OECD Studies on Water

Water Governance in Jordan

OVERCOMING THE CHALLENGES TO PRIVATE SECTOR PARTICIPATION



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Foreword

The OECD has long been a strong advocate for water management that contributes to economic growth, environmental sustainability and social welfare. With a multi-disciplinary team drawn from across the organisation, the OECD provides analysis to improve the information base, identify good practice and provide a forum for exchanging country experiences. Specific areas of OECD expertise and tools of relevance to water involve financing, governance, regulatory policy and private sector participation. This report builds on this expertise to diagnose the main governance and financing challenges to private sector participation (PSP) in the water supply and wastewater sector of Jordan, and provides ways forward to address these challenges.

The present report has been developed as part of a water policy dialogue conducted by the OECD jointly with the Global Water Partnership-Mediterranean (GWP-Med) in the context of the project labelled by the Union for the Mediterranean (UfM) "Governance and Financing for the Mediterranean Water Sector". The policy dialogue was carried out in Jordan over 2013-14, in close co-operation with the Ministry of Water and Irrigation (MWI) as the main focal point. The dialogue involved a wide range of stakeholders from the government, donors, civil society and the private sector, who contributed through various means, including answering questionnaires, giving input during policy workshops and bilateral interviews held in Amman in October and November 2013 and February 2014, as well as providing written comments.

The joint GWP-Med / OECD project aims to diagnose key governance bottlenecks to mobilising financing through public-private partnerships (PPPs) for the Mediterranean water sector and to support the development of consensual action plans based on international good practices. The process draws on established OECD and GWP-Med methodology and expertise in water planning and implementation and the facilitation of inclusive multi-stakeholder policy dialogues, as well as previous work undertaken by the two organisations in Egypt and Lebanon. It involves evidence-based policy dialogues at national and regional levels. Jordan is one of the pilot countries in the implementation of this project.

This report was produced with the financial assistance of the FEMIP Trust Fund. The Fund was established in 2004 and has been financed, to date, by 16 EU member countries and the European Commission, and is managed by the European Investment Bank. The opinions expressed here do not necessarily reflect the views of the European Union or the European Investment Bank. The support of the Swedish International Development Cooperation Agency (Sida) has also been instrumental to the development of the policy dialogue in Jordan.

This report is the result of work led by Céline Kauffmann from the Regulatory Policy Division, headed by Nick Malyshev, in the OECD Public Governance and Territorial Development Directorate, directed by Rolf Alter. The drafting team involved multi-disciplinary expertise, including on water governance (Aziza Akhmouch, Regional

Development Policy Division), PPPs and budget policy (Ian Hawkesworth, Budgeting and Public Expenditure Division) and regulatory policy (Céline Kauffmann and Dambudzo Muzenda, Regulatory Policy Division). Anthi Brouma (GWP-Med Co-ordinator for the project) and Varvara Vasilaki of the GWP-Med were instrumental to the development and conduct of the policy dialogue. The OECD is also thankful to the European Investment Bank team, the UfM Secretariat, the MWI for its active involvement in the overall policy dialogue, as well as to the many stakeholders that contributed throughout the process (a list of stakeholders is provided in Annex A). The report was submitted for comments to the OECD Regulatory Policy Committee and the Network of Economic Regulators, and discussed during the meeting of the OECD Water Governance Initiative on 28-29 April 2014 in Madrid. Carine Viac and Jennifer Allain prepared the manuscript for publication.

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Acronyms and abbreviations

ACWUA	Arab Countries Water Utilities Association
AWC	Aqaba Water Company
BOO	Build-own-operate
BOOT	Build-operate-own-transfer
BOT	Built-operate-transfer
BTL	Build-transfer-lease
BTO	Build-transfer-operate
EDAMA	Energy, Water & Environment Productivity Association
EIB	European Investment Bank
EMARCU	Environmental Monitoring and Research Central Unit
EPC	Executive Privatization Commission
EPEC	European Public-Private Partnership (PPP) Expertise Centre
FEMIP	Facility for Euro-Mediterranean Investment and Partnership
GIZ	German Economic and Development Co-operation *Deutsche Gesellschaft für Internationale Zusammenarbeit*
GWP-Med	Global Water Partnership-Mediterranean
IBT	Increasing block tariff
IMF	International Monetary Fund
ISSP	Institutional Support and Strengthening Program of USAID
JIB	Jordan Investment Board
JOD	Jordanian dinar
JRSP	Jordan Red Sea Project
JVA	Jordan Valley Authority
KAC	King Abdullah Canal
KAP	Knowledge, attitude and practices
MENA	Middle East and North Africa
MoF	Ministry of Finances
MOPIC	Ministry of Planning and International Co-operation

MWI	Ministry of Water and Irrigation
MYWAS	Multi-Year Water Allocation System
NER	Network of Economic Regulators
NGO	Non-governmental organisation
NRW	Non-revenue water
OECD	Organisation for Economic Co-operation and Development
O&M	Operations and management
PIMAC	Public and Private Infrastructure Investment Management Center
PMU	Project Management Unit
PPP	Public-private partnership
PSP	Private sector participation
RDEP	Royal Department for Environment Protection
RFP	Request for proposals
RIA	Regulatory impact assessment
RoP	Rules of procedure
SEI	Stockholm Environmental Institute
SPV	Special purpose vehicle
UAE	United Arab Emirates
UfM	Union for the Mediterranean
VfM	Value for money
WAJ	Water Authority of Jordan
WEAP	Water and Evaluation Planning Tool
WEPIA	Water Efficiency and Public Information for Action Program
WUA	Water user association
WWS	Water and wastewater services

Executive summary

Jordan has experience in both small- and large-scale private sector participation (PSP) projects, from financing to operation and from greenfield to brownfield. The government is considering involving the private sector in even larger capital projects (in particular the Jordan Red Sea Project). PSP is seen as potentially making an important contribution to the development of Jordan's water sector, particularly to meet the upfront costs of investment and to transfer technical knowledge. Nevertheless, experience shows that to reap the benefits of PSP, a number of framework conditions need to be in place, in particular in relation to the regulatory framework, administrative capacity, financial sustainability and strategic planning of projects.

Despite the existence of a specific sector strategy that provides an overarching direction for the water sector and encourages PSP in water and wastewater services (WWS), the uncertainty surrounding the institutional and legislative framework both for water and PSP undermines the legal clarity, opportunity and stability of PSP in the water sector. The legislative framework for water is under revision. A public-private partnership (PPP) law is pending. A number of regulatory gaps, in particular in relation to tariff setting and monitoring of water service performance, create sources of risk for the private sector. Responsibilities for water and PSP are scattered across a number of institutions, whose responsibilities are in flux.

Jordan faces a fiscal crisis and a cost-recovery crisis, which threaten the financial sustainability of the water sector. Fiscal stress has led the government to accept a 36-month Stand-by Agreement from the International Monetary Fund (IMF), with significant reforms of public expenditure. There is, therefore, little domestic fiscal space in the short to medium term to meet capital and operating requirements in the water sector. At the same time, the tariff structure and level do not meet the growing costs in the sector. The current path is not sustainable and demonstrates the need for reforms that strengthen the water authorities' finances. There is scope for cost reduction, and enhanced operational and service efficiency. There is also a need to analyse the impact of tariff and subsidy structures to clarify the room for manoeuvre and ensure that the expected objectives of tariff policies are achieved and the implications of such policy are well understood.

The capacity of the various government bodies to engage stakeholders will be critical to the success of reforms. The Arab Spring's push has shaken the traditional role of "government" as the single decision-making authority while calling for a more "open government" and public consultation. This has important implications for the communication and buy-in of PSP projects that are under development. Until recently, accountability to the public in Jordan's water sector was rather weak. Stakeholder engagement, although not completely absent, has remained sporadic in both water resource management and water and wastewater services.

There is some urgency to act if Jordan wants to take advantage of the current window of opportunity with regards to the reform processes underway. Jordan has undertaken significant reforms of its water utility sector. If momentum is not maintained, the water system is likely to further deteriorate; popular discontent might intensify; and the clear benefits from the mega projects under consideration may not materialise. In support of the country's efforts to improve water governance and deliver on its ambitious pipeline of projects involving the private sector, this report discusses ways forward in three areas:

- managing PSP in a fiscally constrained environment through appropriate budget processes
- reducing the regulatory risk by supporting the development of a high-quality water regulatory framework
- enhancing stakeholder engagement to improve accountability and buy-in, and reduce project risks.

The establishment of strong PPP capacities, through for instance the establishment of PPP units, would help address the strategic planning gap. This should be accompanied by the development of the relevant methodologies – including value for money (VfM) and capital investment assessment – and the standardisation (to the extent possible) of contracts and other PSP documentation to address the capacity gap. The development of a strategic financial plan for the water sector would help to stimulate policy debate on the feasibility of various policy choices, and would contribute to phase out unsustainable policies, lower the costs of water policies and generate additional financial resources by attracting the attention of donors and lenders. Greater transparency in the budget procedures and documentation about the fiscal stress from the water sector (including from contingent liabilities) would allow better consideration of affordability constraints.

The establishment of a regulator overseeing the activities of utilities is considered by the Jordan authorities as the cornerstone of an improved regulatory framework for water services. In this perspective, the Project Management Unit (PMU) has a critical role to play. This will require improving the clarity of the PMU's roles and functions and ensuring prudent separation between the team in charge of regulatory activities and the one in charge of project development and PSP. The PMU's resources need to be aligned with its core work and there need to be appropriate accountability mechanisms to enhance the credibility of the regulatory framework. The corporatisation efforts need to continue and support the autonomy of water providers, while accountability of water services to customers is strengthened through greater transparency on a set of common performance indicators. More systematic use of the instruments of good regulatory policy in the water sector would help to improve the efficiency and accountability of the regulatory framework for water.

Improving accountability to the public in Jordan's water sector is a critical step to build the social acceptability of PSP. Strengthening the information base will be an important pillar to raise citizens' awareness on issues such as the state of national water resources and the real cost of water and wastewater supply services. A number of mechanisms and platforms for stakeholder engagement already exist that could be strengthened to build consensus on investment priorities, debate on tariff levels, prevent conflicts and improve service quality. This is, in particular, the case of the National Water Council, the Highland Water Forum, and customer satisfaction surveys carried out in selected governorates. A well-thought-through communication strategy should be developed that will help to identify citizens' needs and contribute to the Jordan National Strategy for Water.

Assessment and recommendations

Key diagnostic elements

The water sector in Jordan is under increased pressure. The Syrian refugee crisis has resulted in important strains on the sector, particularly in the northern governorates. This is compounded by rising electricity costs, which represent a significant share of water costs. Moreover, fiscal stress has led the government to accept a 36-month Stand-by Agreement from the International Monetary Fund (IMF), which contains significant reforms of public expenditure. There is, therefore, little domestic fiscal space in the short to medium term to meet capital and operating requirements in the water sector. Given the pressing financing needs, the rationale for harnessing private sources of finance and know-how is thus apparent.

Should the right governance conditions be in place, private sector participation (PSP) could play a role in the water sector of Jordan. Jordan has experience in both small- and large-scale PSP projects, covering various elements from financing to operation and from greenfield to brownfield. Projects have involved management contracts (Amman 1998-2007; Yarmouk, cancelled in 2012); service contracts for Madaba, Karak and Balqa; build-operate-transfer (BOT) projects for the As Samra wastewater treatment plant and the Disi Water Conveyance Project, where construction is nearly completed. The government is considering involving the private sector in even larger capital projects (in particular the Jordan Red Sea Project). PSP is seen as potentially making an important contribution to the development of Jordan's water sector, particularly to meet the upfront costs of investment and to transfer technical knowledge. However, experience shows that to reap the benefits of PSP, a number of framework conditions need to be in place, in particular in relation to the regulatory framework, administrative capacity, financial sustainability and strategic planning of projects.

Responsibilities for water and PSP are scattered across a number of institutions, whose responsibilities are in flux. The Ministry of Water and Irrigation (MWI) has overall responsibility for policies and strategies in the water sector, including water and wastewater supply and related projects, planning and management. The Water Authority of Jordan (WAJ) is responsible for water supply and wastewater services, as well as for water resource planning and monitoring, construction and operations. The Project Management Unit (PMU) regulates water supply and wastewater utilities, promotes private sector participation in the water sector and carries out tasks related to project planning and execution. The Jordan Valley Authority (JVA) manages water resources and provides bulk water in the Jordan Valley. The Ministry of Planning and International Co-operation (MOPIC) plays a role in facilitating the submission of project proposals to donors and in every aspect of donor funding to the sector. An economic committee of key ministers is responsible for overall project prioritisation and the Ministry of Finance is responsible for the budgetary management of PPPs insofar as they have budgetary impact. Institutional restructuring is underway to strengthen the regulatory framework and establish a fully operational PPP unit in the Ministry of Finance. A possible

transformation of the WAJ into a bulk water supplier is under consideration. This restructuring is taking place in parallel to continued efforts to corporatise the water operators to increase efficiency. The ongoing reforms are an opportunity to address the overlaps and gaps in the institutional framework for WWS and clarify the roles and responsibilities of all authorities.

