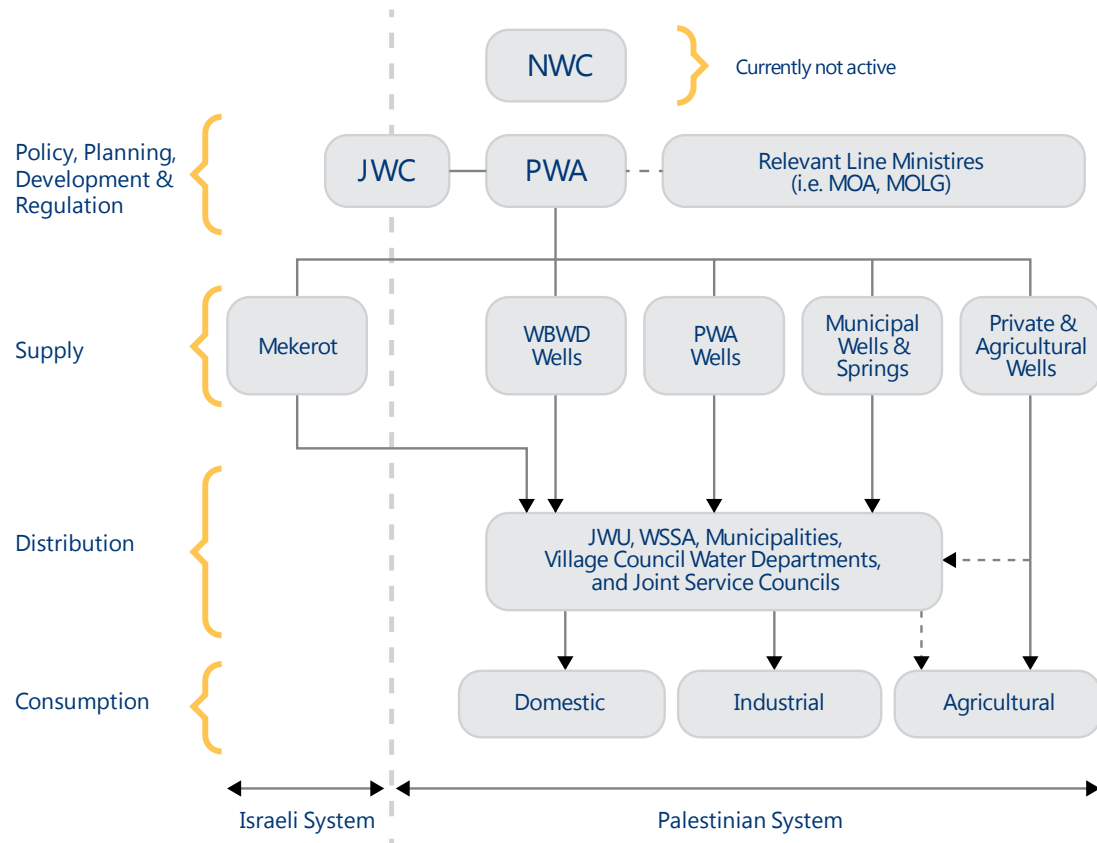


Figure 7: Palestinian Water Sector Institutional Setup
(Source: PWA (2008) Water Governance Program and World Bank (2007))

Syria

Over the past decade Syria has attempted to apply its own vision of an economic reform, following the principles of the social market economy. In what is related to the water sector, the main objectives were to improve technical and financial performance of the sector; to secure new sources for funding infrastructure development; and to meet new legislative requirements that are directed towards shifting from centralized administration (which is currently applied) to the local level, after which changes in the operational framework should be done.

The institutional setup of the water sector in Syria can be grouped into two levels; national and local. On the national level, a number of councils and commissions are entrusted with policy and strategy development. Those include the Higher Water Council (HWC) (responsible for developing short-term water strategies; general water planning and policy formulation; and managing water resources and trans-boundary issues); the High Commission for Water (HCW) (responsible for developing medium and long-term policies and strategies, but not very active); the State Planning Commission (SPC) (responsible for monitoring and providing strategic advice to improve coordination and overall water sector performance on a strategic level); and the General Commission for Water Resources (GCWR) (responsible for the development of, management of and investment for water resources as delegated by the Ministry of Irrigation (MOI)).

In addition, a number of ministries share the responsibilities managing the water sector, including the MOI (Responsible for managing and allocating the water resources of the domestic, industrial and agricultural sectors, in addition to monitoring, developing and protecting water resources as well as developing related legislations); the Ministry of Housing and Construction (MHC) (responsible for developing legislation, investment planning and implementation of the government's program (the Tenth Five Year Plan) in the water and sanitation sectors through General Establishments, Water Treatment Companies and General Companies for Wastewater); and Ministry of Environment (MOE) (responsible for issuing standards and monitoring water quality).

On the local level, water basin committees were established, responsible for implementing policies adopted by the HCW for sustainable water management at the basin level. However those committees have not been active in most cases.

In terms of the actual planning and WSS services delivery, 13 General Establishments across Syria operate under the MHC and are responsible for designing and implementing WSS projects, operating, managing and maintaining drinking water and sewage facilities. As for wastewater treatment plants, wastewater companies were established under all 13 General Establishments with the responsibility of operating and maintaining the wastewater treatment plants. However, most of them are not active because of the unavailability of wastewater facilities to start with.

In conclusion, the institutional setup of the Syrian water sector exhibits a degree of fragmentation and overlapping responsibilities. There are a number of commissions and councils that all have a role in planning for the sector, and there are several ministries also involved in executing those plans. On another note, the sector management is highly centralized. Although the Syrian government has started working to move from a centralized management scheme to a more decentralized one, however, there are no clear enforcement mechanisms in place that support this direction. An example is the water basin committees that have been established for managing water resources at the basin level, and that are not active in most cases.

It is also well worth noting that on the ground, water sector planning is conducted on ministerial level without proper coordination with or involvement of the other stakeholders. In addition to that, weak communication and coordination between the different actors in the water sector is another factor affecting its performance.

Lebanon

With inefficient water agencies and unsatisfactory levels of service, reforming and restructuring of the water sector in Lebanon became urgent when it commenced in 2000. Lebanon embarked on carrying out a large scale restructuring process, where all aspects related to national administration, water policies and monitoring, and establishing standards in the sector were assigned to MOEW. The ministry also became responsible for monitoring, controlling, and evaluating water resources, estimating water demand and sectoral allocation, in addition to monitoring quality of surface and groundwater and setting standards.

In addition, all 22 water agencies and 209 local committees responsible for O&M water supply infrastructure were consolidated into four regional establishments that work under the umbrella of MOEW. Those were the Beirut and Mount Lebanon Water Establishment (BMLWE); North Lebanon Water Establishment (NLWE); Bekaa Water Establishment (BWE); and South Lebanon Water Establishment (SLWE). Those establishments were provided with authority to raise the level of services, through expansion and addressing local issues, and engaging the private sector in providing water services.

In conclusion, during the past decade Lebanon embarked on reforming the water sector and created a new institutional framework within which it launched a new management approach for the sector that is based on a much clearer division of duties along with empowering active local stakeholders, to enable them undertake duties, and encourage the involvement of the private sector. More specifically, the benefits expected to be achieved from the sector reform were to separate between policy-making and service provision, resulting in a clear line of accountability between both levels; and to create financially and administratively autonomous water utilities that would benefit from the consolidation through affecting efficiency gains due to economies of scale.

However, and although the current institutional setup is supportive of this separation of duties and enhancing accountabilities, MOEW is still weak in its oversight and regulatory functions, due to limited monitoring and enforcement capacity and the lack of appropriate legal and regulatory instruments. And although MOEW launched the National Water Sector Strategy (NWSS) in 2010, however, it is still in draft and needs the approval of the Council of Ministers.

As for the water establishments, they still suffer from weak performance (technically, commercially and financially) due to technical, institutional and financial constraints. Although the proper institutional setup and supporting legislation is in place, however, there is no proper assumption of the new roles and responsibilities due to the above mentioned constraints; capital investment planning and execution still lies with MOEW and the Council for Development and Reconstruction (CDR), management of wastewater is still with CDR and the municipalities, and engaging the private sector through service contracts is still through MOEW.

It is noteworthy that the situation in Lebanon is politically sensitive and any change in administration of any of the relevant institutions might shift the power balance, which always raises internal stability considerations.

2.2 Utility Regulation

Regulation in its general sense can be described as “sustained and focused control exercised by a public agency over activities that are valued by a community” (Selznick, 1985). In the context of WSS services in developing countries, regulation is described as “making and enforcing rules for the development and management of urban water supplies and sanitation in developing countries” (McIntosh, 2003).

One main objective of regulation is to ensure that water utilities have the autonomy needed to comply with government policies and legislation. Another objective of regulation is achieving good governance; a well functioning regulatory system is an indicator of good sector governance. Another objective of regulation is enabling a proper benchmarking mechanism whereby utilities are assessed against other utilities or other comparable performance standards.

Regulation is applied to privately owned utilities as well as public utilities (state owned or municipality owned) albeit with differing objectives and setups for either. While regulation of privately owned utilities keeps prices aligned with costs and ensures a quality that satisfies consumers, thereby controlling any possible natural monopoly that could occur in the market, other circumstances govern the public utilities—which constitute the majority of utilities in the Arab region, and additional interests are at stake, including public health and access by the poor²³ to services. So economic sustainability objectives are almost always balanced against social objectives and the latter mostly prevail.

Regulatory systems as previously explained ensure compliance with government policies and legislation, focusing on setting affordable and allowed tariffs (economic regulation), service standards and compliance with applicable national and/or international standards (levels of service, public health and environmental regulation), and consumer protection. An independent regulatory system can protect the owners of public utilities (government or municipalities) from political interferences and facilitate tariff increases. It will be the entity that channels the right information from utilities to stakeholders and consumers alike, and enables benchmarking mechanisms to monitor and measure the performance of the utilities with the aim of improvement.

A closer look at the regulatory systems in the Arab region shows that in a way or another, the regulatory function is present, albeit in different forms. Table 3 below illustrates these functions across seven of the ACWUA countries.

23 Serving the poor has a special significance as they are the least served by service providers, and they do not have formal representation or influence—their voice is not heard. A regulatory system can facilitate pro-poor approaches with the proper provisions.

Although there is some type of regulatory function²⁴ within the countries examined above, however, they range from a very weak regulatory role of the government (in most cases owners of the utilities) to the existence of a certain unit or body, that is not autonomous-administratively or financially, which is mandated with monitoring KPIs, and which does not have any enforcement authority on the utility. This whole range of setups or models within the region limits the role of regulatory authority to that of a monitoring body, which does not have any mandate related to tariff setting, quality of services or consumer needs.

Table 3: Regulatory Functions in Selected Arab Countries
(Source: Compiled from URTWG Inputs, 2013)

Country	Regulatory Functions
Morocco	There is no specific regulatory authority operational within the Moroccan water sector. Ministry of Interior monitors performance of utilities; Ministry of Public Health is the main water quality regulator in the sector, responsible for setting and enforcing public health drinking water standards; Ministry of Finance oversees the fiscal aspects of public utility operations, and the contracting of concessions, and a joint commission comprising those ministries approves proposals for tariff increases.
Egypt	EWRA is responsible only for monitoring and reporting of technical, financial, and economic performance of service providers based on KPIs, without any authority otherwise. HCWW is responsible for compiling, calculating the KPIs from affiliated companies and benchmarking them.
Yemen	There is no specific regulatory authority operational with the Yemeni water sector. Currently, NWSA is carrying out regulatory functions only in the form of establishing databases to track parameters that feed into the calculation of KPIs.
Jordan	PMU is responsible only for monitoring and reporting on water companies' performance and achieving targets per assignment agreements, without any authority otherwise. A list of KPIs is assigned and monitored for utilities by PMU on a monthly basis. WAJ/PMU is directly in charge of the regulation and monitoring of PPP contracts.
Palestine	PWA is assigned to be the regulatory authority responsible for the legislation, monitoring and human resources development in the Palestinian water sector, albeit without authority actually on the ground. Currently there is no specific effective regulatory framework.
Syria	The Ministry of Housing and Construction assumes the regulatory role in the sector. Recently, KPIs were identified for water utilities to track and monitor technical, financial, and economic performance.
Lebanon	MOEW is mandated to technically monitor water utilities including provisions for pollution prevention, setting standards, and ensuring compliance with pertinent legislations. A set of KPIs is assigned to be monitored, but data availability hinders the process. MOEW performs financial monitoring with Ministry of Finance. In general, MOEW regulatory role is hindered by limited enforcement capacity.

It is noteworthy that in public utilities, when both operations and oversight are implemented by one party—which is mostly the case in the Arab region, there will not be enough incentive to improve performance as it will be an admission of inadequate previous performance. In addition, the owners (being government or municipalities) are bound to be prone to politicizing operating and investment decisions, thus affecting priorities—operation and investment related, especially when stakeholders are not engaged. This eventually affects the performance of the utilities and their ability to provide services at a reasonable price and high quality, satisfying customer needs.