Despite the existence of a specific-sector strategy that provides an overarching direction for the water sector and encourages PSP in water and wastewater services, the uncertainty surrounding the legislative framework undermines the legal clarity, opportunity and stability of PSP in the water sector. This uncertainty pertains to the direction of the water sector as a whole as well as the potential role for PSP. A comprehensive water law is meant to be developed by 2022, but there is debate about whether it is needed, and progress in preparing it has been rather slow. There are ongoing efforts seeking to improve the regulatory framework for water services, for instance through the establishment of an effective and efficient monitoring system for water operators. However, critical regulatory functions, such as tariff regulation, still present a number of gaps and remain important sources of risk for the private sector. A PPP Law has been under discussion for several years, which aims at strengthening the process of project selection and approval and ensuring that the tools to decide on project procurement and value for money are more systematically used in the public administration.

Jordan faces a fiscal crisis and a cost-recovery crisis, which hinders the financial sustainability of the water sector. The public funding situation is increasingly under strain, largely due to the WAJ's debt position and the rising operational and capital costs that are putting pressure on the operators' finances. The current tariff structure and level do not meet the growing costs in the sector. The current path is not sustainable and calls for reforms to strengthen the WAJ's finances and to make utilities more self-sufficient financially. The problem is compounded by the fact that the current budgetary system does not allow for a clear representation of the liabilities that the central government is carrying from the water sector. Donor funding is an important share of capital funding in Jordan's water sector. The question of its strategic use is a critical one. At the same time, there is scope to strengthen cost reduction and to enhance operational and service efficiency. There is also a need to analyse the impact of existing tariff and subsidy structures to clarify the room for manoeuvre and ensure that the expected objectives of tariff policies are achieved and the costs and implications of such policy well understood.

The capacity of the various government bodies to engage stakeholders will be critical to the success of reforms. The Arab Spring's push has shaken the traditional role of "government" as the single decision-making authority while calling for a more "open government" and public consultation. This has important implications on the communication and buy-in of PSP projects that are under development. Until recently, accountability to the public in Jordan's water sector was rather weak. Stakeholder engagement, although not completely absent, has remained sporadic in both water resource management and water and wastewater services. While the general public is aware of Jordan's water scarcity challenges, there is scope to discuss the affordability of water services and quality of service provision. Some platforms for doing so already exist, but remain dispersed. The experience of the Jordan Valley Authority and early attempts by water user associations to mobilise farmers and other water users in the Jordan Valley have the potential to become full-fledged platforms for stakeholder engagement. The use of the private sector to deliver public services is also controversial

among some Jordanians. A frank debate on how PSP can help address the challenges facing the Jordanian water sector is needed.

There is some urgency to act if Jordan wants to reap the benefits of the reform processes that are underway. Jordan has engaged in significant reforms of its water utility sector and started putting in place the conditions of increased financing flows in its water sector – through, notably, the corporatisation of water operators and the clarification of the legal framework for water and PPP. However, there are signs that some of the reforms may be slowing down. The country needs to go the extra mile to ensure that these reforms are completed. Otherwise, the risks are that water systems, already under stress, further deteriorate; population discontent intensifies; and the country fails to reap the economic and social benefits from the mega projects under consideration. The political cost of incomplete reforms is also high, including the resulting loss of credibility and the difficulty to relaunch the needed reforms in the future.

Main recommendations

This report identifies three main governance challenges faced by Jordan in delivering on its ambitious pipeline of water projects involving the private sector:

1. managing PPPs in a fiscally constrained environment through appropriate budget processes
2. reducing the regulatory risk by supporting the development of a high-quality water regulatory framework
3. enhancing stakeholder engagement to improve accountability and buy-in.

The Jordanian authorities are active in these three areas and a number of reform initiatives are underway. This report seeks to support the existing efforts by providing a set of practical recommendations, building on the compendium of principles and good practices developed by the OECD and international experience. These recommendations aim to inform the Jordanian authorities of the possible options available to them as they consider the measures and sequencing of reforms to support the PSP agenda in the water sector.

Improve budget processes to ensure value for money and support financial sustainability

The financial crisis faced by Jordan's water sector is an opportunity for change. It opens possibilities for the private sector to get involved and contribute to address the upfront costs of infrastructure projects and help increase operational efficiency. However, international experience shows that PSP can also lead to sub-optimal decisions and greater risks down the road. These risks include the management of contingent liability, the difficulty of ensuring VfM in the procurement and operation phases, challenges regarding whether the project is affordable for the budget/users and sustainable in the long term. To avoid these risks and ensure a successful PSP programme, a multiplicity of government institutions and methods need to be in place. In essence they concern the role of the Ministry of Finance as the budgetary guardian, the role of the PPP Unit to ensure VfM and other technical tests, the role of a strong decision-making forum to prioritise and drive projects forward, the ability for the procuring authority to prepare and manage a PPP, the competent monitoring of the regulating authority and the role of the supreme audit institution. A strong connection with VfM methodology and the ordinary budgetary process should be systematic to ensure that the PPP project and the overall PPP portfolio

is affordable and sustainable. In Jordan, the draft PPP Law that is being evaluated and the related establishment of a stronger PPP Unit by the government provide important opportunities to address some of the shortcomings in the current PPP framework.

This report identifies a number of actions that would support the current efforts at strengthening financial sustainability in the water sector and ensuring that PSP would bring value for money:

- Set up strong dedicated PPP capacities in the Ministry of Finance and in the Prime Minister's Office to address the strategic planning gap, through for instance, the establishment of PPP units. These units should be responsible for assessing all large infrastructure projects and compare the various ways for these to be procured with a varying extent of private sector financing and participation. Possible models could be found in Australia, South Africa or the United Kingdom. The units could be established so as to report to a committee consisting of a handful of relevant ministers, charged with signing off on major projects. While there is currently a unit in the Ministry of Finance, it requires more effort to be made fully operational.
- Develop a strategic financial plan for the water sector in Jordan. The plan should discuss the sources of revenues and the expected expenditures in the sector, as well as trade-offs and alternative scenarios to meet the costs. It should transparently state the real and total costs and liabilities the water sector entails for the public purse. This would help to stimulate policy debate on the feasibility of various policy choices. The plan would also contribute to phase out unsustainable policies; lower the costs of water policies by better targeting, sizing and investment sequencing; and generate additional financial resources by attracting the attention of donors and financiers.
- Develop a basic value for money methodology building on established practices. Such a methodology should, in principle, be published and explained in order to ensure that the procurement process is conducted in a fair and transparent manner.
- Develop a standard contract for PPPs to bridge the legal framework gap. In order to minimise risks and attract private sector investors, a model that is well proven should be utilised and divergences from such a model contract should be minimised. Evidence shows that adopting standard approaches and documentation help address capacity constraints.
- Establish a procedure to generate a contingent liability report and the annual publication of such a work as part of the budget documentation to create transparency about the fiscal stress that the water sector is placing on the general revenue. This could be combined with a stronger medium-term budgeting methodology.
- Make it standard procedure to appoint a dedicated professional transaction advisor, to be the main public side co-ordinator on each project. Realistically, given existing capacity, it is likely that Jordan will have to hire external transaction advisors, at least in the early stages of the PPP Unit. The transaction advisor should answer to the relevant line organisation. The advisor would be responsible for organising the procurement process within the relevant line organisation, co-ordinating the process, disseminating knowledge so that institutional memory and key capacities are developed within the procuring authority.

Develop a high-quality regulatory framework for water

A high-quality regulatory framework is not an aim in itself. It is a means to achieve the expected levels of service provision at an affordable cost for society. In its current format, a number of gaps in the Jordanian regulatory framework for water are likely to deter private sector participation and impede the country's efforts to make the most of it and achieve its water service policy objectives. Critical gaps include the somewhat dispersed and unclear responsibilities for oversight, an *ad hoc* approach to tariff regulation and patchy performance monitoring. Experience shows that a sound regulatory framework reduces the costs to business and enhances the chances that PPP/PSP projects bring value for money. Private investment will be facilitated if unnecessary red tape is removed and the legislative and regulatory framework is clear and stable. Tariff regulation is a critical determinant of the revenues in the sector that determine profitability for the private partners, but also long-term affordability for budget and users. The strengthening of the PMU's role and the measures underway to improve utilities' autonomy provide opportunities to address the gaps in the water regulatory framework that impede the country's efforts to leverage private sector financing and know-how. This report identifies a number of measures that would support these efforts:

- Embed more systematically the instruments of good regulatory policy in the water sector to improve the efficiency and accountability of the regulatory framework for water. This involves in particular: systematic consultation with regulated entities and the public on new regulation and regulatory decisions, and conducting regulatory impact assessment and *ex post* evaluation of existing regulations.
- Improve the clarity of the PMU's roles and functions, align its resources with its core work and establish appropriate accountability mechanisms to enhance the credibility of the regulatory framework. Specific actions include:
  - Ensure prudent separation within the PMU between the team in charge of regulatory activities and that in charge of project development and PSP.
  - Clarify the co-ordination mechanisms and the reform needed in the mandate and functions of other authorities. The PMU's Rules of Procedure should clearly state procedures for resolving possible overlapping functions and lines of responsibility/accountability.
  - Ensure that the resources available to the PMU are clear, secured over a sufficient period and in line with its mandate and responsibilities to allow it to carry out its tasks effectively, prudently and transparently.
  - Make the information collected by the PMU on the performance of water services publicly available.
- Continue the corporatisation efforts and strengthen the autonomy of water providers as they constitute the necessary interlocutors to the regulator. The establishment of a high-quality regulatory framework cannot be dissociated from the restructuring of the water sector. This involves taking steps to:
  - Professionalise the staff in the water operators, through notably careful selection of the members on the board of directors and of the managers, based on their professional competences and merits with a view to avoid potential conflicts of interest.

- Strengthen financial sustainability and cost-recovery of operators through a more technical approach to tariff setting. This should be accompanied by measures to ensure better use of tariff revenues. Making tariff regulation more transparent and disclosing information and technical reports on the use of revenues would help to build a more consensual understanding of the link between tariffs and the sustainability of service provision. Accompanying measures involve improving bill collection rates and strengthening the capacity of utilities to prudently manage the resources at their disposal.
- Address the gaps in performance monitoring through the development of a set of common performance indicators. The results from the indicators should be published in order to enhance the efficiency and performance of operators.

Enhance stakeholder engagement to improve accountability and citizen buy-in

The National Strategy for Water, launched in 2008, established a set of goals to raise awareness among the Jordanian public and decision makers, while committing the government to a number of targets whose implementation (tracking and effectiveness) remains unclear. These include, for example, working on awareness programmes and engaging further stakeholders in decision making. Despite this political commitment, stakeholder engagement, although not completely absent, has remained sporadic in water and wastewater services, while it is much more advanced for water resources management.

Improving accountability to the public in Jordan's water sector is a critical step to build the social acceptability of PSP. Stakeholder engagement can also exert a strong push to increase the accountability of private actors and public authorities. A menu of options should be considered to strengthen existing mechanisms when they are proven effective, and develop a larger consultation base that can support inclusive water policy, with a positive impact on the willingness to pay and financial sustainability of the sector. They include:

- Strengthen the information base to raise citizens' awareness on critical issues such as the state of national water resources, the real cost of water and wastewater supply services. This can be achieved through the following actions:
  - Establish a public, reliable and up-to-date database informing stakeholders about the costs and benefits related to water production, treatment and distribution. This implies setting up monitoring mechanisms to collect and update data from reliable sources and on a regular basis. Such data should cover, amongst others, consumption levels, the quality of drinking water and wastewater, as well as tariffs. This information will enable "informed" citizens to take part more effectively in discussions related to drinking water and sanitation.
  - Support relevant non-governmental organisations (NGOs) and universities that have a contribution to bring to the water sector. More regular consultation fora (expert panels, consensus conferences, focus groups) should be held before significant decisions are taken around a water reform or specific project, including PSP. In addition, a stronger science-policy interface can fuel new research and a better integration of new information and decision-making processes.

  - Produce the clear and evidence-based information on the potentially beneficial role that private actors can play in the water sector to dispel the myths and clarify what the private sector has (or has not) brought in Jordan based on previous experiences. Such an independent stock-taking and assessment exercise should clearly set out the upsides as well as downsides of change and raise awareness among priority target audiences (e.g. households) on the role, responsibility and contribution of private actors in the water sector. The communication of results could then help secure the political acceptability of PSP projects and contribute to rebuilding trust among the public of water supply.

- Strengthen existing mechanisms and platforms for stakeholder engagement to build consensus on investment priorities, debate on tariff levels, prevent conflicts and improve service quality. This implies actions on two fronts:

  - Strengthen multi-stakeholder platforms' contribution in engaging dialogue between NGOs, academics, and citizens and local governments and service providers on water-related issues. This can increase citizen buy-in, shared understanding of the issues at hand and greater inputs to the decision making. At present, most of the existing scientific and environmental NGOs are essentially geared towards water scarcity. In particular: *i)* water users' associations mostly involve farmers and could foster the engagement of other constituencies; *ii)* the role and agenda of the National Water Council, still in its infancy, could be defined more concretely; and *iii)* the Highland Water Forum, currently mostly focusing on water resources management, could extend its scope to raise awareness on the economic value of water as a resource, as well as on the cost of producing, treating and managing water services.

  - Engage customers more systematically. Customer satisfaction surveys, carried out in selected governorates, are a step in the right direction and should be rolled-out more systematically across the country. Results should be publicly disclosed and used to guide decision making. The creation of a customer (online) complaints system at the country level would help significantly collect and address complaints related to service requests, service improvements, comments on administrative decisions, etc. It would be a logical follow-up to the 2009 initiative by the Ombudsman to enable Jordanians to file complaints at post offices on public services.

- Set in motion a well-thought-through communication and capacity development strategy, going beyond awareness-raising, to help identify consumers' needs.

  - It should build on previous lessons and recommendations (e.g. from USAID work on the topic) and be supported by well-trained staff and marketing professionals to capture consumer needs and existing knowledge, attitudes and behaviours. This implies a definition of clear rules and procedures on relations between utilities, governments and the press, social media and the public (events, open houses, educational activities targeting the youth, etc.) Named spokespersons could mitigate fragmented communication across institutions, and between central and subnational levels.

- The Jordan National Strategy for Water should include a strategic pillar on communication to trigger further engagement from citizens and decision makers and improve the delivery and sustainability of water supply services. This would help navigate the social and political issues associated with water reform to integrate strategic communication programmes into the broader reform agenda.
- Such a communication strategy should target key stakeholders such as youth and women. Water sustainable behaviour requires better educational materials and comprehensive training materials for different grade levels. Women are central to household water management and hygiene and can provide critical feedback as customers to water suppliers and utilities. Future generations will also bear financial liabilities generated by current investment needs. International networks such as Women for Water Partnership and the Youth Water Network provide valuable learning opportunities.

Chapter 1

Governance challenges to private sector participation in the Jordanian water sector

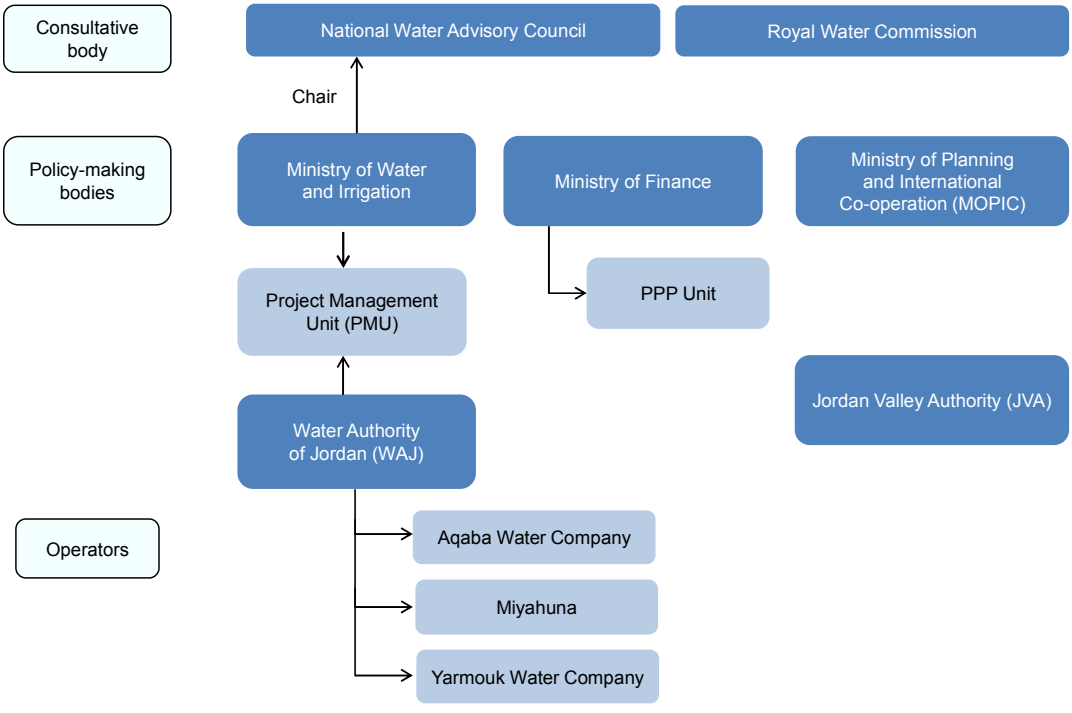
This chapter provides a diagnostic analysis of the governance challenges to private sector participation in the water sector in Jordan. First, the chapter provides a mapping of the main public agencies involved in various functions in the water sector, including institutions involved in private sector participation (PSP). It reviews the capacities of public authorities (and other entities involved in water and wastewater services) to carry out their activities. Second, the chapter provides an overview of the country's experience to date with PSP in water services, some lessons learnt and areas that could be avenues for further private sector involvement. Third, the chapter analyses the policy, legislative and regulatory framework for water PSP and identifies related challenges. Fourth, the chapter discusses the financial sustainability in the water service sector, including affordability for budget. Lastly, the diagnostic analysis takes stock of the existing mechanisms for ensuring the accountability of responsible authorities and private partners, including the ways and means to engage stakeholders in related policies and service provision.

Institutional roles and capacities: Who does what in relation to water private sector participation in Jordan?

The main institutions in water and private sector participation in Jordan and their evolution

Several institutions are involved in Jordan's water service sector (see Figure 1.1 and Annex 1.A2 for details). The water sector is quite centralised, with little or no roles attributed to municipalities or governorates for project planning and development, or for the delivery of water services. The Ministry of Water and Irrigation (MWI) has overall responsibility for the water sector, including water and wastewater supply and related projects, planning and management.[1] It formulates policies and strategies for the water sector. The Water Authority of Jordan (WAJ) was established as an autonomous corporate body with financial and administrative independence. As of today, the WAJ cumulates policy, regulatory and service provision functions, and is the asset owner for water systems. A Project Management Unit (PMU) was established within the WAJ in the late 1990s in the context of the implementation of the Amman management contract (see Annex 1.A3). The PMU is responsible for a vast array of functions related to the regulation of water supply and wastewater utilities, the promotion of private sector participation in the water sector, and project planning and execution. The Jordan Valley Authority (JVA) manages water resources and provides bulk water in the Jordan Valley in addition to its other non-water responsibilities, such as tourism development in its geographic domain. The Ministry of Planning and International Co-operation (MOPIC) plays a role in facilitating the submission of project proposals to donors and in every aspect of donor funding to the sector.

Figure 1.1. **Main institutions in water and private sector participation in Jordan**



Source: Author based on information provided in Annex 1.A2.

The traditional roles of PPP procurement are maintained in Jordan both at the technical and political level, but the ability to impact on the ground is unclear. As in many countries, overall investment procurement takes place in co-operation between the Ministry of Planning and the Ministry of Finance under the supervision of the Prime Minister's Office and Cabinet. The Ministry of Planning and International Co-operation is responsible both for the overall investment plan of Jordan as well as the interaction with the donors regarding the funding of such projects. Donor funding represents a challenge to the ordinary budget process where competing priorities should be reconciled based on the country's needs. In order to ensure that the donor community does not undermine this key process, the Ministry of Finance needs to play its role as manager of the budget process and fiscal guardian. In order to meet the specific skill requirements that PPPs/PSP represent, the Ministry of Finance has set up a PPP Unit. At the political decision-making level of government, the authorities responsible for PSP are the Cabinet's Economic Committee (Ministry of Finance, Ministry of Planning, Ministry of Public Works and others); and the Public Debt Committee, which have a say in the prioritisation and approval of capital projects. The various water-specific organisations play a key role in bringing forward projects. Without the support of public authorities, a project is unlikely to develop. Overall, many of the key roles for PPP/PSP procurement are present. It is not, however, entirely clear to what extent this process works in bringing new PSP/PPP projects forward.

The institutional framework for PPP/PSP is in transition, which could have implications for the water sector. The draft PPP Law proposes the creation of a PPP Unit within the Ministry of Finance and a Partnership Council whose secretariat would be the PPP Unit. A small PPP Unit currently exists in the Ministry of Finance, but it is still not fully operational nor does it have a strong legal mandate. Under the draft PPP Law, a Partnership Council chaired by the Prime Minister and comprised of several ministers (Finance, Industry and Trade, Planning and International Co-operation), the Governor of the Central Bank of Jordan and the Director of the PPP Unit will be created. This council will approve or reject viability reports for PPP projects, approve or refuse the commencement of the tender process, and approve winning bidders and the final PPP contract. These functions are similar to those executed by the Economic Development Committee, a high-level, inter-ministerial body that reviews and approves mega projects. These overlaps could generate confusion for decision making on PPPs. In addition, the PMU currently performs a number of tasks that relate to water PPP/PSP project development and may potentially overlap with functions of the future PPP Unit. The adoption of the draft PPP Law and its accompanying regulation, as well as of Rules of Procedure for the PMU should help clarify the institutional set up for PPPs.

The institutional roles played by the key water entities are also expected to evolve. The WAJ's refocus on bulk water and the reallocation of functions in terms of regulation and service provision is under discussion. The government of Jordan is considering establishing a dedicated regulator to oversee the utility sector, but its form remains uncertain. The Water for Life Strategy specifically mentions that the PMU will be transformed into a Water Regulatory Commission. The Institutional Support and Strengthening Program of USAID (ISSP) supports this goal.[2] For the time being, the PMU's mandate, roles, functions and powers are anchored in assignment agreements signed between the WAJ and the utilities of Miyahuna and Yarmouk[3] and the Rules of Procedure approved by the MWI. In addition, a document dated August 2013 defines the objectives and organisational structure of the PMU. The Rules of Procedure expand the functions of the PMU (performed under the assignment agreements) to the utility sector

and clarify the activities that it would need to undertake to make its functions possible. However, the sustained existence of the PMU in its current form remains uncertain as under the proposed changes in the Water for Life Strategy, the PMU is meant to serve only as an interim regulatory body until a more permanent entity is established. The planned water law and its implications for the WAJ Law could also recast the PMU's mandate.

The PMU faces a number of challenges in discharging its tasks as a regulator. Performance monitoring is a significant part of its mandate, according to the assignment agreements between the WAJ and the operators and the Rules of Procedure. The PMU monitors the performance of some operators against the same period in preceding years, but does not benchmark operators against each other. The PMU relies on the operators to furnish it with data and prepares its performance monitoring report based on this information. However, the PMU cannot vouch for the completeness, accuracy or reliability of the data (Project Management Unit, 2013). The PMU can make recommendations to the operators for improvements when they under-perform on certain indicators but it cannot compel them to act or impose sanctions or penalties on the operators if their performance is weak. Also, the PMU shares some of its functions with other entities, and this can lead to confusion and inconsistency in the regulatory framework. For instance, the WAJ and the PMU have overlapping regulatory functions for defining incentives for efficient use of water and investment, engaging with customers on the performance of operators, and consumer protection and dispute resolution between water operators and consumers (Table 1.1). The overlap in functions has sometimes caused stumbling blocks in contract implementation with the private sector. For instance, for the Amman management contract, the WAJ was initially in charge of administering and monitoring the contract, but two years into the contract the PMU took over these duties from the WAJ (El Naser, 2009).

Generally, capacity in the administration is strong. In particular, the public sector has strong technical skills for developing water projects as Jordan can draw from a large pool of engineers (more than 80 000 registered) (World Economic Forum, 2013). However, certain skills are lacking and need to be reinforced in order to meet the needs of a larger PPP/PSP programme. This is the case, in particular, of project development skills, namely: conducting feasibility studies, undertaking cost-benefit analysis and public sector comparator tests, risk evaluation and contract design (Responses to OECD Questionnaire). There is also little understanding of project finance and PPP/PSP transactions. A PPP/PSP Handbook is being prepared through EU technical assistance and is being translated into Arabic. There is also a problem of brain drain in the water sector, as many qualified staff members leave the administration to join the private sector in Jordan or in the Gulf states (USAID, 2012). As their mandate evolves and broadens, a number of authorities, including the PMU, will need to align their resources and build capacity in line with their new functions. KfW, the German development bank, provided a grant to the PMU to hire 12 to 15 new staff members by the end of 2013, 5 of which will work on regulatory functions.