In conclusion, and not in line with best practices, it is unrealistic at this time to expect complete autonomy of a regulatory system in the Arab region. The existing context and underlying circumstances dictate a different setup

²⁴ Regulatory systems carry a multitude of forms or models that are put in place to best serve the specific context in which they operate. Any one model can be argued to be better than another based on that. Examples include sector specific national regulator; multi-sector national regulator; an asset holding company; regulation by contract; self-regulation and other. The common characteristic is the presence of oversight by some authority, ministry, a national regulator, or a municipal commission. In the case of departments of ministries or municipalities, this is done through the normal line of command in civil service. For corporatized utilities, this is done through the oversight board. The key issues are related to how these institutions make information available, implement incentives, and evaluate performance.

altogether, where partial independence is acknowledged for the time being, with an eye for more independence further down the road but in a well planned manner in agreement with prevalent legal, political and cultural norms. For that to take place, it is essential that suitable legislative and regulatory reform is carried out hand in hand with an institutional system that is conducive of proper regulatory systems and functions that adopt the principles of transparency, accountability, equitability, and efficiency. It is also essential to develop the capacity within technically and institutionally, to carry out those roles and responsibilities and empower their enforcement and authority sides to handle political interferences, and to create governance mechanisms that develop incentives and penalties. Groom et al (2006) note that "It is essential to build in ways to discourage poor performance and encourage good performance. Without rewards and sanctions, the regulatory mechanisms used to control private utilities are unlikely to be effective in changing the behavior of publicly owned water utilities".

2.3 Decentralization of Services

The three Principles that stemmed out of the International Conference on Water and the Environment (ICWE) held in Dublin in 1992 were:

- The "Ecological Principle" requiring holistic water management;
- The "Institutional Principle" requiring participatory water management including devolution of responsibility "to the lowest appropriate level" and greater involvement of NGOs, the private sector, and women; and
- The "Instrument Principle" requiring that water be managed as an economic resource.

More specifically, the second principle states that:

"Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels. The participatory approach involves raising awareness of the importance of water among policy-makers and the general public. It means that decisions are taken at the lowest appropriate level, with full public consultation and involvement of users in the planning and implementation of water projects."

Decentralization in its various forms-technological, regulatory, administrative, political, and fiscal- is being experienced in various sectors, including water. The primary objectives for its implementation is improving governance efficiency, and increasing equity at the local levels. The underlying principle common to all sectors is that of subsidiarity, which argues that governance is more effective if the decision-making authority is located where the pertinent knowledge exists and where decision-makers are directly responsible for the outcomes of actions taken to the community they serve²⁵ (Kemper et al, 2005).

Although decentralization vs. centralization is still debated till now, however to cope with the new realities on the ground, the trend worldwide is geared towards decentralized water management and service delivery. Applying the decentralization approach in water management and service delivery means that the authority for decision making, financing and management is transferred to lower tiers (local level institutions) of government. Understandably, such roles and responsibilities require properly trained human resources and management capacity and competence to be available at these local level institutions in order for water service provision not to suffer. The importance of this point is clear in the case of Lebanon, where prior to the latest reform plan, management and investment responsibilities were assigned to local water committees. However, and because of poor services provided by those committees, the government established 22 water agencies on the provincial level in mid nineties. As a result of the merger, the deficit and shortcoming of those old local water committees were transferred to the new structure, whether on the administrative or human resources level, or the financial and technical levels. As a part of the ongoing reform plan, those water agencies were consolidated into four water establishments. However, although they were provided with more authorities to improve the level of services, through providing more services and addressing local issue, they still are heavily supported by MOEW, technically and financially, which leaves them currently incapable of undertaking their assigned roles and responsibilities at the desired level.

25 In general, capital infrastructure investments and design, and auditing are more efficient under central control. Other functions that are more dependent on local information and subject to local accountability, such as, design selection and who should benefit from it, collection of fees, operation, maintenance and sometimes monitoring and regulation, setting of standards and addressing complaints from users can all be decentralized with adequate training or through contracts with private providers wherever feasible (Kemper et al, 2005).

Another risk that comes with decentralization is if it is implemented hastily without putting in place the enabling environment in terms of policies and legislation, especially in what is related to procurement, project and financial management. A major responsibility that comes along with this is providing the local level institutions with the authority to determine how funds are spent on sector development activities. An example is the case of Palestine, where a reform plan was initiated with new roles and responsibilities in place for various institutions in the sector placing PWA at the center of planning and coordination of sector issues with central government and with local institutions and service providers, but where those new roles and responsibilities were not affected as designed due to political interferences and the lack of legitimizing tools in place.

Another important factor is sources of financing; as when budgets are developed and funded locally, this enhances the decision making power and eliminates the need for central support and consequently pressures within the decision-making process. Although the retention of sector financing control by the centre has its advantages, such as being able to better respond to national priorities and donors that do not normally deal with local authorities, however, central governments tend to give lower priority to the water sector than local governments, whereas independent budgeting and expenditure control in local institutions supports a more needs-based and demand-responsive service provision.

As is evident from the summary above, each country is at a certain level of water sector decentralization, which is consistent with its own local context and governing factors. While there is no one-size-fits-all recommended level of decentralization. Each country is attempting to achieve its own balance and approach to decentralized sector management, according to its strategic direction, stage of development, size and administrative capabilities. The successful implementation of decentralization should lead to improvements and developments in sector performance and ultimately sustainable service delivery. It is however, contingent on important factors including:

- Arriving at the optimum balance in centralized vs. decentralized functions based on the country's circumstances, strategic direction and availability of resources, and accordingly assigning clear roles and responsibilities and authority for each level to avoid overlaps and/or gaps;
- Proper enabling environment in terms of policies and legislation and legitimizing assigned roles, responsibilities and authorities, also taking account of and managing any potential type of resistance to decentralization from those who benefit from the centralized structure; and
- The availability of proper competences and capacities on the local levels and the necessary level of maturity and sustainable interest to plan sector development and management effectively, in addition to proper coordination and cooperation mechanisms in place that would ensure that all stakeholders are involved and aware of their respective roles, responsibilities and authorities.

A closer look at the level of decentralization implemented in the Arab countries entails examining how certain basic functions are undertaken and on which level. Table 4 below presents this information:

Table 4: Level of Decentralization in Selected ACWUA Countries
(Source: Compiled from UR TWG Inputs, 2013)

Country	Procurement	Project Supervision and Management	Work Planning and Budgeting	O&M	M&E
Morocco	Regional or national depending on project size	Bulk: ONEE Distribution: ONEE in centers where ONEE is delegated Otherwise the municipal utilities	Local (ONEE, Municipal Agencies, Municipalities) all are autonomous public institution	Local (ONEE, Municipal Agencies, Municipalities) without government subsidy	National
Egypt	Central (HCWW for subsidiaries, NOPWASD and CAPWO)	Central (NOPWASD and CAPWO)	Local (HCWW and subsidiaries)	Local (HCWW and subsidiaries); subsidized by the government	National (EWRA) and Central (HCWW)
Yemen	Central (NWSA in urban areas, GARWP in rural areas) and local (local corporations)	Central (NWSA in urban areas, GARWP in rural areas) and local (local corporations)	NWSA and GARWP branches, deconcentrated responsibility locally Local corporations and committees (weak in rural areas)	NWSA and GARWP branches, deconcentrated responsibility locally Local corporations and committees (weak in rural areas) Subsidized by government	National (MEW)
Jordan	Central through WAJ for administrations Local in Water Companies	Central through WAJ, deconcentrated ²⁶ for administrations Local in Water Companies	Central through WAJ, deconcentrated for administrations Local in Water Companies	Local; subsidized by the government	National (PMU)
Palestine	Central for PWA coverage area, and local for municipalities and village councils coverage area	Central for PWA coverage area, and local for municipalities and village councils coverage area; highly dependent on donor funds	Central for PWA coverage area, and local for municipalities and village councils coverage area	Central for PWA coverage area, and local for municipalities and village councils coverage area; minimally subsidized by central government	Local; PWA role of M&E is not enforced
Syria	Central (MHC)	Central (MHC)	Central, supporting local public institutions	Local public institutions supported by central (relevant line ministry); subsidized by central government	Central (MHC)
Lebanon	Local (CDR)	Central (CDR)	Local (establishments) supported by central (MOEW)	Local (establishments); subsidized by central government	Central (MOEW)

²⁶ Functions are said to be deconcentrated when some are shifted within an organization from the center to field offices at lower levels. In this case, some flexibility in authority is allowed so that field offices can adjust central plans and operations to suit local conditions.

2.4 Corporatization of Utilities

The driver behind corporatization is performance improvement of utilities. It is considered the alternative to privatizing water utilities in countries where the concept of privatization is politically rejected. The overall premise behind corporatization is capturing the advantages of a privately run company in terms of productivity, efficiency, customer orientation, and financial sustainability, while retaining government accountability. As a general rule, literature has shown that corporatization improved effectiveness and efficiency, although some mixed results have been reported (Shirley, 1995; OECD, 2004; Gomez, 2007).

Corporatization (also known as 'commercialization') is the process of transforming a utility that is embedded within a municipality or ministry into a public organization with its own corporate identity. It is one means of balancing external accountabilities. Corporate utilities have an oversight board to set and monitor performance of the utility, thus enhancing autonomy through reducing the potential for on-going political interference that can otherwise occur (Van Ginneken and Kingdom, 2008). In this way, service provision is separated from the role of corporate oversight, which in turn is separated from policy making, ownership, and regulation.

There are various forms or levels of corporatization of public organizations with differing ownership and institutional models. It can be a statutory body operating under public law, or a government owned company operating under companies' law, and both are owned by the government. However, no matter what the model is, three main principles guide the process of corporatization:

- Establishing a distinct legal identity for the utility as an entity (company or otherwise) where the government is clearly identified as owner;
- Ring-fencing the financial affairs of the entity and separating its assets and operations from other governmental operations; and
- Adopting commercial practices and direction in its management.

Various forms of corporatized water utilities exist in the ACWUA region. Table 5 below presents information about selected utilities in that respect. As is clear from the table, most of the water utilities in the region are either statutory bodies or water companies. In both cases, almost all boast autonomy, financial and administrative independence-albeit being more of notions rather than practices. However, it can be argued that a higher level of autonomy needs to be reflected in order to grasp the full benefits of the concept of corporatization. Critical factors to be considered for that purpose include board composition and mandate, asset ownership, and the discretion of utility management in key operational areas-most importantly tariff setting. In actuality, more often than not board members are appointed with skewed representation; assets are owned by the state; and tariffs are set by the state.

To start with, the board of directors should act as a buffer to political interferences from the owner of the utility. The mandate and composition of the board needs to be clear and defined and far from political pressures and criteria for the selection of members clear and open to the public. The board's mandate should include approving business plans, annual accounts, strategic decision making, and recruitment of the utility director on merit basis, with clear responsibilities and expected results.

In terms of assets, if corporatized utilities own the assets, this increases the autonomy of the utility, as it puts them wholly responsible for investment planning, and works as an incentive to manage them wisely thus increasing their value and improving the financial health of the utility. Similarly, if assets are owned by the utility they can be used as guarantees for any potential loans needed for the capital investment plan.

Of course the underlying principle for greater financial independence is setting and working with a tariff that yields cost recovery for O&M and as a best case scenario for capital investment. This point is more frequently not applicable in most of the Arab countries as will be discussed later on in the report when discussing the need for tariff reform in the region. Other important principles include implementing accounting and auditing standards used in private companies including external auditing on annual basis, in addition to disclosing all pertinent financial and other information to enhance the accountability within the utility.

On the issue of human resources, the flexibility in recruiting and staffing rules and performance based remuneration packages allowed by private companies-as opposed to public staffing rules and regulation- are more conducive of agile management practices that are intended to improve overall performance within the utility.

In addition to the above discussed factors, customer orientation is essential to successfully adopt commercialization in utilities, considering that they are the major source of revenue usually. Accordingly, seeking customers' views regarding standards and levels of service is essential, as is putting in place customer friendly billing and collection systems and responding appropriately to complaints.

Table 5: Characteristics of Selected Corporatized Utilities in the Region
 (Source: Compiled from URTWG Inputs, 2013)

Country	Tariff Setting	Utility Staff Salary Scale	Salary Scale Set By	Applied Procurement Laws/Instructions	Possibility of Utilities Obtaining Loans Directly	Responsibility for Appointing Utility Board Members	Asset Ownership
Morocco	<ul style="list-style-type: none"> • Bulk: ONEE, approved by government • Retail: Autonomous agencies, approved by government; concessions: stipulated in contract, changes need approval by government 	<ul style="list-style-type: none"> • Internal for ONEE, autonomous agencies and concessionaires 	<ul style="list-style-type: none"> • ONEE and autonomous agencies: Board of directors, endorsed by Ministry of Finance • Concessionaires: internal 	<ul style="list-style-type: none"> • ONEE and concessionaires internal Autonomous agencies national laws/instructions 	<ul style="list-style-type: none"> • Possible for ONEE, autonomous agencies and concessionaires 	<ul style="list-style-type: none"> • Autonomous agencies by Cabinet resolution • ONEE Director by Royal Decree 	<ul style="list-style-type: none"> • Bulk: ONEE • Retail: municipalities
Egypt	Centralized, proposed by HCWW & EWRA – approved by Cabinet of Ministers & the President. (Tariffs have not been increased since 1992)	Internal for Each ADI company	Set and approved by the general assembly of Each ADI company	Law # 89 issued in 1998 – internal company's bylaws	No	HCWW	Each ADI company owns its own assets
Yemen	Local corporations set tariff, MEW approves	Per public administration laws and regulations, with extra packages per local corporation	Per public administration laws and regulations	Per public administration laws and regulations	Directly by local corporations	Mainly by MEW	Local corporations
Jordan	MWJ, tariffed by Council of Ministers	<ul style="list-style-type: none"> • Public Sector in WAJ Administrations • Internal in water companies 	<ul style="list-style-type: none"> • Per Civil Service Law in WAJ Administrations • Internal in water companies 	<ul style="list-style-type: none"> • Public sector in WAJ Administrations • Internal in water companies 	<ul style="list-style-type: none"> • WAJ Administrations through WAJ • Water companies depends on size of loan and available collateral 	MWJ	<ul style="list-style-type: none"> • WAJ for WAJ Administrations • WAJ for Miyahuna; AW owns its assets
Nablus Municipality / Palestine	Water Supply and Sanitation Department in Municipality, approved by Mayor and City Council	Per Municipality Regulations	Mayor and City Council per Municipality Regulation	Public Sector	As a municipality	They are the Mayor and City Council, who are elected by citizens every four years	Municipality
Syria	Ministry of water resources, tariffed by the Council of Ministers	Public Sector	Ministry of Finance, tariffed by the Council of Ministers, within a Law passed by Parliament	Public Sector	Only through the Commission of Planning and International Cooperation (governmental entity)	Council of Ministers per Law of Public Institutions	Government
Lebanon	Water establishments recommend tariff, MOEW ratifies and approves.	Water establishments recommend salaries based on public administration salary scale, MOEW ratifies. Council of Ministers Approves per Water establishment.	Salaries based on public administration salary scale	Water establishments recommend systems and procedures based on public administration regulations, MOEW ratifies. Council of Ministers Approves per Water establishment.	Through the Ministry of Finance, not directly with the Water establishments	MOEW ratifies. Council of Ministers Approves per Water establishment.	Water establishments

2.5 Partnerships and Private Sector Participation

Governments and utilities have been partnering with the private sector since the 1990s with the objectives of securing much needed private financing and funds, and also to attain efficiency gains and performance improvements associated with the advent of new expertise, financial resources and commercial orientation. Although the first objective was more salient, but as it turns out, experience worldwide has shown that the most consistent contribution of private operators has been improved efficiency²⁷ (Marin, 2009).