The corporatisation of water utilities

A programme to corporatise the water operators has been underway since the late 1990s through the creation of commercially run water companies (Box 1.1). Following the end of the Amman management contract in 2007, the MWI and the WAJ established a private company, Miyahuna, to provide water and wastewater services in the Greater Amman region. Since November 2013, Miyahuna has started providing water and

wastewater services to Madaba as well. In the south, the Aqaba Water Company was established in the Aqaba Special Economic Zone as a limited liability company that is 85% owned by the WAJ and 15% by the Aqaba Special Economic Zone Authority. In 2010, the Northern Governorates Water Administration was transformed into a limited liability company, Al-Yarmouk Water Company (Yarmouk), with an independent legal status and separate finances and management (Performance Management Unit, 2010). Together, the utilities serve about 45% of the population.[4] They also account for 70% of water supply in volume terms and the WAJ accounts for the remaining 30%.

Table 1.1. **Allocation of policy and regulatory functions in the water sector in Jordan**

Function	Institutional responsibility
Policy design for private sector participation in water and wastewater services	
Setting policy objectives for private sector participation in water and wastewater services	Ministry of Water and Irrigation
Determining the overall financing and revenue models for water and wastewater services	Project Management Unit and Water Authority of Jordan
Overseeing the implementation of policy objectives for private sector participation in water and wastewater services	Project Management Unit and water administrations
Strategic planning of water and wastewater services projects	Ministry of Water and Irrigation, Project Management Unit and Water Authority of Jordan
Gathering information on the market for private sector participation in water and wastewater services and the relevant investment opportunities	Project Management Unit
Stakeholders' engagement on the objectives and modalities of private sector participation in water and wastewater services	Project Management Unit and Water Authority of Jordan
Regulation of water and wastewater services for private sector participation	
Tariff regulation	Water Authority of Jordan's Board of Directors/Council of Ministers, based on recommendation of the Project Management Unit
Definition and enforcement of quality standards for drinking water	Ministry of Health/Water Authority of Jordan
Definition and enforcement of quality standards for wastewater treatment	Ministry of Environment/Water Authority of Jordan
Definition and enforcement of public service obligations	Project Management Unit
Definition and enforcement of service standards	Project Management Unit
Development of performance indicators for water and wastewater services	Project Management Unit
Information and data gathering from operators	Project Management Unit
Supervision of contracts with private actors (contract development and monitoring)	Project Management Unit
Definition of incentives for efficient use of water and investment	Project Management Unit and Water Authority of Jordan
Engagement with customers on the performance of operators	Project Management Unit and Water Authority of Jordan
Consumer protection and dispute resolution between water operators and consumers	Project Management Unit and Water Authority of Jordan

Sources: Responses to the OECD questionnaire, bilateral interviews and the PMU's answers to the OECD Water Regulators Questionnaire.

Situations across utilities vary widely. The Aqaba Water Company serves all areas of the Aqaba governorate, which includes a population of 130 000 people (Aqaba Water Company, n.d.). Its customers are mainly large tourist and industrial companies and the residential users are generally more affluent than the rest of the population of Jordan.

Miyahuna provides water to 2.54 million residents of Greater Amman (representing 98% of the region's population) and provides wastewater collection services to just over 2 million residents of Greater Amman (about 80% of the region's population) (Miyahuna, 2013). It operates in a largely urbanised area with a well-established infrastructure e.g. for distribution pipes. Yarmouk supplies 250 000 customers who are quite dispersed in a mainly rural setting. It is also the most recently corporatised utility and is still reinforcing its operational systems to suit a more commercial orientation.

Box 1.1. **Corporatisation of Aqaba, Miyahuna and Yarmouk**

The Aqaba Water Company (AWC) was established in 2004 as an autonomous public water company, under Part 4 of the Companies Law of Jordan (1997). The AWC is in charge of water supply and sewerage services in the Aqaba governorate. The WAJ holds 85% of the shares of the AWC and the Aqaba Special Economic Zone Authority (ASEZA) holds the remaining 15%. The AWC has to issue an annual report to its shareholders at the end of each year; it is obliged to submit quarterly financial documents to its regulator, the WAJ (Assignment Agreement, Article 9). In addition, the AWC General Manager prepares an annual report on the management, finances and operations of the AWC. Commercialisation helped streamline cumbersome bureaucratic processes (e.g. for procurement); provided incentives for staff and management; decentralised technical and financial planning; strengthened customer orientation; and reduced long response times (USAID, 2011b); with the result that Aqaba has lower non-revenue water (NRW) and provides continuous water service through new and upgraded systems (USAID, 2011a).

The Jordan Water Company (Miyahuna) was established in 2007 as a limited liability company under the Company Law of Jordan. It is headed by a CEO that is appointed by the Board of Directors. It is fully owned by the WAJ and has a staff of 1 500 active employees (Miyahuma, 2013). The company provides water to 98% of the 2.6 million residents of Greater Amman and provides wastewater collection services to 80% of the residents (Miyahuna, 2013).

The Yarmouk Water Company: the Northern Governorate Water Authority (NGWA) was created in 2001 and was incorporated into the Yarmouk Water Company in 2010. The milestone concept of transforming the NGWA into a private operating company included the following steps (Dahiyat, 2007):

- management contract
- performance budgeting
- corporate governance
- reduction of NGWA staff
- financial and managerial autonomy
- improvements of procurement procedures
- organisational review
- preparation of five-year business plans.

However, there is no data about the status of Yarmouk on these points or where it stands in the process. The first step, the management contract, was terminated in 2012.

Sources: USAID (2011), "Institutional Support and Strengthening Programme (ISSP) institutional assessment report", USAID, October; USAID (2011), "Jordan Fiscal Reform Project II", *Water Public Expenditure Perspectives Working Paper*, USAID, October; Miyahuna (2013), *Business Plan 2013-2017: Planning for the Future*.

More efforts to achieve financial, legal and managerial autonomy are needed to transform the utilities into truly corporatised and commercialised entities. Although corporatised, the utilities do not have sufficient arm's-length separation between the utilities and the WAJ, their government reporting authority (USAID, 2012). Limited autonomy over decision making has been noted as an impediment to the efficiency of the AWC, Yarmouk and Miyahuna (USAID, 2011a). The WAJ exerts significant influence on their organisational, financial and operational activities. For instance, board members are appointed by the WAJ and employees of the utilities are subject to civil service rules on pay and employment terms, restricting the utilities' discretion on paying private sector-like remuneration and hiring and firing according to their needs. When Yarmouk was corporatised, staff members from the WAJ were seconded to the utility to reinforce its capacity. Because the staff retained their civil servant status, it is now difficult to hire additional staff on a different pay scale or to offer bonuses and competitive salaries to motivate and retain staff. Miyahuna and Yarmouk rely on the WAJ and donors for most capital investment and in Yarmouk's case, to also cover operation and maintenance. The utilities cannot ring-fence their earnings and reinvest them into their operational and capital needs. Instead, their revenues are pooled into general sector revenues, giving them little control over their financial planning.

The government is considering corporatising other governorates, but this raises substantial challenges. The amendment to the WAJ Law (Article 28) in 2011 gave it the right to corporatise utilities. The utilities in Zarqa and Balqa governorates are expected to be corporatised. A number of options are possible for these governorates: either both will be bundled as one corporatised entity; or Balqa could be added to Miyahuna or Zarqa would be a stand-alone corporatised company, but progress has been slow to date and the modalities have not yet been finalised. A plan is also underway to corporatise the southern governorates of Ma'an, Kerak and Tafielah. Restructuring and eventual corporatisation is underway in the middle governorates as well (USAID, 2011a). A detailed study of the possibilities for strengthening the commercial orientation of the southern governorates was undertaken by GIZ (KfW, 2013). Several issues and bottlenecks have been highlighted in this and other studies that will be important to take into account for future corporatisation efforts (Box 1.2).

Overview of private sector participation stocks and flows in water infrastructure

Overview of private sector participation in water and wastewater services to date

Most PSP has been in the form of management and service contracts for the provision of water services. Private water operators have been present in Jordan since 1999, starting with a management contract in Amman that was awarded to LEMA, a French-Jordanian consortium, for the management of water supply in Greater Amman. A performance-based management/lease contract was signed for the Yarmouk Water Company, a utility serving the northern governorates of Aljoun, Irbid, Jerash and Mafraq, in 2012 but it has since been terminated. Service contracts were introduced in the early 2000s, in the context of a German technical co-operation project. The contracts entailed outsourcing specific business processes to local private companies in order to support commercialisation and efficiency of service delivery in the operation and maintenance of water supply and wastewater disposal (Rothenberger, 2009). Under this approach, service contracts were signed for Madaba (2006-11), Balqa (2010-13) and Karak (2010-13).

Box 1.2. **Key challenges to corporatisation in the water sector of Jordan**

The water authorities in the governorates under the WAJ's service area have limited autonomy over key aspects of their operation. For instance, the WAJ controls procurement and stock management and governorates need the WAJ's approval for purchasing spare parts, meters and so on. This has led to serious delays in repairing leaks and upgrading faulty equipment, which has in turn slowed down operations and maintenance of the water system.

Another challenge relates to the management of personnel. The governorates have to make requests to the WAJ for any new hiring of staff. There is a lack of qualified technical staff due to high turnover. Incentives for staff performance are needed to retain staff and improve human resources. As an exception, Aqaba has managed to pay its staff annual bonuses and to adjust their salaries regularly (Aqaba Water Company, First Five-Year Achievements).

There is no systematic approach to operations and maintenance (O&M). Currently, O&M is done in an *ad hoc*, reactive manner whenever problems arise in the system, particularly in the southern governorates.

The reliability of payment for water services is not ensured because the WAJ as the public contractor for projects has, in some instances, not paid its bills on time. In the service contract with Kerak, WAK – the contracting authority – was late in disbursing its payments to the private company. Similar issues were faced with the Balqa service contract and the Yarmouk management contract.

Weak control over funding structures and processes. Most O&M funding for the southern governorates is secured from the WAJ and most funding for capital projects is derived from donors and the WAJ. Budgeting processes in the water authorities in the southern governorates do not have any provisions for maintenance.

Sources: USAID (2011), "Institutional Support and Strengthening Programme (ISSP) institutional assessment report", USAID, October; KfW (2013), "Institutional study options for the southern governorates; and Aqaba Water Company, Five Year Achievements", http://aqabawater.com/eng/?page_id=273.

The government has also embraced larger scale PSP modalities. In 2002, the government of Jordan signed a 25-year build-operate-transfer (BOT) agreement for the design, construction and operation of the As Samra wastewater treatment plant, which was the first PPP for the financing and management of a public infrastructure project in Jordan (Multilateral Investment Guarantee Agency, n.d.). Two other BOT contracts have been successfully procured in Jordan's water sector. One was awarded in 2012 for the extension of the As Samra wastewater treatment plant's capacity from 267 000 m^3 a day to 365 000 m^3 a day. The project involves a 3-year construction phase and a 22-year operational phase. All the water from the extended plant will be reused for irrigation. The Disi Water Conveyance project involves extracting 100 million m^3 of water a year from the 3 000 year old Disi aquifer and transporting it to Amman over a distance of 325 kilometres under a BOT project of more than 25 years. The new supply from Disi will allow Amman to receive a more regular water supply. GAMA Energy was contracted in 2007 to develop the project and financial closure was reached in 2009. The project is funded by a combination of Jordan government funds, donor loans and investment from the private company (General Electric, 2009). Construction is nearly complete, with interim water delivery having commenced in July 2013.

A number of mega projects are under development, including the Jordan Red Sea Project (JRSP). Following a complete change in the design, the project involves two components: a desalination plant at Aqaba providing water also to Israel and a

transfer of water from Israel to the north of Jordan. A special purpose vehicle, the JRSP Company, was set up by the government to plan, construct, finance and operate the project and a tendering process to select a master developer, which would be a partner to JRSP Company, was launched in 2009. JRSP is run as a private company and is overseen by a special government commission that facilitates government actions needed for the project (Jordan Red Sea Project, 2011). As of October 2013, the master developer had not yet been selected, although a list of six qualified candidates had been made.[5] In addition, a bulk water supply project to transport water from the Wadi Al Arab area to the city of Irbid in northern Jordan was under discussion as of March 2013 (FEMIP, 2013). The project was conceived of in the Water for Life Strategy to generate 25 Million Cubic Meters of additional water resources a year from the Northern Jordan Valley. The project is expected to improve the continuity of supply but requires the distribution system to be improved to reduce physical losses through leakages. However, the procurement method for the project – either traditional public works or a PPP/PSP – has yet to be decided. Looking ahead, the Action Plan to Reduce Water Sector Losses developed by the MWI in 2013 constitutes a good basis to identify other projects where the private sector could add value (see below the section on "Policy and legislative framework").

Table 1.2. **Private sector participation projects to date**

Projects	Year	Investment amount	Status
LEMA Management Contract (Amman)	1998-2007		Completed
Build-operate-transfer (BOT) for the As Samra wastewater treatment plant	2002-2008	USD 169 million: – USD 14 million Ministry of Water and Irrigation – USD 77 million private sector – USD 78 million USAID	Completed
Madaba service contract	2006-11		Completed
Micro private sector participation (service contract) for Karak	2010-13		Underway
Disi Water Conveyance Project (BOT)	2009-38	USD 951 million	Underway (construction nearly completed, interim water delivery has commenced)
Micro private sector participation (service contract) for Balqa	2010-13		Underway
Yarmouk Water Company management contract	2012		Cancelled
BOT for the extension of As Samra wastewater treatment plant	2012-37	USD 223 million: – USD 20 million Ministry of Water and Irrigation – USD 110 million private sector – USD 93 million USAID	Under construction (planned until 2015)

Sources: Responses to the OECD questionnaire; Pérard (2008), Private Sector Participation and Regulatory Reform in Water Supply: the Southern Mediterranean Experience, OECD Development Centre, Working Paper No. 265, January 2008; MCC (2012), MCC Completes First Major Build-Operate-Transfer Project Financing In Jordan, MCC in Action, Millennium Challenge Corporation, September 11, 2012; Global Water Intelligence (GWI) (2002), Volume 3, Issue 9, September 2002, As-Samra Wastewater BOT signed, www.globalwaterintel.com/archive/3/9/general/as-samra-wastewater-bot-signed.html; Presentation by Alex Russin, MCC Resident Country Director, 2014 Water in the Arab World Conference, Amman, February 2014.

Lessons learnt and opportunities for additional private sector participation

Strong political will to make projects with the private sector work has contributed to the success of the service contracts, although their further development faces a number of constraints. Under the Madaba contract, revenue went up from JOD 0.9 million (USD 1.27 million) in 2005 to JOD 1.8 million (USD 2.5 million) in 2008 (Engicon,

2010). The billed amount increased by 80%, bill collection increased by 84% and outstanding invoices as a percentage of the billed amount decreased by more than 45% (Rothenberger, 2009). The net benefit for the WAJ, the public contracting authority, after deducting the costs of the private company's services was almost JOD 1 million (or about EUR 1.04 million) (Rothenberger, 2009). As a result, the WAJ's financing standing was strengthened compared to the period before the contract was signed. The Project Management Unit (PMU) deemed the first experiences with service contracts (so-called micro PSP) to be successful, and urged the WAJ to develop a fast-track strategy and action plan to expand micro PSP throughout the country.[6] However, the Madaba pilot project highlighted the lack of competent local private companies that can carry out micro PSP contracts and other advanced forms of PSP (Rothenberger, 2009). The contract included an incentive scheme that awarded a percentage of the additional collected revenue compared to the base year to the private sector. However, the private contractor reported that the contract would have benefited from more well-defined incentives, not only for revenue increases but for other performance measures as well, such as the reduction of water losses (Rothenberger, 2009).

In the case of the Amman management contract, the PSP has proven relatively successful but limited by diverging interpretations or expectations on the terms of the contract. While water supply doubled from 36 hours a week at the start of the LEMA contract to an average of 75 hours a week by the contract's close in 2006, other targets proved difficult to meet (Pérard, 2008). In particular, LEMA did not meet the target for invoices paid, in part because it did not have the authority to compel government agencies to pay their bills, whose arrears amounted to USD 5.7 million (Suleiman et al., 2008). Moreover, the capital investment project that the government was meant to implement to reduce physical leaks in the distribution system did not materialise, rendering it difficult for the private contractor to reduce non-revenue water losses, as specified in the contract (Suleiman et al., 2008). There were also different interpretations about what the obligations in the contract entailed. For instance, the contract stipulated that the private contractor should supply water for 24 hours a week or more per subscriber but the private contractor argued that it had to provide water supply for 24 hours or more a week per zone (Suleiman et al., 2008). This suggests the need for better clarification of contract terms and close supervision to ensure they are being met.

The experience of the management contract for Yarmouk illustrates the importance of realistic contract clauses. The Yarmouk contract stipulated that the private partner would be paid by a combination of a fixed payment and a variable performance-based payment. The government of Jordan and KfW agreed to each make a contribution to cover the payment. However, the contract was derailed by a number of factors. First, the government was not able to honour its payments and was about six months in arrears in paying Veolia its fixed fee when the company decided to pull out. Secondly, the staff at Yarmouk went on strike soon after the contract was concluded, objecting to a requirement that 25% of staff be moved from Yarmouk to the WAJ as part of the terms of the contract. Thirdly, according to an independent auditor that assessed the contract, the performance-based component was unrealistic. The performance criteria included energy efficiency improvements, operating cash surplus, decreases in non-revenue water (NRW) and continuity of water sales. The targets were quite ambitious for the newly corporatised Yarmouk Water Company, which had one of the highest rates of NRW in the country, significant financial constraints and a large, dispersed service area. The contract was terminated in 2012 and an amicable settlement was underway as of October 2013.

There is some evidence of weaknesses in planning larger scale PPP projects in Jordan. For example, the Red-Dead project was originally estimated to cost JOD 10 billion (USD 14 billion), but to make it more feasible, it was divided into three parts that were meant to be implemented in three phases. There were also significant concerns about the impact of mixing Red Sea and Dead Sea water, particularly as about 400 million m^3 of brine would be deposited into the Dead Sea, with potentially harmful effects on the quality and appearance of the Dead Sea and the possibility of other unknown impacts (World Bank, 2012a). Ultimately, it was decided that the project was neither feasible nor affordable and the tendering process was cut short after bids had already been submitted for the master plans at the beginning of 2012 (Global Water Intelligence, 2013). This experience suggests that better upstream project planning and due diligence is needed to ensure that project impacts can be managed and that the financial basis of the project is sound.

There have been challenges with large-scale BOT projects, which inherently imply a lengthy process between project identification and implementation. Often, several experts and decision makers are involved across all hierarchy levels, including up to Cabinet level, as well as high-level officials from major donors and foreign governments in some cases.[6] The prolonged negotiations for the extension of the As Amra plant were due to several factors according to the private partner involved, including the indirect effects of the Arab Spring, lack of political continuity owing to frequent Cabinet changes and difficult economic conditions (leading to several interest rate increases over 2012) (De Pazzis, 2014). In contrast, micro PSP contracts have a reduced bureaucratic process and allowed speedy delivery of results.[7] Learning from the experiences of other projects, in particular on the possibility and opportunity to scale-up successful practices, will be important. For instance, a suggestion was made that once the contract for the Wadi Al Arab bulk water supply project is signed, the same contract template can be used for other projects (FEMIP, 2013).

Given the high rates of coverage, one area where private involvement could be beneficial is in enhancing the performance and efficiency of the existing water and wastewater system (Rothenberger, 2009). There is a need to address irregular water supply, which affects almost all urban areas except Aqaba and a few places in Amman (USAID, 2012). Water cuts and reconnections have strained the distribution system and have contributed in part to the rise in NRW. For instance, Aqaba, which receives continuous water supply, has lower non-revenue water (35%) compared to the national average (44%) but there remains scope to reduce it even further (Jordan Red Sea Project, 2011). In Jordan's second-largest governorate, Irbid, about 20% of the water is lost during distribution and a further 20% is lost through faulty billing, meter readings or bill collection (FEMIP, 2013). This is an area where the private sector could intervene, for instance to rehabilitate faulty pipes and to reduce the commercial losses. However, contracts with the private sector often assign responsibility for either administrative losses or physical losses and it is difficult for the private partner to be effective in focusing on just one aspect of it. Future contracts could bundle the two.

The private sector is increasingly considered for the development of non-conventional water sources, including through desalination of seawater and brackish water. The WAJ outlined the list of desalination projects to be developed in 2011, plus their associated costs, but does not specify the sources of funding for meeting these costs or the nature of management (Water Authority of Jordan, 2011). Private financing is envisaged for some projects, such as the Red Sea-Dead Sea conveyance project and public capital and donor aid is also being targeted (USAID, 2012). The procurement process for the As Samra

extension project in 2013 attracted a number of local lenders, which indicates willingness to lend for long tenors (up to 20 years) from the local private sector (FEMIP, 2013). The MWI envisages a clear role for the private sector in separating water from sludge and treating sludge for uses such as producing energy through burning. It has set a goal of increasing the number of management contracts involving the private sector to eight by 2016 (Ministry of Water and Irrigation, 2013b).

Policy, legislative and regulatory framework

A policy framework conducive to private sector participation

Involving the private sector in water and wastewater services is an important part of the government's strategy to develop the water sector in Jordan. The "Water for life" Strategy (Box 1.3) encourages an expanded role for the private sector in WWS and allows BOTs to be used as a possible modality. A comprehensive National Water Master Plan was adopted by the Ministry of Water and Irrigation in 2003, which helped to make Jordan one of the most advanced countries in the region in terms of an enabling environment, policies and strategic planning for the water sector (SWIM-SM, 2012). The Water Master Plan focuses on groundwater and water resources management. Strategic Plans for Water Supply and the Sewage Sector (2007-12) have also been elaborated.

Box 1.3. **National Water Strategy for Jordan ("Water for Life" Strategy: 2008-2022)**

The "Water for Life Strategy" is Jordan's main policy document for the water and sanitation sector. It was formulated by the Royal Commission for Water and adopted by the Council of Ministers. It includes: a vision for the water sector for 2022 and core principles to guide the development of the water sector up to then. The strategy covers water demand, water supply, institutional reform, irrigation, wastewater and alternative water resources. It outlines the future challenges of the water sector in each of these areas and sets targets for each of these parameters, such as for decreasing groundwater sources from 32% of the water supply in 2008 to 13% by 2022; and reducing water distribution losses from 40% in 2010 to 25% by 2022. It promotes demand-side management of water resources and raising consumer awareness about the value of water. It also promotes the use of wastewater treatment, desalination, brackish water and rainwater harvesting to increase the amount of available water resources. Specific projects, such as the Disi water conveyance and the Jordan Red Sea project, are mentioned.

An action plan with concrete goals and time frames for meeting them was elaborated to accompany the Water for Life Strategy. It includes several projects to be developed by 2022, including rehabilitation, expansion and upgrade of water and wastewater facilities; new constructions to develop conventional and non-conventional water sources; and improvements to water network and transmission systems.

Source: Ministry of Water and Irrigation, (2009), "Water for Life: Jordan's Water Strategy 2008-2022", Ministry of Water and Irrigation.

Despite the Water for Life Strategy and Action Plan, there is no mechanism to facilitate monitoring of the progress against targets and no accountability for failing to meet targets. Moreover, the strategy was not accompanied by a holistic project pipeline that takes into account the sources of funding and the contribution of the private sector. In an attempt to develop a pipeline of projects and activities, an Action Plan to Reduce Water Sector Losses was developed by the MWI in 2013, which sets out the government's priorities over the four-year period along six areas (Table 1.3). The plan is

a detailed blueprint that lists projects and activities in these six areas according to the geographical location, financing party, costs and projected expenditures. In the case of four objectives, funding sources have been identified: "developing and obtaining new water resources", "raising the efficiency of water supply and distribution", "expanding and improving wastewater services", "decentralising water services and increasing PSP". The other two – raising financing efficiency and improving energy efficiency; and addressing impacts of climate change on the water sector – have no project pipeline or funding sources.

Table 1.3. P**riority projects for the water sector (2013-16)**

Area	Activities	Objectives	Total projected expenditure (thousands JOD)	Financing party
Developing and obtaining new water resources	– Disi water conveyor – Rehabilitation of pumping stations – Desalination stations	Increase per capita water supply from 83/litres/day to 112/litres/day	206 607	Mainly public budget/Water Authority of Jordan
Raising the efficiency of water supply and distribution	Network rehabilitation and water loss reduction projects	Reduce non-revenue water from 45% in 2010 to 35% in 2016	424 847	Mainly public budget/ Water Authority of Jordan with some grants and loans from development partners
Expanding and improving wastewater services	Constructing more water and wastewater networks and treatment plants	Increase proportion of households connected to wastewater networks from 65% to 71% Increase proportion of reused treated wastewater to 95%	374 376	Mainly public budget/ Water Authority of Jordan
Decentralising water services and increasing private sector participation	Implementation of build-operate-transfer contracts; private sector involvement in the management of water utilities	8 management contracts for water services with the private sector by 2016	103 604	Mainly public budget/ Water Authority of Jordan

Source: Ministry of Water and Irrigation (2013), "Structural Benchmark: Action Plan to Reduce Water Sector Losses", Ministry of Water and Irrigation.