World wide, and more specifically in the developing world (Latin America, Africa, Eastern Europe and the Middle East), governments embarked on PPPs under various contractual arrangements (Marin, 2009 and Gunatilake et al, 2008). Traditional arrangement such as concessions, BOT's, and management contracts as well other more broader approaches for engaging the private sector (e.g. twinning, performance based contracting and micro PSPs) are on the table now. Table 6 below lists the various models of PPPs and their characteristics as a reference.

Table 6: Forms of Private-sector Involvement in the Water Supply and Sanitation Sector
(Source: "Privatization Revisited: Lessons from Private Sector Participation in Water Supply and Sanitation in Developing Countries", Gunatilake et al, 2008)

Risks/Attributes	Service Contract	Management Contract	Lease or APM/Lease	Concession	BOOT and Variants	Divestiture
Asset ownership	Public Majority	Public Majority	Public Majority	Public Majority	Private and Public	Private, or private and public
Sectoral investment, planning, coordination, regulation	Parent ministry or separate public authority	Parent ministry or separate public authority	Public authority negotiated with private operator	Public authority negotiated with private operator	None or public authority	None or public authority
Capital financing (fixed assets)	Mainly market based	Mainly market based	Public	Private operator	Private operator	Private
Current financing (working capital)	Mainly internal revenues	Mainly internal revenues	Private operator	Private operator	Private operator	Private (government may pay for public service obligations)
Operation and Maintenance	Public entity	Private operator for specific services	Private operator	Private operator	Private operator	Private
Collection of tariff revenues	Public entity	Public entity	Public entity	Private operator	Private operator	Private
Managerial authority	Public entity	Public entity	Private operator	Private operator	Private	Private
Basis of private party compensation	Fixed fee based on services rendered	Based on services and results	Based on results, net of fee paid by the operator for the use of existing assets	Based on results, net of fee paid by operator for use of existing assets	Privately determined	Privately determined
Typical duration	Less than 5 years, mostly 1-2 years	About 3-5 years	5-10 years or sometimes 8-15 years	10-30 years or sometimes 25-30 years	10-30 years	Indefinitely (may be limited by license)

27 "Among the 160 million people served by private operators in 2007, about 50 million are served by PPP projects that can be classified as broadly successful. These are projects that have brought significant benefits to the population and where a working relationship has developed over time between the public and private partners" (Marin, 2009).

In the Arab region, PPPs have been driven mainly by donor agencies such as the World Bank. The rationale behind this direction was that evidence of experiences elsewhere showed that PPPs should work to improve performance in public utilities due to the more efficient private operator working with a profit motive as opposed to public utilities. However, taking account of the underlying political, legislative and regulatory climate as well as the interest of the private sector to invest is essential to successful PPPs. Similarly is accounting for available technical capacity to carry out transaction advisory, develop contractual arrangement, and monitor contract execution.

To start with, the need for capital financing exists, as well as the need to improve performance of public utilities. Regarding the legislative framework and as described previously in the study, a framework supportive of PPP is available in Morocco, Egypt, Yemen, Jordan and Lebanon out of the seven countries that were examined in this study, and except for Syria, which has very recently started entertaining and considering PPPs for infrastructure projects, all other countries have been looking to implement such partnerships and engage the private sector in the development and management of the sector.

Needless to say, there have been no attempts to engage the private sector so far in Syria, especially with the current political instability. Similarly, in Yemen, there was no successful PPP projects in place; although the government of Yemen is committed to encouraging PPPs in the WSS sector, however, water scarcity, political and financial instability in the country are stumbling blocks in that regard²⁸. The only engagement of the private sector exists in the form of local contractors who provide water (abstraction from wells, pumping to mains and laterals through house connections) to unserved neighborhoods of very limited size and coverage, in agreement with the government, but at much higher prices than the local corporations' tariffs, and without any type of regulation (tariff quality or otherwise) from the government or any other party.

Other forms or models of PPP implemented in the Arab region are presented in the sections below for selected projects. Those include management contract in Gaza, the West Bank, Lebanon and Jordan; BOT and Design-build-operate (DBO) contracts in Egypt, Lebanon and Jordan, Micro PSP in Jordan, and Concessions in Morocco.

Management Contracts

1. In Palestine, although government policies encourage PPPs, however the legislative framework is not conducive of such partnerships, in addition to the lacking capacities within the sector, the fragmented institutional setup and the political uncertainties and insecurities on the ground. Nevertheless, two management contracts were awarded in the West Bank (Bethlehem in 1999), and Gaza (in 1996). In 2002 The Bethlehem contract was terminated after the outbreak of the Second Intifada, while the Gaza contract expired after two one year renewal periods. Table 7 below sheds the light on the Gaza management contract, along with lessons learned.

28 Sana'a Local Corporation (LC) attempted to establish a PPP.. no bids were made to undertake a lease offer for 8-10 years. Several reasons were cited for the lack of interest from the private sector including the acute water scarcity conditions in Sana'a, the provision to maintain the current status high level of poverty, lack of information on affordability and socioeconomic conditions, and the lack of independent regulation. There was also resistance from the LC status and board of directors to enter on a management PPP. Another example of a PPP is the Utility Support Program (USP) between Taiz Water and Sanitation Local Corporation (TWSLC), Vitens NV and Netherlands government. The USP was established to deal with very poor water utility services. However, after two years the TWSLC could not manage to recover its O&M costs. This poor performance was attributed to weak communications between TWSLC and Vitens, and the ambiguity of the implementation procedure (UN-Water International Conference, 2011).

Table 7: Gaza Management Contract Details
(Source: Compiled from URTWG Inputs, 2013)

Project	Gaza – Suez Water and Wastewater System Management Contract
PPP Model	Management contract
Drivers	Improving the deteriorated WSS services situation in the Gaza Strip
Contract Details	<ul style="list-style-type: none"> • Four-year management contract awarded to Lyonnaise des Eaux (Suez) and Khatib and Alami in 1996 • Contract entirely funded by a USD 25M World Bank Credit • Upon expiration in 2000, contract was renewed for two one-year periods up till 2002 • Fees based on a fixed annual payment and additional performance based payments linked to achieving 31 performance targets set • Payment of fees were contingent on conducting an external audit at the end of each year (carried out by Deloitte and Touche/Norway)
Challenges Faced	<ul style="list-style-type: none"> • Volatile political situation • Fragmented institutional setup of the sector and unclear role of PWA • Lacking information and data about the actual situation of the WSS systems • Actual responsibility for service provision remained with municipalities
Overall Assessment	<ul style="list-style-type: none"> • World Bank indicated that some criteria set were not sufficiently challenging, recommendations were that fewer better defined indicators should be used in the future • Performance targets for institutional and procedural development objectives were generally not been met and did not get any priority from the management contractor • Contractor focused on benchmarks for performance targets that generated higher performance payment and less attention was given to benchmarks perceived as being harder to achieve or worth too little in terms of return such as training and public relations

Overall, the experience was a successful one that only needed improvement. However, lessons were of course learned for future contracts that included the following important points:

- The experience of Gaza management contract suggests that such an arrangement will definitely introduce improvements on the overall WSS system. However, more improvements would have been attained had the local authority in Gaza been consistently supporting the contract- which was not the case from all aspects related to the actual implementation of the contract, especially that running the system was kept in the hands of the local authorities.
 - Utilizing the expertise of an independent financial and technical auditor for the performance targets was essential for rightly calculating the incentives due to lacking capacity for the same within the sector.
 - Setting performance targets needs to be carefully managed in order to avoid giving weight financially to some over the others, thus leading the contractor to give priority to some over the others.
 - In order for management contracts to be executed effectively there has to be a supportive leadership and political will within the government; political and economic stability; and clear institutional framework.
2. In Lebanon, the government resorted to management contracts to improve the performance of utilities. In specific, NLWE executed a management contract with the same objectives. A closer look at the contract arrangement is presented in Table 8 below.

Table 8: NLWE Management and Service Contract Details
(Source: Compiled from UR TWG Inputs, 2013)

Project	NLWE – Ondeo Management and Service Contract
PPP Model	Management contract
Drivers	Improving WSS services, the technical capacity within the establishment, and financial returns and sustainability
Contract Details	<ul style="list-style-type: none"> • Four-year management contract awarded to Ondeo Lebanon in 2003 • Contract funded by the French Agency for Development (AFD) • Fees based on a fixed payment (8,999,913 Euro) and additional performance based compensation according to assigned performance objectives (technical, financial, and commercial) • Payments were contingent on technical and financial audits conducted by an external third party auditor • Contract entailed managing infrastructure rehabilitation/replacement activities funded by the AFD and managing NLWE on the one hand (funded by the AFD loan), and on the other hand the employment of new staff members (funded by revenues from collections)
Challenges Faced	<ul style="list-style-type: none"> • Non-supportive legislative framework at the time • Operational restrictions (e.g. procurement rules) delayed and affected the progress of the contract • The multiple stakeholders involved in the contract such as the NLWE itself and the Council of Development and Reconstruction and MOEW led to unclear dispersed responsibilities, and delays in decision making
Overall Assessment	<ul style="list-style-type: none"> • Not all performance targets were achieved as included in the management contract • Overall improvements were detected, especially in modernized work processes and systems; improved O&M and commercial practices; and improved information and reporting systems

Overall, the management contracting experience in Lebanon can be considered successful. Noteworthy however, is that delays on the part of the local authorities, whether it be due to inefficiencies or due to overlapping roles and responsibilities among the multitude of local authorities involved led to delays in implementing and in evaluating contractual obligations, thus impacting the achievements overall.

3. In Jordan, PPPs have been considered a component of the country's economic development strategy, especially in the water sector, where due to the current scarcity issues and lack of natural resources, developing the sector and services have proven to be substantially costly for the government. Several PPP projects have been embarked on, completed, or ongoing at this time, using different modalities and designs. In the water sector alone, Jordan has dealt with management contracts, BOTs, DBOs, Micro PSPs, EPCs and other hybrid models that serve specific purposes- all with associated lessons to be learned. The first management contract was executed in 1999 when a management contractor was hired to work with the WAJ administration in the capital Amman, paving the way for its planned corporatization. Table 9 below provides a closer look at the experience.

Table 9: Amman Management Contract Details
(Source: Compiled from UR TWG Inputs, 2013)

Project	Amman LEMA Management Contract
PPP Model	Management contract
Drivers	Strengthening the technical structure and management capability as well as developing the skills and knowledge of the staff in Amman WAJ Administration, paving the way for its corporatization beyond the management contract
Contract Details	<ul style="list-style-type: none"> Five-year management contract awarded to Lyonnaise des Eaux - Montgomery Watson – Arabtech Jardaneh (LEMA) in 1999 Contract eventually was extended to end of 2006 Total contract value finished at USD 55,000,000 over the whole period Fees based on a fixed payment and additional performance based compensation according to 60 assigned performance targets (technical, financial, and commercial) The PMU under WAJ was created to monitor the management contract In addition, external technical auditors were assigned to monitor performance of the contractor
Challenges Faced	<ul style="list-style-type: none"> Contractual obligations were contingent on the execution of a parallel running capital investment program in Amman, for which the funds were out of the control of LEMA Relatively inflexible contract in terms of allowing the contractor with a degree of autonomy it needed to be effective (e.g. the severe constraints placed on LEMA's staffing and procurement policies, which was delayed and thus impacted its performance and achievement of preset performance targets, leading to the three year extension of contract It was argued that some of the performance targets were not carefully set, being realistically unattainable
Overall Assessment	<ul style="list-style-type: none"> Not all performance targets were achieved as included in the management contract, although extensive performance improvement was achieved, instituted and is still practiced in the utility, illustrated by modernized systems and processes and improved O&M, financial and commercial practices The new systems and processes in place by the contractor fostered accountability to customers and government The management contract succeeded in paving the way for the following corporatization of the WAJ administration in Amman

In conclusion, noteworthy as lessons learned from this experience, is that institutional arrangements are important to a successful partnership (contracts, governance structure, and the legal setting). Furthermore, contracts with clearly defined targets are key to ensuring accountability to customers, albeit sufficient flexibility must be built into the contract to allow for a review of targets that, upon reflection or practical experience gained, might not be realistically attainable. Contracts must also allow the service provider adequate autonomy to operate effectively.