The legal framework for the water sector and for private sector participation is incomplete and in transition

There is currently no specific water law for Jordan, although the Water for Life Strategy set a goal of elaborating a new water law by 2022, which would incorporate all sector-relevant laws under one umbrella (Ministry of Water and Irrigation, 2009). The Water Authority of Jordan Law (1988) forms the primary legal document for the water sector. It was amended in 2001 to include Article 28, which allows the WAJ to delegate its functions or projects to public and private entities; to corporatise utilities; and to enter into BOT contracts and other modalities with the private sector (USAID, 2012). The WAJ Law is again currently under revision to include an article that strengthens the powers of local authorities to sanction and take action against anyone that vandalises water wells, pipes or meters. The revision should help reinforce government efforts to reduce water losses. However, there are conflicting perceptions about whether the WAJ Law provides enough of a legal framework for the water sector or whether a water law should be promoted instead. A water law could redefine institutional functions in the sector and

support the implementation of water policies. However, progress to date on the water law has been slow and there is no consensus that the water law is needed at all.

The general legal framework for PPPs is developing but is proving difficult to put in place. Initially, the Privatization Law (no. 25 of 2000) provided a framework for private sector activities in all sectors of the economy, allowing for BOT, build-transfer-operate (BTO), build-own-operate (BOO) and build-operate-own-transfer (BOOT) modalities, but its focus on the sale of state-owned enterprises did not give a sufficient legal basis for private sector participation in water and wastewater services. Subsequently, it was never used in the water sector. Instead, Article 28 of the WAJ Law (2001 amendment), which allows for delegation of the WAJ's functions to private entities, has served as the basis for private sector contracts in the water sector. A PPP law, intended to improve the basis for PPPs and in particular to frame the use of PPP modalities (FEMIP, 2011), has been under development for several years. However, the process has been long and there have been a number of modifications and pitfalls along the way.

Reasons for the chaotic process involve institutional uncertainty and the lack of a clear and strong champion for the law, which is also related to the high political turnover that has made it challenging to sustain political will to push reforms of the legal and policy framework for PSP. Initially, the Executive Privatization Commission (EPC), a body established under the Privatization Law, was meant to facilitate privatisation efforts. The EPC was dissolved in 2011 following a government decision to do away with independent agencies. After the EPC, the Ministry of Trade and Industry and the Jordan Investment Board (JIB) emerged as the leading agencies for advancing the law, but the JIB is also scheduled for dissolution. Two changes in government in 2011 further disrupted the PPP Law's progress. The latest draft of the law (dated 14 June 2013) assigns the Ministry of Finance as the host of the PPP Unit and it is expected that the Ministry of Finance will assume the mantle of the PPP agenda in Jordan henceforth.

As of March 2014, a new draft of the PPP Law (Box 1.4) had been finalised by the Legal and Opinion Bureau, approved by Cabinet and sent to parliament. Beyond the time that the ratification of the law may take, there is uncertainty about whether the new PPP Law will supersede existing sector laws, such as the WAJ Law, which have provisions for PSP, or whether both laws will be allowed to coexist.

The regulatory framework for the water sector faces gaps that impact the success of private sector participation

Based on feedback from the private sector to the OECD Questionnaire on the Governance Challenges to PSP in the Water Sector of Jordan (see Annex 1.A1), uncertainty of the regulatory framework for private sector participation in WWS constitutes an important challenge for the involvement of private companies. Change in regulations as well as in contract terms are also perceived as high risks impacting the involvement of private companies. There are several gaps in the regulatory framework.

There is evidence of inappropriate enforcement of quality standards.[8] A World Bank report found that environmental degradation costs the Jordanian economy 2.35% of GDP annually and identified water pollution as one of the contributing factors (World Bank, 2010a). Only an estimated 28% of the total effluent is treated and an estimated 40% of industrial wastewater is discharged to the public sewer network, although licensing for discharges is weak and there are considerable rates of non-compliance with applicable regulations (World Bank, 2010b). Monitoring of the effluent quality for the 60% of wastewater not disposed of in sewers is limited and does not adequately cover certain

toxic substances (World Bank, 2010b). Levels of E. coli and total dissolved solids (TDS) concentrations at the Zarqa junction of the King Abdullah Canal (KAC), which is located upstream of important irrigation schemes in the Jordan Valley – have been, in recent years, well above the respective quality norms (World Bank, 2010b). Moreover, there have been a number of incidents involving contaminated drinking water in the past.[9]

Box 1.4. **The draft PPP Law**

The draft PPP Law (version dated 14 June 2013) includes a number of provisions that could have implications for private sector activities in the water sector:

- It defines a PPP project as a long-term commercial arrangement between a contracting authority and a private partner. The private partner can design, construct, finance, operate and maintain infrastructure, equipment or intangible assets in order to provide public services.
- It creates a Partnership Council comprised of several ministers and chaired by the Prime Minister, to approve projects, tendering processes and final contracts. Line ministries (for instance the MWI in the water sector) can attend its meetings but are not authorised to vote on any decisions.
- It creates a PPP Unit within the Ministry of Finance which, among other tasks, registers priority projects in the PPP project pipeline; reviews feasibility studies and viability reports; and provides contracting authorities (such as the MWI and/or the WAJ in the water sector) with technical support during the entire project lifecycle.
- It sets out the role of contracting authorities, which are tasked with identifying, prioritising, developing, procuring, negotiating and implementing PPP projects. Typically, under this law, the MWI and/or the WAJ as contracting authorities would have to develop the project concept note, feasibility study, viability report and bidding documents for any water PPP projects. The contracting authorities also have to ensure that there are sufficient resources for overseeing the implementation of a PPP project.
- It gives the private partner the right to receive or collect tariffs or payments either from end-users or from the contracting authority, according to the rates set forth in the PPP contract. The contract can define how tariffs or payments may be adjusted and whether, and how, the private partner can make payments to the government for carrying out the project.

Source: Draft PPP Law (version dated 14 June 2013).

Tariff regulation remains a highly political endeavour and the approach remains *ad hoc*. Tariffs are ultimately approved by the Council of Ministers, with several other entities such as the WAJ, JVA, MWI and PMU able to make recommendations. There is also some role for operators to input in the tariff process. For instance, Yarmouk's Assignment Agreement states that the company can make recommendations to the WAJ on tariff rates and fees for service provision in its service area and the WAJ can transmit this information to the Cabinet of Ministers for the latter's ultimate decision. For the latest tariff increase in 2012, an Inter-Ministerial Tariff Committee was convened to prepare an updated tariff policy for Jordan and to present it to the Cabinet of Ministers for its approval. However, neither the proceedings of the Inter-Ministerial Tariff Committee nor those of the Cabinet were transparent. In addition, there is no established methodology for tariff setting. The Water for Life Strategy mentions that prices will be based on water quality, end-users' profiles, and the social and economic impact of prices on the various economic sectors and regions of the country (Ministry of Water and

Irrigation, 2009). However, there are no details on how these factors are considered in reality. There is no regular schedule for revising tariffs although the Water for Life Strategy (goal 4) states that the government will revise the bulk tariff-setting mechanism to reflect the real value of water and will set municipal water and wastewater charges at a level that will cover the cost of operation and maintenance (goal 7) by 2022.

Monitoring of operators has become an important feature of the regulatory framework for water services, but needs to become systematic and to cover the overall sector. As part of a strategy to promote efficiency, cost-consciousness and results-driven operations among operators,[10] the PMU has developed a set of ten key performance indicators to use in monitoring the two utilities that it regulates – Yarmouk and Miyahuna (Annex 1.A4). Aqaba Water Company (AWC) has its own set of "performance standards" that are defined in its assignment agreements (Annex 1.A4). However, there have been challenges with monitoring the utilities. The quality of the data is sometimes problematic, particularly with Yarmouk. The information is not used with a view to benchmark utilities' performance or incentivise better performance. Neither the performance indicators nor the reports on the utilities' performance are available to the public via accessible media, such as on the website of the utilities or the PMU. The PMU's ambiguous role in monitoring the AWC may also be problematic. Article 12.1.1 of the Assignment Agreement between the WAJ and the AWC states that the AWC is regulated by the WAJ and the Aqaba Special Economic Zone. The PMU's Rules of Procedure state that the WAJ and the PMU "shall use their best efforts to regulate [the] AWC". In addition, beyond the utilities, there is no performance monitoring in WAJ-owned governorates. Data for these governorates is collected through various methods and there is no systematic management and co-ordination to disseminate it (KfW, 2013). Ensuring a streamlined and uniform performance monitoring system for all utilities and governorates is therefore much needed.

So far, regulation of private sector participation has mainly been carried out by contract, but is showing limits due in part to the multiplicity of responsible authorities. The government of Jordan defines the obligations of private operators in the contract. In the management contract between Yarmouk and Veolia, the WAJ, as the owner of the utility, was explicitly named as the supervisor of the contract. The management contract was performance-based, i.e. the contractor receives payment based on its performance and has penalties for failing to meet its targets. For the Madaba service contract, the PMU was explicitly responsible for monitoring the terms of the contract, with a particular focus on the revenue collection performance of the private contractor (Rothenberger, 2009). For the Disi project, the MWI/WAJ is the responsible authority. A consolidated monitoring report is prepared every year including the baseline data for projects, water supply and consumption data and other data related to basins, flora and fauna affected by the project (European Investment Bank, 2009). As regulator, the PMU has a *de facto* role in following the implementation of the contract when it comes to the three corporatised water utilities, especially on issues that could bear on the performance of the utilities overall.

Achieving financial sustainability and the link to the budget process

Public funding and debt sustainability

The central government and donors are the main actors for financing the WWS sector in Jordan. The government has allocated 16.5% of the 2011-13 Executive Development Program funds for the water and wastewater sector, more than any other sector, which

highlights the sector's importance to the country's economic development (Ministry of Planning and International Co-operation, 2011). Expenditure for the water sector, including from the MWI, WAJ, JVA Aqaba Water Company and Miyahuna amount to about JOD 500 million (about USD 705 million) a year (USAID, 2011b). Between 2002 and 2011, donors provided an average of JOD 104 million (USD 147 million) and indeed, the water sector receives more funding from donors than any other sector in Jordan.[11] Donor funds are mainly in the form of grants (65%) and loans (35%).

Donors have provided significant financial and technical support from the inception of private sector activities in Jordan's water sector and have helped lever private funding. The World Bank, for instance, provided the MWI with a USD 5 million loan to support the implementation of the Amman management contract in 1999. The German government funded the Madaba management contract, together with the MWI and the WAJ, as part of an effort to enhance the management of wastewater treatment plants. For capital investments, donor funding has proven to be pivotal to attracting private financing. An innovative funding structure that combines private, local and central government, and donor financing was put in place for the As Samra BOT contract, combining 46% of funding from USAID, 45% from the private sector, including a consortium of banks and the project special purpose vehicle, and 8% from the government of Jordan (Dégremont, n.d.). The deal was hailed as an innovative funding structure that had never been used anywhere in the Middle East at the time the deal was made (Multilateral Investment Guarantee Agency, n.d.). In 2013, the Gulf Co-operation Council (GCC) gave USD 5 billion worth of funds for the development of capital projects over five years. However, the rate of absorption of the GCC funds has been slow and in the first year, only 10% of the funds had been used and there are suggestions that the government has not fully reflected on how it will make the most of this funding.

Public financing in the water sector has been increasingly under strain in recent years. On the one hand, operating and capital costs have been increasing in the water sector, mainly because of a doubling in electricity costs from mega (energy-intensive) projects such as Disi and interrupted gas supplies from Egypt. The electricity tariff for water pumping has increased by 316% for the period between 2010 and 2017 (Ministry of Water and Irrigation, 2013a). The water sector accounts for 15% of total energy use in the country and the energy crisis has adversely affected the operating and capital costs of water projects (Adam Smith International, 2013). On the other hand, revenues have not matched the increases in operating and capital costs because tariffs have remained low, undermining the ability of the sector to meet cost recovery. Water sector subsidies accounted for 20% of the government deficit in 2010 (Fiscal Reform II Project, 2012).The refugee crisis is putting additional pressure on the water sector. Since the beginning of the Syrian civil war, there has been a massive influx of refugees from Syria, amounting to 480 000 people, of which 125 000 are in camps and the rest in local communities. The increase in population has severely strained water systems in Jordan, resulting in: a doubling of the service population in some areas; reduced levels of water availability; more households creating their own private water and sanitation facilities and buying water from private markets; and a doubling of the price of water sold from tankers. There have also been rising tensions between Jordanians and refugees in host communities as a result of reduced water availability, among other factors (Ministry of Water and Irrigation, 2013a).

The financial situation of the WAJ has been worsening over the past few years, reducing the fiscal space for supporting the water sector's needs. The WAJ's debt has been soaring, from JOD 0.7 billion (USD 980 million) in 2010 to a projected

JOD 1.9 billion (USD 2.7 billion) by 2016 (USAID, 2011b). The WAJ added 1.1% to the government's extra budgetary losses (IMF, 2012), and together with NEPCO, the electricity utility, contributed to the increase in gross public debt from 67.1% of GDP at the end of 2010 to 70.7% of GDP at the end of 2011 (IMF, 2012). The WAJ's revenue receipts, which are derived from water sales, fell below estimates by 21% in 2010-11 and there are indications that its projections of revenues from goods and services for the 2012-13 period are overly optimistic (USAID, 2011b). There is a strong probability that the Ministry of Finance will have to cover the WAJ's debts, as it previously did in 1999 when it assumed the WAJ's JOD 360 million debt. However, wiping off the WAJ's debt would be a stop-gap measure and would not address the underlying issues in the WAJ's financial set-up. For one thing, the WAJ sells bulk water at subsidised rates to the municipalities. Also, the WAJ receives water for free from the JVA and in exchange provides the JVA with a free supply of wastewater services from As Samra. This may not be the most economically efficient approach, as both entities may lose out on potential revenue because the water and wastewater do not necessarily have the same economic value and the arrangement does not provide any incentive for either the WAJ or the JVA to enhance their efficiencies to maximise revenue or cut costs.

The financial state of water companies weighs on the overall financial health of the water sector. Water utilities have been facing financial difficulties of late and their losses are estimated by the IMF to be 1% of GDP, mainly from inefficiencies in water supply, particularly system losses, and weak revenue collection (IMF, 2013). Moreover, a 22% increase in the electricity tariff has led to a rise in the operating costs of the utilities and, at least in Miyahuna's case, has completely compromised its ability to contribute to capital expenditure. Also, now that Disi water is operational, the water companies will need to pay for the water supplied from Disi but they are constrained because their revenue stream from water and wastewater tariffs has not increased. According to Miyahuna's estimations, it will need a tariff increase or a subsidy to be able to afford paying for Disi water, the unit cost of bulk water from Disi being about ten times the price of traditional bulk water supplies (Miyahuna, 2013). The critical financial state of utilities risks being compounded by pressure on capital investment. For instance, the WAJ is responsible for capital investments and asset replacement but has not provided capital funds to Miyahuna for three years (2010, 2011 and 2012), potentially undermining the quality of the assets and the quality of service (Miyahuna, 2013). The worsening of the WAJ's financial position is not likely to ease this situation in the foreseeable future.

Government focus on capital-intensive projects is likely to continue putting pressure on public finances. For example, the government provided funding to cover 30% of the total capital cost for the Disi conveyance project (FEMIP, 2013), spending JOD 120 million (USD 169 million) in 2010 to reduce the unit price of water produced by the facility (USAID, 2011b). The government will continue to spend about JOD 85 million (USD 120 million) a year until 2014 on capital expenditure for Disi (USAID, 2011b). Despite the number of payments to consider, it is not clear whether, or how, the government can afford to meet its financial obligations.

The IMF has urged the government to take into account the risks posed by mega projects and to refrain from issuing any form of debt guarantees for borrowing by public entities, given the already high debt ratio (IMF, 2012). The government – through the Ministry of Finance – guarantees the WAJ's and MWI's loans and is obliged to fund their deficits. The government records these amounts as debt in the general budget. The Ministry of Finance has also provided sovereign guarantees for some projects with the private sector. For instance, it provided such a guarantee to the project sponsors of the

As Samra BOT expansion in 2012, to cover payment of treatment charges and payment for possible termination. However, the serious fiscal situation facing the government and the heavy indebtedness of the WAJ and some of the utilities may constitute an important threat for the budget. According to a proposal in the draft PPP Law, the Debt Management and Budget Departments of the Ministry of Finance will be made responsible for assessing the fiscal risks posed by PPPs and ensuring the financial affordability of government's financial commitments to PPPs.

Tariffs and the financial sustainability of water systems

The level of tariffs is too low to be sustainable and has contributed to low cost recovery in the sector. The Water for Life Strategy had a policy objective to set municipal water and wastewater charges at a level that would cover the costs of operation and maintenance (O&M). The objective also included achieving full cost recovery of O&M costs plus all or part of the capital costs of water infrastructure within five years. However, implementation of this policy has been slow and inadequate. Wastewater tariffs have stagnated at JOD 0.16/m^3 for the last decade and water tariffs have varied slightly, sometimes decreasing from year to year, and averaging JOD 0.75/m^3 over the past five years. Consequently, while the Aqaba Water Company has been able to achieve cost recovery and financial viability (USAID, 2012), the other utilities are in a more perilous financial position. In Miyahuna's case,[12] the ratio of water and wastewater revenues to operating costs has been declining since 2011 and dipped below 100% in the third quarter of 2013 (Project Management Unit, 2013). Financing agencies usually take this ratio into account when assessing Miyahuna's financial sufficiency and its eligibility for funding, so the poor performance could place the utility's finances in jeopardy.

There is room to review and strengthen the current tariff structure and subsidy scheme, which rely on an increasing block tariff (IBT). The IBT structure applies a low tariff to the first band of water consumption,[13] *de facto* correlating low consumption with low income. However, according to one estimate, the subsidy intended for poor households in the IBT actually benefits upper income users the most because there are more upper income users in the lowest consumption block than there are low-income users (Segura/IP3 Partners, 2009). Evidence of adverse social impacts can also be found in the sanitation sub-sector, where households that are not connected to the sewer system are obliged to pay higher prices for septic systems and do not benefit from the below-cost bill that connected households normally receive (USAID, 2012). Given that different tariffs apply for governorates operated by the WAJ and those operated by the utilities (Table 1.4), the impact of the existing tariff structure needs to be carefully evaluated.

Affordability tests for users have not been conducted, suggesting that water and wastewater charges may not be taking into account willingness and capacity to pay. There is evidence that tanker prices for water are more than four times the price charged by Miyahuna (USAID, 2011b).[14] Moreover, a study found that households in Jordan spend on average 0.92% of their total household budget on water and wastewater services, at least 50% less than what households in similarly water-scarce countries spend (USAID, 2011b). The MWI plans to raise awareness among consumers to increase their willingness to pay their bills. This could be part of a broader effort to raise users' awareness on tariffs and to sensitise the public about the true costs of water and wastewater services.

Table 1.4. **Water tariffs in Jordan**

Quarterly block	Tariff for Miyahuna, Aqaba and Yarmouk Unit price (JOD) (JOD/m³ of billed water)			Tariff for governorates operated by the Water Authority of Jordan Unit price (JOD) (JOD/m³ of billed water)		
	Wastewater price	Water price	Cumulative fixed charge (JOD/month)	Wastewater price	Water price	Cumulative fixed charge (JOD/month)
0-20	0.200	0.200	0.81	0.200	0.500	0.80
21-38	0.04	0.04	1.36	0.04	0.075	1.20
39-56	0.25	0.25	1.91	0.20	0.400	1.75
57-74	0.45	0.45	1.91	0.30	0.650	1.75
75-92	0.60	0.60	1.91	0.30	0.650	1.75
93-110	0.70	0.70	1.91	0.50	1.000	1.75
111-128	0.70	0.70	1.91	0.50	1.000	1.75
129-146	0.80	0.80	1.91	0.70	1.200	1.75
147-164	0.80	0.80	1.91	0.70	1.400	1.75
165-179	0.80	0.80	1.91	0.70	1.400	1.75
180 & above	0.80	0.80	1.91	0.70	1.400	1.75

Source: Ministry of Water and Irrigation (2013), "Structural Benchmark: Action Plan to Reduce Water Sector Losses", Ministry of Water and Irrigation.

Other levers to strengthen the financial sustainability of the water sector are starting to be explored but have not been exhausted. For instance, Jordan has relatively high operational costs for water supply and sanitation systems compared to countries with similar water-scarce resources (USAID, 2011c). At almost 50%, non-revenue water (NRW) in Jordan is one of the highest in the world, which means that the utilities pay high costs to treat water that users do not receive (USAID, 2011c). The Action Plan for the Water Sector envisages reducing NRW from 47% in 2012 to 35% by 2022. The MWI aims to improve invoicing and bill collection systems and to implement a unified bill for electricity and water. Given the high electricity costs in water operations, there have been increasing efforts by the government and development partners to enhance energy efficiency in the water sector. There is potential to form synergies between energy efficiency and renewable energy projects on the one hand, and the power needs of water projects on the other. For instance, solar powered pumps could be used in water abstraction and transfer and to power desalination plants.

Transparency, accountability and value for money

Ensuring value for money

The Jordanian administration has a number of mechanisms in place to ensure value for money (VfM) from PSP. The administration undertakes an assessment of infrastructure service needs; *ex ante* affordability analysis of projects, *ex ante* VfM analysis for water and wastewater projects; and monitoring of project execution (Table 1.5). In deciding whether to procure projects under private sector or traditional modalities, the government takes into account cost-benefit analysis, environmental impact assessments, socio-economic assessments and the expected improvement in the quality of management and financial aspects. Under the draft PPP Law, contracting authorities will be obliged to prepare feasibility studies and viability reports that assess the institutional, legal, technical, environmental, social, economic and financial aspects of a proposed PPP project. The FEMIP study (2011) also found that the procurement provisions of the regulations elaborated under the Privatization Law which guide the procurement of all projects with the private sector are broadly in line with those of other PPP markets (FEMIP, 2011). However, the capacity to conduct feasibility studies, cost-benefit

analysis, public comparator tests, risk evaluation and contract design is deemed by the administration itself to be a challenge for public officials (OECD Questionnaire).

The draft PPP Law provides an opportunity for strengthening value for money in PPP contracts, including in the water sector. The draft law defines VfM as the carrying out of the public function or service of a public authority or the use of public property by a private partner(s) under a PPP contract, which results in a net benefit to the contracting authority or public over the term of the proposed PPP project in terms of cost, price, quality, risk transfer, opportunity cost or a combination thereof. Moreover, achieving VfM for the public sector is an explicit goal of the law. It is not clear which entity will have the ultimate decision-making authority for PPP project proposals. At present, the Economic Development Committee, a high-level body comprised of ministers, has decided on which projects will be developed, either through traditional procurement or through private sector participation. It is unclear what methods or considerations the committee uses in approving or rejecting projects. The draft PPP Law proposes the creation of a Partnership Council that would approve or reject project proposals based on the findings of the feasibility studies, viability report and advice of the PPP Unit.

Table 1.5. **Project planning and execution responsibilities in the water sector in Jordan**

Function	Responsible entity
Assessment of the infrastructure and service needs in water and wastewater services and identification of matching projects	Project Management Unit
Water and wastewater services project proposal and planning	Project Management Unit
Conducting the *ex ante* affordability analysis of projects	Project Management Unit
Conducting the *ex ante* value for money analysis for water and wastewater services projects and deciding between private sector participation and traditional procurement	Project Management Unit/Water Authority of Jordan
Public consultation on water and wastewater services project outputs	Project Management Unit/Water Authority of Jordan
Approval of private sector participation projects in water and wastewater services and capital spending	Ministry of Water and Irrigation
Negotiation of the water and wastewater services contract with the private company	Project Management Unit/Water Authority of Jordan
Signing of the water and wastewater services contract with the private company	Ministry of Water and Irrigation
Land planning for construction of water and wastewater services facilities	Water Authority of Jordan
Monitoring water and wastewater services project execution – according to the contract	Project Management Unit
Dispute settlement between public and private contracting parties	National courts
Renegotiation of the contract	Project Management Unit/Water Authority of Jordan
Ex post evaluation of water and wastewater services project's value for money	Project Management Unit/Water Authority of Jordan

Source: Responses to the OECD Questionnaire.