An example of an unsuccessful and terminated management contract that is worth noting is the Yarmouk Water Company Management Contract in Jordan. MMI through the PMU designed a management contract for Yarmouk Water Company to improve the operations efficiency, reduce losses, improve cost recovery, and facilitate capital investment of infrastructure. The management contract was signed as the company was established as a subsidiary of WAJ. The management contract was aimed at supporting the new corporate to achieve its assignment agreement objectives to improve operations. However, after less than two years the management contract was terminated prior to its ending date due to various reasons. The continuing strikes of the employees and the external social and political factors resulting from the Arab Spring and its effects on the overall people behaviors and attitudes towards government services and paying for these services influenced the operator decision to terminate the contract, it also delayed the decision making process at government level. In addition to these external factors, the contract structure, delineation of responsibility, sector support, and water availability and water sales has influenced the performance of the contract operator and subsequently led to contract termination. The summary does not analyze this management contract and duties of different parties and their performance to meet the contract requirements. However, there are lessons learned that could be earned including:

1. Need to clearly define the drivers for management contract and then design activities and provide enablers to achieve contract objectives.
2. The importance of the design phase in terms of involving the utility management and technical directors to incorporate their ideas and needs into contract design, and to gain their support throughout execution, taking the necessary measures for managing the anticipated changes that comes along with the management contractor.
3. Securing the funds for execution of contract are vital to execute the works that will reflect on utility operations
4. The board governance and representation is an important factor to provide vision and bring the parties together to perform
5. Sequencing of reforms initiatives to reduce the resistance and ensure that systems are stable and absorbing the shocks.
6. Engaging all levels of utility staff in the design and implementation of the management contract process and develop suitable change management initiatives to ensure that all levels of staff work with the contractor and not against it.

BOT/DBO Contracts

1. In Egypt, the governments developed a long term strategy that encourages PPPs as a means of securing capital investment funds thus relieving the pressure on its budget. Several models were initiated, albeit not totally successful. An example is the USD 180,000,000 BOT contract that was signed with SNC Lavalin in 2000 to upgrade the existing water treatment plant in Suez, in addition to the construction of a new water treatment plant and a 120 Km transmission line. The contract was terminated after only two years of its award without proper reasons from the side of the Egyptian government; although internal sources declared that improper initial demand estimations were incorrect, thus affecting the design capacity of the water treatment plant, which reflects deficiencies in the planning process on the part of the Egyptian government. Another more recent experience entails the construction of a new wastewater treatment plant in the New Cairo area. More details are included in Table 10:

Table 10: New Cairo Wastewater Treatment Plant Design-Build-Finance-Operate-Transfer Contract Details
(Source: Compiled from URTWG Inputs, 2013)

Project	New Cairo Wastewater Treatment Plant
PPP Model	DBFOT Contract
Drivers	<ul style="list-style-type: none"> • Securing sources of funds for infrastructure projects from the private sector to reduce the pressure on the government budget • The need to improve the service provided to citizens • Capitalizing on the performance efficiencies that the private operator brings along
Contract Details	<ul style="list-style-type: none"> • 20 year DBFOT contract awarded to Orasqualia in 2009, as a take-or-pay mechanism • Payment mechanism being a sewage treatment charge paid quarterly composed of a fixed fee (fixed opex, debt service and Return on Equity) plus variable fee (variable opex) • Contracting Authority (NUCA) to collect sewage tariffs from end-users • NUCA with the assistance of the PPP Unit within the Ministry of Finance are in charge of monitoring the contract and its execution
Challenges Faced	<ul style="list-style-type: none"> • Lacking capacity within the governmental side to design and follow up with the transaction advisors, and to understand and manage the details of the contract • The political volatility and economic instability in Egypt currently • Poor estimation of design capacity of the treatment plant • Various responsible authorities that are on the ground working with the contractor, including MHUUD, Ministry of Finance (MoF), and CAPWO and a weak NUCA in an array of clashing interests
Overall Assessment	<ul style="list-style-type: none"> • The project has been constructed but still not commissioned due to the contractor being in variance with certain technical specifications, and also due to the incorrect estimation of influent to the treatment plant on the part of the authority responsible for it within the government • More time will be needed to assess the success of the project or the lack thereof

A quick glance at the Egyptian experience indicates that it is essential that initial plans, market, technical and financial feasibility all need to be carried out accurately in order for the project to succeed. Further capacity enhancement activities are needed to develop the competencies within the national authorities and enable them to manage such contracts without assuming an over-inflated level of risk.

2. In Jordan, WAJ embarked on the first PPP for wastewater treatment facility in the region in 2003 to serve the cities of Amman and Zarqa. The project involved the construction of new wastewater treatment facilities, expansion of an available pre-treatment facility, and maintenance of the main collection pipe in Amman. Table 11 below provides information about the project.

Table 11: As-Samra Wastewater Treatment Plant BOT Contract Details
(Source: Compiled from URTWG Inputs, 2013)

Project	As-Samra Wastewater Treatment Plant
PPP Model	BOT Contract
Drivers	<ul style="list-style-type: none"> • Securing sources of funds for infrastructure projects from the private sector to reduce the pressure on the government budget • Capitalizing on the performance efficiencies that the private operator brings along • The need to provide improved and expanded wastewater collection, conveyance, treatment, and reuse services which are reliable, efficient, cost-effective, environmentally sound, and financially sustainable
Contract Details	<ul style="list-style-type: none"> • 25 year BOT contract of a total value of USD 169,000,000 awarded to Inco, Degremont and Morganti in 2003 • USAID participated USD 78 million as a grant, the government of Jordan participated USD 14 million, USD 17 million was participated by the project company, and USD 60 million was participated by local banks • PMU was managing and monitoring the project on the part of WAJ; WAJ received technical support from SIDA during design, construction and first 18 months of operation; and French experts managed the contract agreement
Challenges Faced	<ul style="list-style-type: none"> • The modest PPP experience that was available in the sector, although this was mitigated by the support that was provided by the different entities involved in the BOT (transaction advisory, technical assistance, financial assistance... etc) • During operation and due to the fact that the project is downstream to the wastewater collection system in Amman and Zarqa, and due to the lack of enforcement mechanisms upstream, the characteristics of influent into the plant are poorer than the design specifications, which imposed further burdens on the operation of the facility, and which eventually resulted after only 10 years in the need for further upgrading and expansion of the plant
Overall Assessment	<ul style="list-style-type: none"> • The As-Samra plant was successfully constructed and operated, and is being expanded currently also on a BOT basis • The PPP experience can be considered as a model one in the region that can be replicated

As a novel experience in the country and in the sector, it can be considered successful overall; it served its purpose, achieved the anticipated results. A robust contract design, support and assistance provided by donor agencies, and proper planning for the process were essential to its success, as was the close coordination between WAJ, MMI and the private contractors.

In summary, and based on the regional experience in BOT contracts in all its forms, there are certain preconditions for successful contracts:

- Successful BOTs require a robust supporting legislative framework that sets the stage for PPP projects and clearly delineates the roles and responsibilities of all involved parties (governments, contractors, regulators, etc).
- The availability of a qualified regulator that is capable of performing its monitoring role to ensure adherence to contractual requirements – technical, institutional and financial.
- The availability of the suitable set of skills and qualifications within governments to design a BOT contract with all what comes along including proper identification of design parameters; setting specific and realistic targets to be achieved; developing a financial model that reflects a viable partnership; setting the right tariffs and associated government subsidies as applicable; proper allocation of risks in general between the government and the private contractor (e.g. appropriate sharing of revenue risks and the compatibility between appropriate profit levels and effective incentives for the contractor); managing the bidding process; and most importantly managing contract negotiations.

- The availability of the suitable set of skills and qualifications within governments to manage BOT and such contracts in terms of performance monitoring and contract management.
- Catering in the contract for certain risk factors that are related to assumptions and estimations that could impact the direction of the BOT, such as variations in exchange rate; size of the demand for service; political factors and consistent policies; and renegotiation of contracts if needed.

Micro PSP Contracts

The Micro PSP is a form of service contract where the approach refers to outsourcing specific business processes within the utility to local private companies, to support better commercial practices and attain efficiency improvements in service delivery (Abu Shams and Kachel, 2003).

This approach was introduced in Jordan under the umbrella of the German-Jordanian water cooperation program as part of the Operation and Maintenance Support (OMS) project funded by the German Federal Ministry for Economic Cooperation and Development (BMZ). The project aimed at reducing commercial NRW and improving billing and collection by modernizing systems, tools and practices within the Madaba Water Administration.

Table 12: Madaba Micro PSP Contract Details
(Source: Compiled from URTWG Inputs, 2013)

Project	Madaba Micro PSP NRW Reduction Pilot Project
PPP Model	Micro PSP Contract
Drivers	<ul style="list-style-type: none"> • Introducing efficiency gains and improved management and operational and commercial practices within the utility • Creating a market for local private companies to support the reform process in the water sector
Contract Details	<ul style="list-style-type: none"> • 3 year performance based contract of a total value of JOD 902,000 awarded to Engicon in 2005 • Project consisting of two phases: <ul style="list-style-type: none"> - Phase I: preparatory with fixed fee remuneration - Phase II: performance management with incentive mechanism based on additional revenue, also including bonus payments for WAJ employees working on the project (all being bidding variables) • WAJ was managing and monitoring the project with the support of GIZ
Challenges Faced	<ul style="list-style-type: none"> • The limited knowledge of the local private sector in the overall setup of the partnership and its implementation • Creating proper and incentives sufficient enough to drive more efficient performance on the part of the public utility employees
Overall Assessment	<ul style="list-style-type: none"> • The local private contractor succeeded in reducing commercial NRW and improving the billing and collection substantially • Business practices were improved and institutionalized even beyond the timeframe of the pilot project

This experience in outsourcing specific business processes proved to be very successful and beneficial for Jordan and to capitalize on this success, WAJ has embarked on other similar and even expanded Micro PSPs in scopes and expected results in other governorates in Jordan. Replicating this approach has also been considered in the region as already some water utilities in other countries in the Middle East and in the Gulf States are investigating it to consider it in their reform initiatives.

Concessions

In the Arab region, the word “concession” in the WSS sector is linked directly to Morocco. The country has embraced PPPs in the water sector for a long time now, having signed three²⁹ major combined water and electricity concessions in Casablanca, Rabat and Tangiers. The first of those concessions was directly awarded after the direct intervention of the King due to the substantial deterioration in services. The second concession also was directly awarded in the same manner. The third was competitively bid and awarded to the preferred bidder.

The drivers behind this PPP in Morocco in general were to improve the level of services provided to citizens by utilizing private sector experience and knowledge; improve the financial situation of the water and energy sectors by entrusting to the contractors implementing infrastructure development, and by getting fees from the contractor for the utilization of their assets; and the external pressure exerted on the government from the international community and donor organizations such as the World Bank and the International Monetary Fund (IMF).

Specific targets were set for each of the contractors that entailed technical and financial aspects related to improving the level of services provided and service coverage (including developing the necessary infrastructure); improving the operational and commercial performance within the utilities; and achieving overall financial sustainability of the utilities.

According to the contracts, any infrastructure development projects implemented by the contractors would be funded by the contractors themselves and using the revenues from fees collected, in addition to certain funds that were assigned by the government for infrastructure projects. The tariffs were set based on the cost of service, with provisions for periodic reviews and changes contingent upon the approval of the government. Several entities worked on monitoring and auditing those contracts including the Delegated Management Monitoring Committee³⁰; the Audit Committee³¹ and the Court of Accounts³².

Noteworthy is that the legislative framework in force at the time was not sufficient to guide any type of PPP transactions. In fact, executing those concessions were drivers behind reforming the legislative framework and developing the Law of Delegated Management. The absence of such a law at the time proved to be a challenge that was not easy to manage. Another challenge faced was the lacking capacity within the municipalities to follow up and monitor the performance of the contractors.

In general, it can be stated that the service delivery in the concession areas improved, although not to the satisfaction of the contracting authorities nor the government. There were several infringements to the requirements set forth in the contracts as reported by the Court of Accounts. Those include unaccounted for distribution of profits and expenditures; failing to pay the contracting authorities the due fees for utilizing their assets on the part of the contractors; failing to comply with the sources and means of funding infrastructure projects as included in the contracts; substantial delays in implementing infrastructure development projects; failing to achieve specific assigned targets related to water and wastewater services; and lack of transparency and weak and dissatisfactory coordination and communication between the contractors and the contracting authorities and the government in general.

29 In 1997 a consortium led by Lyonnaise des Eaux (now Suez) was directly awarded a 30 year concession to run the power and water distribution system in Casablanca serving 3.5 million inhabitants; in 1999 Redal was directly awarded a 30 year concession for the management and operation of the electricity, water and wastewater systems serving the greater Rabat region; in 2002 Amendis was competitively awarded a 25 year concession to operate water, wastewater and electricity services in Tangiers and Tetouan serving 1.1 million inhabitants.

30 Under the legal provisions in force, the Delegator has general authority over the Delegate in matters of economic, financial, technical, social and managerial monitoring in connection to the obligations stipulated in the contract.

31 External body whose members mainly consist of the Ministry of Finance and Economy, Ministry of Interior, and the Department of State, assigned to water issues under the supervision of the Administrative Council.

32 The supreme auditing institution in the Kingdom monitors the conduct of utilities and public institutions that fall under its responsibility, to assess the quality of services provided. The court monitors all aspects of management, and assesses public projects in order to determine, based on the achievements, the extent to which the desired goals for each project were reached through monitoring the designated indicators.

Public-Public Partnerships

Another type of partnership that is worth noting is the Moroccan experience in public-public partnerships or what is called delegated management. In accordance with the Communal Charter, the water distribution and wastewater collection services fall under the jurisdiction of the local municipalities that choose their form of administration. Due to weak capacities and limited financial resources within much of those municipalities and their inability to provide their constituents with satisfactory services or carry out the required infrastructure development projects, many of them have chosen to delegate the responsibility for WSS services and in some cases electricity distribution to the Municipal Autonomous Agencies, or to ONEE. Specific details of those partnerships or arrangement are listed in Table 13 below.

The Moroccan public-public experience is a model worth considering in detail, as it is considered a successful one all in all, and it is considered for scaling up and expansion within the Kingdom.

In conclusion, the PPP experience in the Arab region is rich in various and in many cases innovative models. However, it is almost entirely driven by external parties and international financing and donor agencies, although identified in the region as another approach for the much needed sector reform. This led in some cases to embarking on hasty partnerships without sufficient consideration, preparatory work and public consultation.

It is essential that implementing any type of PPP is accompanied with the right set of conditions and circumstances in terms of the enabling policy, governance, institutional, legislative and regulatory frameworks; the right set of skills and capacity that is needed to design, manage and oversee such partnerships on the side of the contracting authorities; and transparent and participatory consultative processes that precede any such project.

Table 13: Public-public Partnerships and Delegated Management in Morocco
(Source: Compiled from URTWG Inputs, 2013)

Attributes	Municipal Autonomous Agencies	ONEE
Service areas	12 municipalities (7 million inhabitants)	624 municipalities (1.6 million inhabitants)
Performance criteria	Assigned and agreed upon performance indicators (technical, financial, commercial, service coverage)	Assigned and agreed upon performance indicators (technical, financial, commercial, service coverage)
Period of delegation	Open, ends upon decision from delegating municipality	10 years and 5 years renewal period after that until either party informs the other of desire to end
Performance monitoring	Board of directors ³³	Board of directors; Delegated Management Monitoring Committee; the Audit Committee; and the Court of Accounts
Responsibilities	Capital investment; O&M; commercial	Capital investment; O&M; commercial
Challenges	Having representation from line ministries, the monitoring Board is playing more of a custodian role instead of monitoring, which hampers the work of the agencies	<ul style="list-style-type: none"> • Applied and approved tariff isn't enough to cover capital and O&M costs • Delays ONEE faces in obtaining the municipalities' assigned financial contributions
General results	<ul style="list-style-type: none"> • Substantial improvements at various levels within the various municipalities (modernized systems and equipments; improved business processes; improved financial, technical and commercial performance; environmentally sustainable business practices in effect; and supporting the underprivileged) • At the same time, some weak points still need to be managed that include the inability to implement master plans; discrepancies between plans and budgets and actual achievement on the ground; poor wastewater revenue stream; delays in planning water networks rehabilitation and expansion; and in some cases non-conformance with legal requirements related to protecting and managing water resources. 	<ul style="list-style-type: none"> • Substantial improvements at various levels within the various municipalities (modernized systems and equipments; improved business processes; improved financial, technical and commercial performance; environmentally sustainable business practices in effect; and supporting the underprivileged) • Capitalizing on ONEE's work in rural areas and in production and integrating planning for rural and urban areas.

³³ Includes representation from various ministries, the urban water distribution agencies, water basins agencies and the elected parties.

2.6 Tariff Reform

Financial sustainability of a utility is essential to its ability to provide the level of services identified by applicable standards, regulators, and satisfied customers. It entails covering O&M costs fully, investment costs, and any needed funding costs. On the long term it means less dependence on government subsidies; increasing reliance on tariffs as the main source of internally generated funds; and gaining financial independence to enable private financing based on the utility's creditworthiness (Baietti and Curiel, 2005).

In the absence of financial sustainability, utilities are faced with detrimental effects as illustrated in Figure 8 below. In summary, politically driven tariff setting, poor performance incentives, low willingness of customers to pay cost recovering tariffs all lead to the deterioration of assets and poor utilization of financial resources.



Figure 8: The Vicious Spiral of Performance Decline in Utilities
(Source: New Designs for Water and Sanitation Transactions:
Making Private Sector Participation Work for the Poor, WSP/PPIAF, 2002)

As noted earlier, a utility has only three sources of revenues: tariffs and other user charges, tax based subsidies, and external transfers in the form loans or grants. So the initial and most important revenue stream should be a tariff that enables full cost recovery. Full Cost Recovery requires the generation of sufficient revenues through appropriate pricing of the services to cover the full cost of services which include O&M (including administration), research and development (R&D) expenditures, financial costs and capital investments in facilities (including depreciation, interest and return on equity at a level sufficient to sustain the systems in perpetuity and achieve the mandated level of service as a minimum) (Water and Sewer Rates: Full Cost Recovery, 2006). Thus unattainable cost recovery means negative impacts on the every-day performance of the utility in providing services to its customers, and also means its inability to expand its services or rehabilitate or renew its assets- thus impacting service provision on the long term.

In the Arab region, as in other parts of the developing world, tariff setting is a highly politicized matter linked to social objectives, and eventually impacting the performance, efficiency and technical capacity of the utilities, which ultimately dictates reliance on government subsidies and external funding to be able to go about their businesses. To provide information about the tariffs set and the associated impacts on service delivery in the region, data was compiled from the participating utilities in the region that includes the average charge per cubic meter, and the average cost per cubic meter. Table 14 below lists these data for seven countries in the region.

Table 14: Costs vs. Charges in WSS Utilities in the Arab Region
(Source: Compiled from URTWG Inputs, 2013)

Country	Average Service Cost (per cubic meters)	Average Service Charge (per cubic meters)
Morocco ³⁴	<ul style="list-style-type: none"> • Water: US\$0.2-0.3 • Wastewater: US\$0.15-0.2 	<ul style="list-style-type: none"> • Water Bulk: US\$0.48 • Water Retail: US\$0.99 • Wastewater: US\$0.24
Egypt ³⁵	<ul style="list-style-type: none"> • Water: US\$0.0-11 • Wastewater: US\$0.13 	<ul style="list-style-type: none"> • Water: US\$0.005 • Wastewater: US\$0.02
Yemen ³⁶	<ul style="list-style-type: none"> • Water: US\$0.9 • Wastewater: US\$0.2 	<ul style="list-style-type: none"> • Water: US\$0.5 • Wastewater: US\$0.3
Jordan ³⁷	US\$2.4	US\$1.4
Palestine ³⁸	<ul style="list-style-type: none"> • Water: US\$1.4³⁹ • Wastewater: US\$ 1.5 	<ul style="list-style-type: none"> • Water: US\$1.1⁴⁰ • Wastewater: N/A
Syria ⁴¹	SYP 24.5	SYP 7
Lebanon ⁴²	Water: US\$0.29	Water: US\$0.39

As evident from the Table above, in more cases that not, full cost recovery is not attainable with the tariffs in place, and neither is O&M cost in many cases as well. This links directly to the pressing need for tariff reform in the region—a political decision at the levels of the central government no less. Table 4 under “Corporatization” supports this notion and gives an idea about which entities are responsible for tariff setting in selected countries in the Arab region.

Setting a tariff scheme is an important decision where various aspects are considered. As a guiding principle, tariffs should account for full cost recovery to enable sustainable WSS service delivery and sector development. However, they also need to account for affordability issues and supporting the poor and underprivileged groups, and at the same time encourage means for water conservation without impacting public health and safety. A close look at the tariff schemes applied in the Arab region, as shown in Table 15 below, indicates that most commonly used tariff schemes in the region are either uniform volumetric or increasing block tariffs with provisions for the underprivileged in the first one or two blocks. The flat rate scheme is also used in unmetered consumption systems such as in Lebanon.

34 Average charges as provided for residential use only; average cost for 2008 due to lack of current data

35 Including depreciation and debt service

36 Including depreciation and debt service

37 Average charges for all sectors and combined for water and wastewater and costs cover O&M, depreciation and debt service

38 Numbers are average values from 11 WSS utilities under PWA

39 O&M costs only

40 O&M costs only

41 Figures are in Syrian Pound (SYP) due to substantial difference in exchange rates since the data was gathered because of the political situation there. Depreciation is included

42 Average cost doesn't include depreciation and debt service; cost data for 2008, so they have increased while average charge remained unchanged.

Table 15: Applied Tariff Schemes in Selected Arab Countries
(Source: Compiled from URTWG Inputs, 2013)

Country	Tariff Scheme
Morocco	<ul style="list-style-type: none"> One time upfront connection fee Uniform volumetric rate for industrial and other sectors Increasing block tariffs for residential customers with the first block subsidized by the other blocks Wastewater tariff is charged as a percentage of the water delivery tariff
Algeria	<p>Tariffs consist of a fixed charge (service fee, depends on type of customer) and a variable charge that includes the following components:</p> <ol style="list-style-type: none"> Consumption charges with different indices for the types of customers (increasing blocks for residential use, uniform volumetric for industrial, tourism and service sectors) Provisions for water conservation and quality calculated as a percentage of consumption charges <p>Wastewater tariff is charged as a percentage of the water delivery tariff</p>
Tunisia	<p>Tariffs consist of a fixed charge based on pipe diameter connecting the customer, and a variable charge that is based on an increasing block system, with the first two blocks considered as social blocks and do not account for cost of services</p>
Egypt	<ul style="list-style-type: none"> In the case of non-metered consumption a flat rate is applied In the case of metered consumption, tariffs are either uniform volumetric, or in some cities increasing block tariffs In general, tariff setting does not account for cost of service, and is highly subsidized
Yemen	<ul style="list-style-type: none"> Increasing block tariffs for (1) Residential (six blocks); (2) Government and Schools (two blocks); (3) Commercial and other sectors (2 blocks); and (4) Refugees (flat rate) Tariffs account for O&M costs and depreciation of electromechanical equipments Wastewater charges are calculated as a percentage of water consumption charges Other local charges apply as a percentage of the total charges
Jordan	<ul style="list-style-type: none"> One time upfront connection fee Uniform volumetric rate for industrial, commercial, tourism and other sectors Indexed increasing block tariffs for residential customers with the first couple of block subsidized by the other blocks A slight difference in charges per block between WAJ and water companies Wastewater tariff is charged as a percentage of the water delivery tariff In general, In general, tariff setting does not account for cost of service, and is subsidized (except for the case of Aqaba)
Syria	<ul style="list-style-type: none"> Uniform volumetric rate for industrial, commercial, tourism and government sectors Increasing block tariffs for residential customers with the first block as a social block subsidized by the other blocks A slight difference in charges per block between WAJ and water companies Wastewater tariff is charged as a percentage of the water delivery tariff
Lebanon	<ul style="list-style-type: none"> Mostly, water delivered is not metered Flat rate is charged per account, estimates are based on average estimated consumption per household or account Wastewater charges are not applied

In the flat rate all customers pay the same each payment cycle regardless of consumption, which does not promote water conservation.

In metered systems, uniform volumetric rates are used as customers are charged a uniform rate per unit of water delivered. While this structure is easy to administer and encourages water conservation, it might discourage high volume users such as industries.

Also in metered systems, increasing block tariff entails increasing price of water with increasing consumption but at a different rate in each block. It promotes water conservation, and usually it is used as a means for subsidizing the poor in the first or sometimes two first blocks priced at comparably low prices very much below the cost of service, and are cross subsidized by the other high volume consumption blocks. However it should be noted

that such a means for subsidizing the poor does not serve them in effect; rather it serves households with low consumption, regardless of their need for subsidy. In addition, it can be safely assumed that poor households in developing countries are larger than average, and so should consume more water than average. A “social” first block then is either impractical for poor households in terms of consumption, or drive those households to decrease their consumption to very low per capita averages, thus impacting their general wellbeing and health. As another means of subsidizing the poor, more targeted subsidies can be considered; that is subsidizing the poor instead of subsidizing the services.

Another type of subsidy that poor households need is that for connecting to the network. For this, the utilities should be able to facilitate this process by offering options for financing for the poor such as installments or securing financial aid or otherwise.

Shedding more light on the regional context in matters related to tariffs set for WSS services, it should be emphasized that this process is quite “central” and is a matter of policy as opposed to the actual cost of doing business. Tariff setting has been and still is considered a sensitive issue of social and security related aspect, especially with the volatile political conditions and the so called Arab Spring prevailing in the region. Governments are reluctant to come up with decisions that instigate displeasure and associated detrimental results on the side of citizens. This of course is due to the general lack of awareness and knowledge regarding tariff setting and cost of services on the part of customers, due to weak participation and poor transparency on the part of the utilities and responsible authorities. The resulting context is that of deteriorating WSS infrastructures and poor services, dissatisfied customers, detrimental impacts on regional water resources, and private sector that is disincentivized to go into partnerships with public utilities. Hence is the need for reforming the WSS sector in the region, starting with an improved legislative framework that enables a proper governance system that in turn empowers regulatory functions that include tariff reform.

2.7 Findings and Observations

Reforming water utilities is a multi-faceted process that entails introducing changes at all levels-political, legislative, governance related, regulatory, technical, financial, commercial and otherwise. Those can be grouped into two areas of impact: the policy and governance area (political, legislative, governance related, and regulatory), and the utility performance related area (technical, financial, commercial and otherwise). The question here is where to start and what to target first: policy and governance or performance? There are lessons learned from the experience of Arab countries in reforming utilities that are presented in this section:

- Successful reforming initiatives are those that address both areas of impact (policy regulatory and planning area), and utility performance improvement area synchronously without giving weight or priority to one over the other and at a prudently planned pace. At the end of the day the goal is to be able to provide sustainable quality WSS services to customers efficiently conforming with applied standards and regulations and at the minimum cost possible.

Experience in the region leads to the realization that reforms on the policy and governance level do not automatically result in improved utility performance, as mechanisms, tools and techniques that lead to this type of improvement need to be established and instituted within the utilities. Similarly, implementing improvement mechanisms, tools and techniques can become useless and non-implementable if the proper enabling factors are not instituted on the policy, legal and strategic levels.

- The reform process is best effective when it is driven from within the sector as opposed to external pressures and requirements of funding agencies and the donor community. A regretful reality in the region puts most of the Arab countries (excepting the GCC) in need for external financial aid or loans to carry out infrastructure projects or performance improvement interventions. Obtaining such aid or loans has been in most cases contingent on embarking on reform programs that pushed from the outside, involving the implementation of the so called “best practices in utilities reform” without accounting for local or even regional contexts, and the prevailing political, social and institutional circumstances. These best

practices are best customized to fit the local conditions and circumstances by no better than the involved stakeholders. Critical issues are best addressed first with a pragmatic approach accepting what is politically feasible rather than the theoretical best solution.

- The principles of good governance are key to a better performing system- transparency, accountability and participation. Those principles are not applicable in the WSS sector only; they should be the principles guiding all public sector dealings. It cannot be stressed enough how important those principles are to establish the trust and confidence of the people in their policy makers. As a general rule, policy makers and local sector specialists tend to work in isolation of their stakeholders and constituents, rather alienating them in the process and disengaging them from the happenings on the ground, creating an air of mistrust and disconnect between the two sides. As such, it is essential for those principles to be adopted in effect, and not only as citations in reports and studies; they should be incorporated in policy documents, laws and regulations, and practices on the ground with proper enforcement mechanisms in place.
- Utility regulation is needed to protect the interests of governments or owners of public utilities, the operators of the utilities and the consumers. Regulation does not necessarily mean a separate entity-it is better described as regulatory functions regardless where they reside. However, regulatory functions are very limited in the region, and do not achieve their goals, and there are two sides to this story:
 - Policy makers are not behind establishing effective regulatory functions and mechanisms; they are limited to tracking utility performance per agreed upon performance indicators without due analysis, benchmarking or associated corrective or advisory actions. Similarly, regulatory functions in place do not allow for economic regulation and tariff setting mechanisms, which is as mentioned earlier quite centrally controlled and driven based on political and social objectives. In addition, consumer protection and engagement mechanisms are lacking.
 - Existing regulators do not exhibit the required level of competence that would allow for proper regulatory mechanisms to be instituted and functions to be practiced on the ground. Capacity development is needed for this purpose.
- As a general rule, decentralizing WSS sector management and services is good practice- provided it takes into account local context and the existence of essential enabling conditions. Each country should work to achieve its own balance and approach to decentralized sector management, according to its strategic direction, stage of development, size and administrative capabilities, contingent on arriving at the optimum balance in centralized vs. decentralized functions based on the country's circumstances, strategic direction and availability of resources, and accordingly assigning clear roles and responsibilities and authority for each level to avoid overlaps and/or gaps; establishing a proper enabling environment in terms of policies and legislation and legitimizing assigned roles, responsibilities and authorities, also taking account of and managing any potential type of resistance to decentralization from those who benefit from the centralized structure; and the availability of proper competences and capacities on the local levels and the necessary level of maturity and sustainable interest to plan sector development and management effectively, in addition to proper coordination and cooperation mechanisms in place that would ensure that all stakeholders are involved and aware of their respective roles, responsibilities and authorities.
- Corporatization comes in various forms, shapes and sizes, but the decisive factors for successful corporatization are autonomy in planning, financial management and administrative processes within the utilities. The ability of utility management to develop plans and strategies without the interference of politicians creates ownership and responsibility, thus driving for successful implementation of those plans. Similarly, one basic tenet of autonomy is financial independence, and the lack of it is a problem exhibited across the region due to centralized tariff decisions with political and social objectives as opposed to performance improvement objectives. Another key aspect of corporatization is flexibility in administrative procedures and incentive mechanisms that are conducive of acquiring, institutionalizing and maintaining competent internal capacity within the utility. Of course when autonomy is on the table, accountability measures follow. Proper accountability measures and incentive mechanisms are effective performance drivers.

- The success (or otherwise) of the various PPPs implemented in the region is contingent on good prior planning, the availability of enabling legislative and regulatory environment, and local management and monitoring capacities. The experience in the region ranges from completely public utilities without any involvement of the private sector, to conventional PPP models and projects, to innovative and customized forms of private sector participation. This experience is rich and presents replicable models based on drivers behind the PPP and scope of implementation. It has been however driven by external pressure from international funding agencies and supported by donor communities, leading in certain instances to hasty implementation without the existence of a proper enabling legal, institutional or regulatory environment, and subsequently failed implementation. Another problem that was encountered is lacking local and regional competence in designing, contracting, monitoring and reporting on those PPP, which also resulted in failed implementation.
- A suffering WSS sector in the region is on the larger part due to tariffs that are not based on cost of service. This has been driven by political and social objectives that are in consequence impacting the health of the sector and resulting in the ability of utilities to deliver good quality services to their constituents. The key to cutting this vicious cycle of deterioration lies in opening communication channels with stakeholders through effective regulators and implementing awareness programs that engage stakeholders in important decisions linked to services delivered, costs entailed, revenues expected and associated consequences. Of course this will have to be supported and endorsed by the policy makers.

2.8 Moving Forward

Supporting utilities reform in the region entails working as previously described to strengthen two areas of impact: the policy and governance area (political, legislative, governance related, and regulatory), and the utility performance related area (technical, financial, commercial and otherwise). As a regional platform for WSS providers, ACWUA can play the role of catalyst for reform programs whose overall objective aligns with the association's role and mandate of improving WSS services in the region for the benefit of the Arab countries and population.

Given that a large part of the reform is associated with policy changes and changed visions and directions in the region, ACWUA can facilitate such changes by partaking in the creation of regional capacity that enables scientific examination and reasoning that would advocate for positive policy changes. Accordingly, creating regional competence and developing inherent capacities is where the value lies in this respect. Several capacity development approaches are foreseen and recommended by the URTWG members for this purpose:

- Developing O&M manuals using unified standards following the international best practices and in accordance with the Algeria Declaration that resulted from ACWUA's 6th Best Practices Conference and that was supported by the Arab Water Ministerial Council of the League of Arab states.
- Regional capacity building, training and certification programs for water sector staff in areas identified as lacking. The objective of this approach is providing specific training courses in specifically identified topics using adult learning methodologies, thereby increasing the knowledge and supporting the application of this knowledge whenever and wherever possible.
- Twinning programs among regional utilities on one side, and between regional utilities and other international utilities, taking into consideration similar settings and circumstances on the other side. For this approach a match making exercise will have to take place where strengths and weaknesses are identified and matched. Based on the matches made, twinning programs are developed and undertaken with associated improvement plans in the weaker utilities.
- Implementing situational analyses for the purpose of developing an accurate understanding and evaluation of a specific area under investigation. This will set the stage for the identification of improvement opportunities and planning for their implementation.

- Creating a regional task force that would carry out such a situational analysis, as well as engage utilities and other stakeholders in a participatory and complementary exchange of knowledge and experience, and develop specific action plans to implement improvement and reform plans and activities.

Based on the outcomes and findings of the situational analysis at hand for utilities reform in the region, specific areas in need of improvement were identified where specific targeted capacity building programs can be applied for specifically identified areas of intervention. Most notably under the umbrella of utilities reform, the following areas/subtopics were identified as being in need of capacity building and strengthening programs in the region:

1. Developing the capacity for PPP contracting and management. Going over the regional experience in the field of PPP, several shortcomings and mediocre levels of successful implementation can be attributed to lacking capacity within the relevant institutions and organizations of designing, developing, negotiating, contracting and managing the performance of PPP contracts. Accordingly, and by regional consensus, very well designed and tailored capacity building and training programs are needed to develop such a capacity, especially in the legal, financial and technical areas.
2. Developing the knowledge in regulatory functions and how to establish effective regulatory bodies. This area of reform is obviously much needed within the regional context, where experience is showing that no stand-alone regulatory bodies are working in Arab countries; rather certain functions are arbitrarily available in some of the countries. It is therefore essential to introduce the true concept of regulation and regulatory functions and bodies within the region in the form of specifically designed and tailored training programs, thus creating the capacity within the region to highlight the importance of the regulatory role in providing better WSS services, and work hand in hand with policy makers to establish this role.
3. Developing the knowledge in decentralization. Regional experience show that the Arab countries stand at different distance from decentralized decision making. In many cases, decisions are taken at the central level, in part due to mediocre capacity on the local levels, and due in part to the central governments refusing to let go of decisions affecting key services such as WSS, and handing them down to lower levels of authority for political, social, or other reasons. It is therefore essential for the establishment of good decentralization practices to develop the capacity regionally by designing and tailoring courses on decentralization, the challenges, prerequisites and the implementation on the financial as well as the technical levels.

3

GUIDING PRINCIPLES FOR TOPICS UNDER UTILITIES REFORM

3.1 Utility Reform

The main objectives of reforming WSS utilities are to improve access to WSS infrastructure; to increase efficiency of operations within the utilities; and to enhance reliability, sustainability and affordability of services. It requires clarifying the sector's accountability framework in terms of the mandates of its various actors and contractual relations between them, to carry out the key functions of policy formulation; infrastructure development; service provision; financing of operations; and regulation of the service.

Reforms become more possible when there is public demonstration of need, and can be sustained by evidence of progress or success (especially if within one political cycle). Moving from "best practice" to "best fit" in reforms of public utilities requires personal leadership and change management skills.

The principles guiding the utilities reform can be grouped into four main elements of reform necessary to improve the environment within which utilities operate, as well as the internal operations within the utilities to achieve efficiency gains-both technical and financial:

A. Governance and Institutional Setup

- □ Revisiting WSS Policies and investigating options for structuring the WSS sector is a main part of the reform process, taking into consideration the need to increase autonomy and accountability and establishing water integrity through separating policy making and regulation functions from utility operation and management functions, and paying particular attention to service provision to the poor.
- □ Regulating the WSS Service (whether public or private) in a transparent manner through functions and/or independent entities that set, monitor, enforce and change the tariffs and service standards for WSS service providers.
- □ Considering corporatization as a means to achieving increasing autonomy, accountability, integrity, and customer orientation, thereby excluding political agendas. The recommended approach would be:
 - a. Careful consideration and clarification of selection procedures and operation of the boards of directors, management team and staff of such corporatized entities;
 - b. Clear contractual commitments between service providers and governments;
 - c. Developing instruments for increasing accountability to consumers (e.g. information, consultation, participation, recourse and redress, etc.) and for building the capacity of the various actors (e.g. training, professional networks, and certification of professionals);
 - d. Putting in place an accountability framework to detect risks of fraud and corruption in human resource management, commercial activities, infrastructure development, and provision of substitutes.

B. Financial Management and Sustainability and Funding Sources

- □ Applying the requirements for sustainable financial performance by gradually transferring the burden of financing the full cost of the service (coverage of O&M costs, depreciation of assets, debt service and return on equity) to customers through applying tariff reform approaches.
- □ Improving the financial situation of the service provider through revisiting the balance sheet and debt and developing plans to reduce costs, and improve revenues through commercial practices, and if need be considering tariff increases, and through applying improved financial management practices.

- □ Upon creating corporatized entities, creating the enabling environment for transferring the responsibility of capital investment to them, as they would be responsible for debt service. This involves revisiting the approach to WSS Asset Management and infrastructure projects to ensure proper planning, design, procurement and project implementation procedures, as well as control corrupt practices. As a best case scenario, the responsibility for infrastructure development should rest with the parties that own and maintain the assets and are responsible for servicing the debt attached to their financing, thus ensuring that development plans are in line with customer needs and are affordable compared to revenues.
- □ Taking the above into consideration, it is essential to work on building the creditworthiness of corporatized service providers so that financial markets can eventually be accessed. In the interim, the development of infrastructure has to be financed by a mix of cash generated, debt, and grants.

C. Utility Performance and Increased Efficiency

- □ Developing and applying systems for merit-based recruitment and associated incentive mechanisms to ensure the ability of the utility to hire, retain, motivate and develop staff capacity technically and managerially.
- □ Decentralizing responsibilities, authorities and resources within the utilities, along with developing and implementing the proper capacity development programs needed for successful decentralization within the utility.
- □ Improving service provision and utility performance, and attaining efficiency gains through internally developed programs that target technical (e.g. reducing NRW and energy consumption), commercial (e.g. overhaul of customer relations, metering, billing and collection procedures), and financial (e.g. recommendations of independent audits of financial statements and financial management procedures) activities is one important aspect of utility reform. This might entail outsourcing non-core functions of those technical, commercial and financial activities.
- □ Creating partnerships with the private sector (and possibly public sector) to improve performance. This is yet another path that service providers opt to use, taking into consideration applying success factors; considering the requirements for commercial financing; the right allocation of risks and responsibilities between partners; developing the capacity of institutions to be able to manage PPPs; and the proper selection of partners.

D. Quality of Service and Customer Satisfaction

- □ Developing plans for improving quality of service, responsiveness to applicable standards and regulations, and accountability to customers even if through outsourcing of services or creating partnerships with public or private sector entities.
- □ Utilizing collective customer information, opinions, complaints and general feedback to improve and inform the policy making process, thus resulting in better customer satisfaction on the long run.
- □ As an important factor to success, it is essential to create mechanisms for stakeholders and customer involvement, redress systems, outreach programs and information sharing, thus instilling transparency, accountability, and creating trust between the service providers and all stakeholders. Decisions regarding designing a reform program should include public participation in types of connections offered; tariffs; timetable of service upgrading; levels of service; and methods of payment and collection.

3.2 Sector Governance

The main goal behind good sector and utility governance is to ensure that the interests of all stakeholders (customers, partners, public authorities, owners, etc) are held and respected. The principles guiding good governance for utilities that enable them to achieve this goal can be grouped into four main elements:

A. Separation of Functions

- □ The main functions of effective policy making, service delivery and regulation in the WSS sector should be separate to increase the autonomy and accountability of the service providers and provide them with operating conditions far from the pressures of political agendas. This is optimally addressed through policies or legislation articulated specifically for this purpose.
- □ The government's role rests in policy making and the policy function, and officials' time is usually taken up and impacted by local political matters. This necessitates separating the service delivery functions through:
 - a. Giving them to specialized operational bodies within the local authorities; or
 - b. Form corporatized or state-owned companies that operate independently; or
 - c. Contracting out management to private sector; or
 - d. Hand over the service delivery functions completely to the private sector.
- □ The separation has to be complete and transparent without any interference from the part of the government in internal utility matters.
- □ This creates the need for a third party regulator and auditor of services and results. This can be established through creating the regulatory functions within a body independent of both the government and local authorities, and of the service provider, and that are transparent to all stakeholders. The regulatory functions entail monitoring and enforcement to rectify deficiencies, and generally requires suitable legislation or dictate.

B. Applying Accountability Measures

- □ It is essential to apply accountability measures according to which policymakers must prove to stakeholders that public goods are being managed properly. This is supported by creating relevant and comprehensive legal and institutional frameworks that govern all aspects of the WSS sector, beginning with policy making, going through service delivery and ending with regulation.
- □ Professional capability needs to exist within:
 - a. Governments and civil services in order to develop sound integrated policies with effective public participation to attain buy-in and commitment;
 - b. Service providers to provide efficient and satisfactory services and sound management practices with clear objectives, targets and resources, free from political interference; and
 - c. Regulatory bodies to provide unbiased and effective monitoring and enforcement functions. Accountability measures require that salary levels and other incentives are consistent with such capacity and the ability of responding to the demands of all stakeholders.

C. Applying Transparency Measures

- □ Open and transparent information and reporting is the most effective means of fighting corruption, and gaining the trust of all stakeholders, thereby empowering the policy maker, the service provider and the regulator.
- □ Setting in place transparency measures also implies active involvement of all stakeholders, thus encouraging them to take ownership of and contribute to all processes within the sector. Most importantly to accomplish that is setting in place mechanisms for:
 - a. Ensuring equitable right to water;
 - b. Transparent financial and contract management and pricing; and
 - c. Providing easy access to trusted sources of reliable and consistent information about water quality and quality of service.

D. Applying Stakeholder Participation Measures

- □ It is essential to ensure the participation of all actors involved in the sector, in order to attain effective contribution in decision making on all levels:
 - a. In terms of policy making, effective public participation is key to provide for buy-in and commitment;
 - b. In terms of service delivery, participation of all stakeholders is essential for the design and implementation of strategies leading to efficiency, effectiveness, transparency, accountability, sustainability and fighting corruption;
 - c. In terms of regulation, stakeholder participation is essential to empowering regulators go beyond the weaknesses of service providers, and enabling them of direct control by and accountability to stakeholders, thereby enforcing the establishment of trust between service providers and consumers when it comes to pricing, water quality and quality of service.
- □ This entails putting in place mechanisms and instruments to improve coordination and dialogue in a bottom-up approach between actors from different sectors and institutional classes and working on all levels of information provision, consultations, active involvement and collaboration. Such mechanisms should ensure:
 - a. Clear information flow between the various players at all times;
 - b. Clear rights and responsibilities explained to all involved stakeholders;
 - c. Transparency and flexibility of the participation process, considering all views and suggestions; and
 - d. Representation of relevant traditional and technical knowledge.

E. Inclusion of Marginalized Groups

It is essential to ensure the inclusion of all actors in the sector, particularly the vulnerable groups. The objective here is targeting policies as well as service delivery at all scales as inclusive of the needs and rights of those who are frequently excluded from access to services (including vulnerable and marginalized groups such as women and children). This is not only applicable by improving access to services, but also by supporting all such groups to engage in decision making, thus ensuring that their rights and needs are recognized.

3.3 Utility Regulation

The guiding principles for a successful utility regulation system entail applying transparency, accountability, equitability, and efficiency. A close look at any successful regulation system involves examining the clarity of laws and mandates for its establishment in terms of: (1) roles and responsibilities, (2) authorities and enforcement power, (3) setup and working model, (4) institutional processes and controls for its staff, (5) financial autonomy (or the lack thereof) and sources of funding, (6) decision making processes, and (7) transparency mechanisms. Below is a list of guiding principles for a successful regulation:

A. Establishing Three Main Regulatory Functions

- □ Regulatory functions need to be established to regulate water services in the interest of the community and of sustainability. These functions reside in a formal independent regulatory body that functions transparently, free from political power and financially independent, to give objectivity to the process of turning policy into practice. Such a body needs to be backed and empowered by a suitable legislative framework.
- □ The main regulatory functions address economic regulation; service standards and conditions; and customer voice and public participation. Those functions need to be backed by the appropriate power, authority and capacity:
 - a. In terms of economic regulation, the existence of an independent body free from political pressure is key to setting charges that attain full cost recovery for at least O&M costs without over-charging to the benefit of the service provider, or under-charging to the benefit of the policy maker.
 - b. In terms of level of service and service standards and conditions, the regulatory body's role is to monitor and enforce the service provider's observance of applicable standards and regulations, and catering for sustainability.
 - c. In terms customer voice and public participation, the regulatory body is a platform for customers to engage actively in the policy making and planning and decision making process; to understand the dimensions of work the service provider is responsible for; and convey legitimate expectations, especially in what is related to the underprivileged and marginalized groups. Stakeholder participation in the regulatory process promotes the exchange of ideas necessary to identify win-win options and develop consensus among key groups.
- □ The three main functional areas of a regulatory body are interdependent and require that they are addressed coherently. Tariffs are set according to expected and satisfactory levels of service, and those are associated with operating costs and require investment funds. This necessitates obtaining reliable data from utilities, thereby analyzing service outputs and performance along with associated costs and revenues by using relevant performance indicators. All this information should be available in the utilities' business plans and performance reports. The regulatory body should be in a position to endorse, monitor, and require modifications to those business plans and performance reports, and ensure that they are available to the public.

B. The Creation of Consumer Advisory Bodies

A Regulatory body is a platform that brings together the various water sector stakeholders, promotes interaction between them as well as the creation of consumer advisory bodies. Proactive communication is the key word to bringing together all stakeholders and raising their interests in a politically correct manner without any perceived interferences. At the same token, this results in positive collaborative interaction among concerned agencies and organizations such as utilities, municipalities, environmental groups... etc. The creation of consumer advisory bodies is yet another mechanism of communication and collaboration that can be used to educate local opinion leaders as well as obtain feedback regarding consumer perceptions, not to mention giving a voice to marginalized groups.

C. Applying Benchmarking as an Instrument for Service Improvement

- Benchmarking is an instrument that regulatory bodies use to trigger service improvement. In the case of multiple service providers, benchmarking is comparing performance measures with reference standards and seeking improvements in the process. In such comparisons financial consequences arise whereby an approach to economic regulation entails cost comparisons between the different service providers, based on which incentives are redirected to improve the efficiency of one service provider through information and data obtained from others.
- Additionally, through publicly available data for benchmarking, a mechanism is created for evaluating, incentivizing and even replacing utility management.
- Benchmarking with the purpose of international comparison through networking with other international bodies or agencies is yet another valuable instrument for exchanging knowledge and experience for the sake of performance improvement on an even broader scale.

D. Supporting Creative Technologies and Cost-Containment Mechanisms

Regulatory bodies work in support of creative technologies and cost-containment mechanisms. The regulatory body should have the capacity to advise utilities on new technologies and innovative solutions (especially in what is related to serving the poor and underprivileged in terms of access to service, facilitated payment mechanisms and/or targeted subsidies) and service improvement interventions that ultimately lead to a better service quality, sustainable service and customer satisfaction, all the time in conformance with applicable standards and regulations.

E. Enhancing the Credibility and Legitimacy of Regulation

Credibility and legitimacy are essential to effective regulation. These depend on the acceptance and understanding of the regulatory process by the consumers and other stakeholders, and can only be achieved on a record of accomplishments supported by a transparent and consistent regulatory process. This record can only be achieved by applying all the above mentioned principles.

3.4 Decentralization

WSS decentralization based on the principle of subsidiarity was often the by-product of a wider reform of the state. Nonetheless, there will always remain a need for centralized broad policy making accounting for IWRM, with local policy interpretation and delivery on the level of the utilities. Below is a list of guiding principles for decentralization within the WSS sector:

A. Availability of Legal and Enabling Framework

The availability of a legal and enabling framework is important to successful decentralization. In a best case scenario, WSS service provision is separated from central policy making, and responsibilities are handed over to lower tier/local governments and/or authorities, based on a policy decision that is backed by an established legal framework which:

- a. Separates service provision from policy making;
- b. Clearly stipulates roles and responsibilities of the different actors according to capacity;
- c. Caters for transparency, accountability, ownership, empowerment and affordability.

B. Applying the Principle of Subsidiarity

Local service standards should be set based on the principle of subsidiarity (i.e. at the lowest appropriate level consistent with efficient and cost-effective delivery of services) and with the participation of customers and local communities. When levels of service, service standards and performance standards are being drawn up, this process should involve the customers and local communities to ensure responsiveness to their needs and to establish trust between both parties and attain buy-in, commitment and cooperation.

C. Achieving Financial Autonomy

- Effective decentralization comes with financial autonomy. Decentralization of responsibility does not come with centralized constraints on finance, cost recovery and revenue mobilization.
- Accessible financial resources should be commensurate with operational and capital investment costs for proper self-reliance and sustainable service delivery by the utilities. For that purpose:
 - a. Tariffs should be set without any political drive and consistently with the cost of service to be conducive to effective and successful decentralized operation and decision making processes in the utilities.
 - b. Tariffs should be set without any political drive and consistently with the cost of service to be supportive of utilities being able to borrow for the purpose of executing capital investments needed for the sustainability, development and improvement of service delivery.

D. Adequate Institutional Capacity on the Decentralized Level

- It is essential to have utility staff with appropriate and adequate administrative, technical and managerial capacities on the decentralized level. The availability of such capacities within responsive, transparent and accountable structures supportive of upward monitoring and reporting and downward accountability to customers, is key to successful decentralized operations, such that capacities within autonomous utilities are adequate for them carrying out their responsibilities successfully and to the satisfaction of their customers.
- The utilities should be allowed to determine their own internal administrative structures and adapt them to local needs and ensure effective management with full authority of its staff. This includes merit based recruitment and retention strategies with commensurate remuneration and adequate training opportunities.

3.5 Corporatization

Corporatization is considered as a means to achieving increased autonomy, accountability, and customer orientation in WSS services. It comes with a clear accounting of institutional setup, procedures, operations and management within the corporatized utility. In order to capture the advantages of a private company, a corporatized utility needs to adopt key corporate characteristics that are designed to ensure: (1) a balance of autonomy to make sound corporate decisions; (2) a reinforcing system of targets and incentives; and (3) accountability for achievement against set targets. Below is a list of guiding principles for successful corporatization of utilities:

A. Creating Sound Corporate Governance

It is essential to create sound corporate governance that protects the value of the company for the shareholders (government or others) by increasing sales, controlling costs and increasing revenues. This is implemented at three levels:

- a. National level: establishing the commitment to corporate governance in the form of a policy statement, strategic framework or sector reform strategy statement that makes transparent the government's intention to conform to its specified role and to delegate responsibilities appropriately;
- b. Company/owner level: establishing the relationship between the utility and its owner by contractual documents (license, performance agreement, etc) based on the ownership structure, the legal environment and local context, and stipulating: (1) the agreed obligations of each party; (2) the reporting and monitoring requirements; and (3) any incentives or penalties, in addition to establishing the channels of accountability and defining clearly the degree of autonomy; and
- c. Company level: (1) establishing an independent board with associated power and capacity able to act independently from controlling shareholders, and in the best interest of and ensuring long term sustainability and value of the company; (2) hiring an independent director who is not affiliated with the company in any way or has any associated vested interests, who is able to motivate and enable staff to fulfill the board's vision through establishing a system of personnel incentives to support corporate objectives as well as company integrity among consumers, the general public and investors, through transparent operations and board and company performance to the public.

B. Establishing a Separate Legal Entity or Company

To attain the full benefit of corporatization, it is essential to establish the corporatized utility as a separate legal entity or company. This legal entity should have:

- a. A well defined relationship between the government (as owner) and the utility itself;
- b. A corporate board with clear and defined interests or priorities;
- c. A clear system of performance expectations and oversight, with corresponding degree of organizational autonomy.
- d. A legal framework comparable to non-government owned commercial companies, with board of directors, clear corporate objectives and transparent obligations of all parties, commercial orientation, external accountability and documented targets and performance expectations.

C. Applying Modern Financial Management and Accounting Practices

- It is essential to apply modern financial management and accounting practices that:
 - a. Reflect commitment to achieving financial sustainability;
 - b. Consider customer revenue generated through core services as a key source of financing;
 - c. Have as defined goals to recover at least O&M and possibly investment costs, depreciation and debt service; and
 - d. Entail identifying channels to ensure that the tariff setting and approval process is appropriate to achieving the above.
- For that purpose financial information need to be proactively collected, analyzed and utilized for improved planning, management and oversight; generally accepted accounting principles are adopted, and audit tools are used to verify appropriate financial practices.

D. Demonstrated Customer Orientation

- Setting in place customer orientation approaches is achievable through a formal statement or contract, and by measuring and evaluating customer satisfaction- being key to maintaining a positive revenue stream even with limited competition.
- Consultations and communication with customers are needed to establish demand responsive services.
- Mechanisms also need to be developed to encourage and facilitate bill paying and customer outreach.

E. Effective and Transparent Use of Data

- Effective and transparent use of data is necessary to enable monitoring and assessing performance against government objectives, thus establishing public credibility, confidence and accountability.
- This also allows for the board and management to be held accountable for results, and enable better management and targeted activity.
- Data can also be used effectively to create a system of incentives linking compensation and corporate performance.

3.6 Creating Partnerships for Service Delivery

Developing partnerships with the private sector in the WSS sector is one reform aspect that has been utilized to improve the level of services provided, or to access “unavailable” financial resources needed for sustainable service delivery and infrastructure development. Below is a list of guiding principles to be considered when PPPs are considered as part for the reform of the WSS sector based on international experience:

A. Considering PPP for Improving WSS Services, Attaining Efficiency Gains, or Raising Commercial Capital

- □ PPPs should primarily be considered for improving the quality of WSS service and efficiency of WSS operations where there is no major ideological opposition to the concept of private provision of the WSS service, as the private sector can bring the know-how that is often missing to improve the quality of service and achieve efficiency gains, with the proper financial incentives in place.
- □ PPPs also enable raising commercial financing without the need for sovereign guarantees, to develop WSS infrastructure with credible WSS operations; a tested tariff setting mechanism; a debt repayment track record of the WSS service provider or responsible authority; and with financial markets that are able to provide debt in local currency for long periods consistent with long infrastructure depreciation period.

B. The Ten Key Steps for Designing a Successful WSS PPP:

There are ten key steps for designing a successful WSS PPP:

1. Developing capacities and skills needed to embark on PPPs in all the following steps.
2. Considering and examining the possibility of implementing a PPP;
3. Planning the process of introducing PPP;
4. Involving stakeholders in the design of the arrangement;
5. Setting upstream policy;
6. Setting service standards, tariffs, subsidies, and financial arrangements;
7. Allocating responsibilities and risks while balancing all interests;
8. Developing capable institutions to manage the relationship;
9. Designing the proper legal instruments for the arrangement; and
10. Selecting a suitable operator.

C. Consideration of Types of PPP

The types of PPPs that are responsive to specific needs and underlying circumstances should be carefully considered. In a general sense:

- a. When targeting specific improvements in specific activities, consider service contracts;
- b. When targeting overall performance improvement consider management contracts;
- c. When targeting better management and relinquishing operational responsibilities and risks associated with technical and commercial operations consider a turnkey; and
- d. When on top of that there is a need to enhance the development of the WSS infrastructure and implementing capital investment projects consider concessions and BOTs and the like.

D. Suitable Allocation of Risks and Responsibilities

- □ Operational risks related to the reliability of water sources and assets: normally, the operational risk should be transferred to the private operator, but if rehabilitation programs cannot be financed timely and implemented efficiently, it may be preferable to initially settle for service contracts of limited scope.

- □ Commercial risks linked with the size of demand for services, the willingness and ability of customers to pay, and the ability of the operator to collect bills and disconnect non-complying customers: normally, the commercial risk should be transferred to the private operator, but if the mitigation program cannot be implemented, it may be preferable to opt for a management contract that guarantees part of the payment to the manager.
- □ Financing and foreign exchange risks related to the capacity to generate revenues from operations sufficient to service the debt and contribute cash to capital investment: if local financial markets cannot be accessed, and only international financing institutions and bilateral agencies can, the financing risk is better allocated to the public partner, and provided that the operational and commercial risks can be reasonably mitigated, an all-risk contract can be opted for.
- □ Regulatory risks related to the capacity to set, monitor, enforce, and change the allowed tariffs and service standards for the WSS service provider: those can be set for short term contracts, but for the longer term, it is essential to specify in the contract the conditions under which they can be adjusted and ensure that they are not superseded by other legislation in order to provide sufficient transparency and predictability to both parties.
- □ Political risks related to the local context and any changes in policies and directions: for that it is essential to consider a dispute resolution mechanism acceptable to all parties, and that is specified within the contract.

E. Institutions Developed to Manage PPPs

- □ It is essential to develop institutions to manage PPP contracts and build a good working relationship with the private operator. The main issues to be addressed and availed within such institutions are:
 - a. The capacity required to monitor the performance of the private operator (directly or with assistance from external parties);
 - b. Monitoring the performance of the public partners- optimally through a regulator, but if not, it can be implemented through a joint committee that includes the public and private partners and customer representatives;
 - c. Resolving disputes that may arise through negotiations, third party reviews, and arbitration; and
 - d. Adjusting service standards and tariffs.

F. Selection of Operator through Competitive Bidding

A suitable operator is selected most preferably by competitive bidding to encourage transparency and stimulate interest among a broad range of potential partners. Within this context three issues require particular attention:

- a. The need to prequalify operators according to clear criteria that do not limit competition or open the door for weak companies.
- b. Bid evaluations through a two-stage process (technical and financial). Special attention should be paid to the respective weights of the elements of the bid and the possibility of manipulating figures to make the bid look more attractive. Limiting the number of bidding variables could be envisaged to increase transparency of the bidding process.
- c. Owners must be protected against voluntary underbidding by companies that could renegotiate service standards and/or remuneration soon after the contract is awarded; this can be achieved through indicating the minimum financial bid that would be declared responsive.

3.7 Tariff Reform

Some common objectives for tariff reform in developing countries are:

1. To attract private capital into the sector to increase capacity and develop infrastructure;
2. To expand services into poor, peri-urban and rural areas;
3. To make water affordable for vulnerable groups;
4. To provide incentives to the operator for improved service and quality; and
5. To make tariff calculation and regulation simple and easy to understand.

Tariff reform holds two sides to the equation: the costs side and the revenues side. Both sides need to be balanced in order to ensure sustainable service delivery. Below is a list of guiding principles for successful tariff reform on the costs side and on the revenues side:

A. The Costs

- □ The cost recovery target is formally set and agreed upon on the executive level within the utility and on the policy level within the sector. Any substantial increase in tariff is better handled gradually and in increments.
- □ Understanding all cost elements associated with service delivery, including operational, depreciation, and capital management costs. Future demand requirements and financial, technical, and administrative costs are collected and analyzed in a standardized financial information management system linking them to tasks and activities.
- □ Identifying fixed and variable costs. Fixed include costs associated with administration of the utility and consistent maintenance and expansion of connections, and should serve the utility in controlling costs. Variable include any costs associated with water production, treatment, delivery, distribution and wastewater collection and treatment. Those should serve the customers in gauging their consumption and support the preservation of resources.
- □ Enabling regulatory settings that support the separation of policy making, regulation and service delivery.
- □ Cost elements and categories are approved by the regulatory authority wherever it resides. This is enabled by the availability of the above mentioned standardized information system, and provides credible cost justifications and leaves no room for unwarranted cost reporting.
- □ Cost adjustment criteria are formally set and maintained by the regulator. The adjustment mechanism⁴³, requirements and timeframe are neutrally applied.

⁴³ Various tariff adjustment schemes are applied, including cost indexing (enables adjusting specific cost elements) and revisions of costs- periodically set or in cases of major and unexpected events such as natural disasters, legal changes, or financial issues.

B. The Revenues

- A regulatory tariff model is chosen by the regulator. Most commonly used are cost-plus (enables utility to cover costs and requires approved costs), or setting a price cap (puts incentives on utility to control its costs and improve efficiency, but might affect quality of service in the interim).
- An appropriate tariff scheme is set that addresses connection charges (a one-time only upfront charge for connecting to a system), and consumption charges (e.g. fixed or flat rate linked to a certain customer characteristic such as size of supply pipe, number of household members, lot size... etc; or volumetric charge- uniformly related to consumption or in blocks). Provisions for the poor and underprivileged should consider the affordability⁴⁴ issue.
- Key policies are set and enacted in relation to nonpayment and subsidies. A clear policy on delayed and non-payment should be set and socialized by the stakeholders, taking into consideration the underprivileged groups. Other forms of subsidies also need to be decided upon specifically for the underprivileged groups (subsidies related to connection charges, cross subsidies within consumption charges, or other more forms of subsidies directly targeting the poor and underprivileged).
- Established metered consumption to take account of water delivered and associated costs. It should also provide an incentive for customers to manage their consumption and encourage conservation methods.
- Customers' database compiled, including all connections, meters, profiles, consumption, billing and collection data. This database supports the transparency of accounts and enables the implementation of pro-poor strategies.
- Good customer services practices established as in any commercial enterprise interested in customer satisfaction. It is a means to strengthen the relations with the customers, provide better services and information channels.

⁴⁴ Thresholds for affordability of WSS services in the developing world have been quoted in the range of 3-5% of household income (Managing Water for All: An OECD Perspective on Pricing and Financing)

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السادة / الجمعية العربية لمرافق المياه (أكوا)

تحية طيبة وبعد،

أرجو إعلامكم بأن المصنف بعنوان " Water Utilities Reform In The Arab Region Lessons Learned " Arab Countries Water Utilities Association (ACWUA) "، اعداد: "، And Guiding Principles

قد تم منحه رقم إيداع في مركز الإيداع في دائرة المكتبة الوطنية تحت رقم الإيداع المبين أدناه.

يرجى العمل على تثبيت هذا الرقم كما هو مسدون أدناه، في أي مكان ظاهر من المصنف، وتسليم مركز الإيداع ثلاث نسخ على سبيل الإيداع وبحيث تكون النسخ المودعة مطابقة للمصنف من جميع الوجوه ومن أجود النسخ المنتجة، وذلك استناداً لأحكام المواد (38، 39، 40، 41) من قانون حماية حق المؤلف رقم (22) لسنة 1992 وتعديلاته، وأحكام نظام إيداع المصنفات رقم (4) لسنة 1994 م.

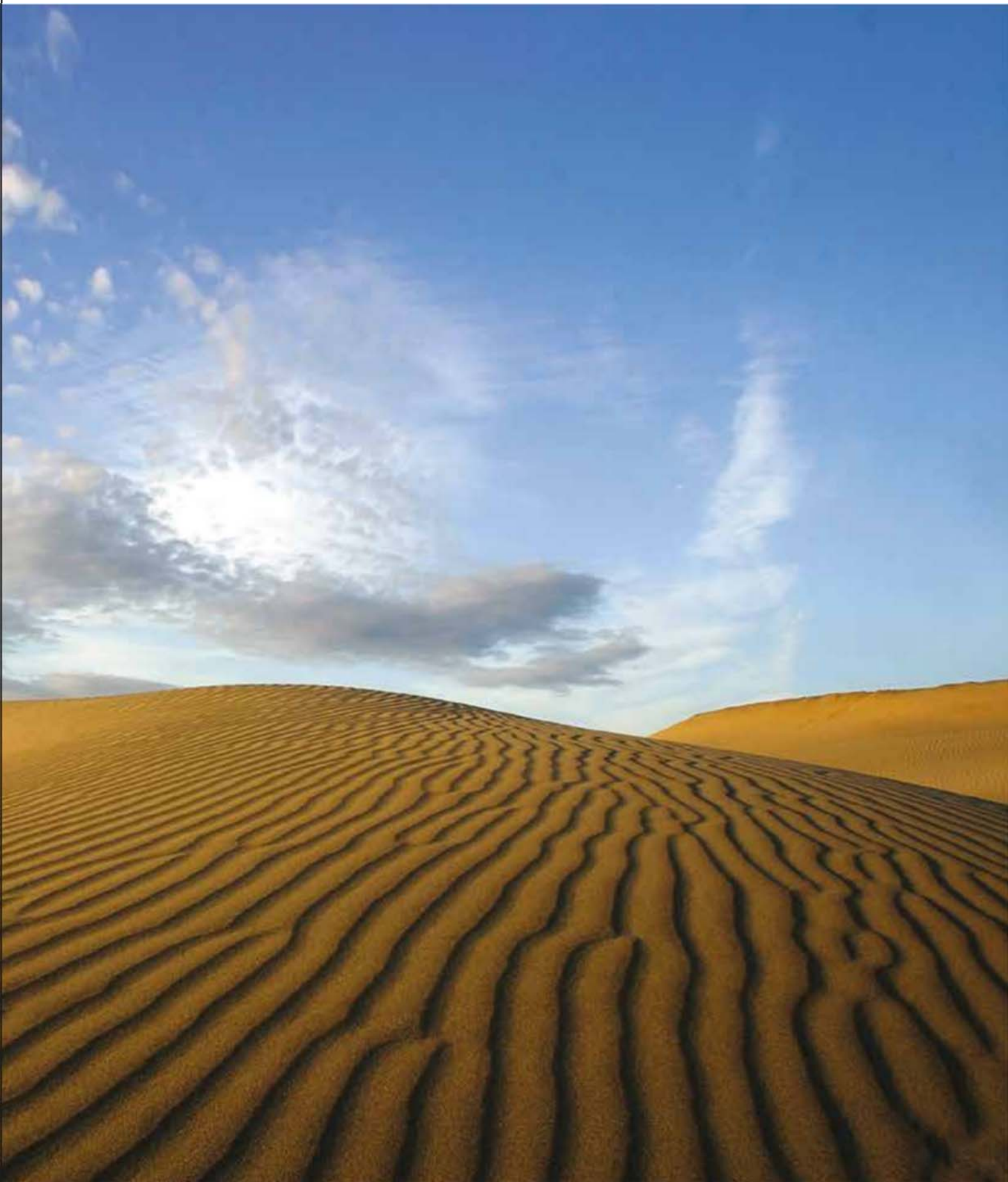
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