Processes have been put in place for preparing and tendering projects with PSP in Jordan but there are competition concerns. The first step includes market analysis, project identification including cost-benefit analysis, tendering and evaluation of bids, contract award, preparatory works and operations. Technical compliance and lowest price are the most commonly used criteria for selecting the winning bidder for water projects. It is not apparent whether procurement procedures take into account the size and complexity of projects, as is the case in countries with advanced PPP programmes (FEMIP, 2013). The General Tendering Department in the Ministry of Public Works oversees the activities of contracting authorities to ensure the integrity of the procurement process involving the private sector. However, the tendering process is not always competitive. For instance,

only two bids were received for the Madaba service contract in 2006 and the winning company was also the winner of the tendering process for Balqa and Zarqa. Another example is the award for the service contract for Kerak. It was originally won by Engicon, which was asked to turn down the contract because of its dominance in the sector. Another private company, Orient, was then approached to carry out the contract under the same price and modalities that Engicon had submitted in its bid (KfW, 2013).

There are some weaknesses in risk allocation. Jordan (together with Egypt and Israel) has the most developed contract mechanisms for compensation on termination (FEMIP, 2011). The Disi project included a clause assigning *force majeur* risk to the public sector, whereas in most jurisdictions,[15] *force majeure* is neither party's fault and, therefore, the financial consequences resulting from a *force majeure* event should be shared (EPEC, 2013). Also, Article 205 of the civil code allows for "relief events" in certain circumstances, which would release the private and public parties from their contractual obligations (FEMIP, 2011). Article 2 of the draft PPP Law (dated 14 June 2013) includes in its definition of PPPs that the private partner assumes substantial financial, technical, operational and/or environmental risks in connection with the performance of the public functions or provisions of the services and/or public property in accordance with the terms of the PPP contract. This article could be construed to clarify that the risks should be allocated according to the party that can best manage them at least cost.

Bidding processes and contract negotiations are burdensome. Companies interviewed in support of this work (see Annex 1.A1) all share the assessment that bidding processes for water contracts in Jordan are too long and/or face many delays. They also deem that contract negotiation and financial closure are more expensive in Jordan than in neighbouring countries. These elements add to the costs of getting involved in the water sector in Jordan and may constitute obstacles to private sector participation if the costs incurred are deemed too high compared to the expected returns. In addition, burdensome procedures have a distorting effect that should particularly draw the attention of the Jordanian authorities. Indeed, they are likely to affect disproportionally smaller companies that have less capacity and resources to cope with transaction costs and may introduce a bias in the bidding process towards bigger international companies.

As the pipeline of PSP projects grows, there is a need to build over time the capacity of public officials to negotiate contracts with private companies. Currently, in many instances, the government hires external experts to help prepare contracts. In the absence of a PPP law, many details of the arrangements between private companies and the government are decided in the contracts, making it even more important for the government to build the necessary capacity for understanding PSP modalities, negotiate contracts and structure deals so that both public and private parties benefit. Language skills, particularly English, are lacking in some parts of the administration and need to be reinforced. Moreover, the government currently does not have the capacity to prepare feasibility studies or viability reports – essential elements for determining the soundness of projects with private sector participation.

Engaging with stakeholders

There are a few platforms for engaging users on different aspects of the water sector in Jordan. According to the WAJ, citizens have the right to participate in the scoping of environmental impact assessment of infrastructure projects. This ensures their contribution in decision making in planning new projects. There are 22 water user associations (WUAs) in Jordan, although they are almost exclusively in the Jordan Valley

and their sphere of activities is limited to irrigation (SWIM-SM, 2012). In general, farmers tend to have multiple platforms to advance their interests but there does not seem to be a wider platform for other users, particularly domestic drinking water users. The Highland Water Forum was established in 2010 to contribute to a roadmap specifically for sustainable groundwater management in the Highlands area. It meets several times a year at secretary-general level and as of November 2013, had met a total of 12 times since its creation. The forum is considered to be the first example of a platform for multi-stakeholder consultation in Jordan and in the region. Under the Water for Life Strategy, the Water Council is envisioned to become a platform for broad stakeholder input into water management but as it has only been operational for two years, it is too soon to tell if it can assume this role.

In general, consultation with the public on projects is not consistent. There is no clear entity tasked with explaining projects with the private sector to the public and this seems to be done in an *ad hoc* way. For the Disi conveyance project, public consultations were held by the World Bank in Amman and Aqaba, the regions the most affected by the project. However, even with this consultation, the Disi conveyance project is expected to increase water supply to residents of Amman, with potential consequences on behaviour and water consumption practices. It is therefore important to assess customers' opinions and expectations about the Disi project in order to anticipate – and curtail – any changes in water consumption patterns that can undermine the potential benefits of the project. In the Amman management contract, there were no public awareness campaigns before the private partner was brought on board, and there was little participation of civil society throughout the contract (Suleiman et al., 2008). The private contractor argued that it did not have an obligation to divulge information to the public other than issuing invoices and providing information about changes to the water rationing programme (Suleiman et al., 2008). The role of the government in communication efforts with consumers did not seem to be well defined.

Customer engagement is only at its beginnings. The government recognises the importance of engaging with end-users on a variety of issues bearing on the provision of water and wastewater services. However, data on customer satisfaction can be patchy and non-transparent. To illustrate, there is no information on the performance of Yarmouk on customer service satisfaction and where such information exists, as is the case with Miyahuna, the results of customer satisfaction surveys are not publicly available. The WAJ makes use of its website to facilitate bill enquiries and customer complaints about services, which can be submitted online. The WAJ has also prepared a citizens' services manual and a price list, but it is not clear what they consist of, as they are not accessible online (the WAJ's website has a category on "citizens' services" but the link is not operational).

Important private sector projects under development, such as Disi and non-conventional water sources, raise the issue of consensus-building and awareness on users' willingness to pay. Such projects could render the price of water more expensive, and require the government to clearly explain to citizens the costs and benefits of these projects. This would help make a tariff increase to offset the new water and wastewater supply more understandable. It would also help secure the political acceptability of PSP projects, as the policy dialogue that supported the drafting of this report has revealed some resistance from a number of stakeholders. A socio-economic study undertaken by the Department of Statistics showed that about 60% of Jordanians are not satisfied with the quality of water from the public water supply and buy bottled water at considerable expense.[16] The lack of trust among the public of water supply provision calls for greater

effort by the government, potentially using PSP, to develop mechanisms for engaging with major stakeholders. This is particularly true as the public sees some benefits to private sector participation in economic sectors, but also because past PSP experience has shown the danger of labour force opposition. Following the Privatization Law (no. 25 of 2000), a survey was undertaken on Jordanians' perceptions of privatisation. It found that Jordanians were more likely to agree that privatisation led to job creation, better service quality and improved productivity, but they also thought it potentially led to an increase in tariffs (World Bank, 2008). At the same time, management contracts in Ma'an and Yarmouk were derailed by strikes over wages and staff displacements while the service contract in Kerak was also hampered by staff opposition to PSP.

The operation of the As Samra plant, as well as the development of the extension, illustrates the benefits of an inclusive approach involving major stakeholders. Owing to its complexity and wide-ranging impacts, the As Samra wastewater treatment plant has a large and diverse array of stakeholders, ranging from the banks that risk capital, the politicians who risk reputation and those concerned about nature protection to the neighbourhood leader concerned about local economy preservation. Work on perception and expectations carried out when operations started on the phase one of the plant helped to improve understanding and knowledge about the infrastructure project and to build consensus around the purpose of the expansion and its benefits. Participants showed interest in job creation during expansion phase – working opportunities for women were explored with special care – and emphasis was put on communication with politicians and the public. According to its promoters, this dialogue was critical to developing a sustainable project (De Pazzis, 2014).

Under the Action Plan of the Water Strategy for 2009-2022, the Ministry of Water and Irrigation has developed a list of activities for establishing customers' confidence. This includes time-bound goals to improve customer service facilities, improve billing accuracy and reliability, assist customers in post meter issues and improve customer service procedures and policies.[17] While the parameters of the action plan are clear in terms of the time-bound activities, the indicators of success do not seem to have been defined nor were specific targets set. For instance, there are no specific targets for "improving response time to customer objections", one of the areas of activity under the action plan.

An initiative was launched in 2009 by the Ombudsman to enable Jordanians to file complaints at post offices on public services, such as conflicts over labour contracts, as well complaints about water services (UNDP, 2011). The MWI received 13 complaints about service requests or service improvements and 31 complaints against administrative decisions (e.g. termination of employment) in 2011, making it the government agency with the third highest number of such complaints. It received a smaller share of complaints against administrative decisions (Ombudsman Bureau, 2011). Customers also have the possibility to submit complaints online.

Customer satisfaction surveys are carried out, but not systematically. A Comprehensive Subscribers Survey was undertaken in 2006-07 in Balqa governorate and in 2007-08 in Karak governorate in the context of their respective management contracts. A Customer Satisfaction Survey was also conducted for both governorates (Project Management Unit, 2010). Despite these efforts, there does not appear to be a systematic approach to undertaking customer surveys and analysing users' needs and constraints, which raises the risk of uneven responses to customer services. Assessment stemming from such information, and likely to trigger policy action, is not publicly available either.

There is low awareness of Jordanians on the economic value of water and the dangers associated with water scarcity. This is particularly worrisome in a context where the ratio of water resources per capita is one of the lowest in the world. Currently, public awareness and education is shared across public authorities (Water Demand Management Unit of the MWI) and a range of NGOs such as the Jordan Environmental Society and the Royal Society for the Conservation of Nature (USAID, 2012). The Water for Life Strategy acknowledges the need for a more concerted effort of engaging with the public on water issues. It states, for instance, that if most of the population knew that the agriculture sector consumed 64% of all water despite contributing little to economic growth, there would be greater public support for raising irrigation tariffs (Ministry of Water and Irrigation, 2009). Similarly, explaining the true value of water, the costs of water delivery and the costs and benefits of alternative approaches to water management could make tariff increases for water and wastewater more palatable to consumers.

Notes

1. www.mwi.gov.jo/sites/en-us/default.aspx.
2. USAID/Jordan is supporting the government of Jordan's efforts to significantly improve management across the water sector through the Institutional Support and Strengthening Program (ISSP). This programme addresses key institutional and capacity constraints in planning, policy, water supply, groundwater management, regulation, utility management, utility operations, irrigation and legal reform. For more details, see: www.isspjordan.org.
3. By contract, Aqaba's Assignment Agreement designates the WAJ as its regulator.
4. OECD calculations based on authorities' figures and utilities' data.
5. See Ministry of Water and Irrigation website, document "Jordan Red Sea Project (JRSP)", www.mwi.gov.jo/sites/en-us/default.aspx.
6. www.pmu.gov.jo/Home/AboutUs/PMUarchive/Commercializationarchive/OtherGovernorates/Madaba.aspx.
7. www.pmu.gov.jo/Home/AboutUs/PMUarchive/Commercializationarchive/OtherGovernorates/Madaba.aspx.
8. Drinking Water Standard 286 of 2008 is the prevailing standard for drinking water and the Ministry of Health is responsible for applying it. Standard for Reclaimed Domestic Wastewater Quality No. (893/2006) and Standard for Reclaimed Industrial Wastewater Quality No. (202/2007) regulate wastewater in Jordan. The Ministry of Environment is responsible for monitoring the quality of water resources but outsources this function to an NGO, the Environmental Monitoring and Research Central Unit (EMARCU), as the Ministry of Environment does not have its own laboratories. EMARCU collects data on water quality and pollution. The WAJ's technical unit also conducts lab tests and monitors the quality of water resources, water supply systems and wastewater in the governorates under its jurisdiction (Water

Authority of Jordan, 2011). In addition to these entities, the Royal Department for Environment Protection (RDEP), the executive arm of the Ministry of Environment, was set up in 2006 to investigate and sanction violators of environmental laws and regulations and to prosecute them through the courts. Known as the Rangers, the RDEP officers also protect water resources from pollution and patrol groundwater protection zones.

9. In 2007, villagers in Irbid and Mafraq fell ill after drinking water that was contaminated from the mixing of sewerage and drinking water, forcing the government to shut down water supply. In 2006, villagers in Mafraq were hospitalised after a parasite infiltrated the drinking water system as a result of worn out distribution pipes. www.irinnews.org/report/75374/jordan-water-contamination-incidents-highlight-water-shortage-problem.

10. www.pmu.gov.jo/Home/AlMeyyahProgram/PerformanceMonitoringandRegulation/RegulatoryFrameworkConcept.aspx.

11. According to data collected from MOPIC.

12. Tariffs make up 85% of revenue, followed by new connection fees, tax-based revenue, sale of water services to customers or other governorates and a 3% annual rental value of property taxes collected in the service area.

13. The first band relates to the minimum amount of municipal water assumed necessary for a household of 20 m^3 every three months. See Water Authority of Jordan response to questionnaire and UNOHCR (2012).

14. The USAID study cites ECO Consult and Segura/IP3 Partners for the figures on tanker prices and Miyahuna charges respectively.

15. According to a study undertaken by Allen and Overy law firm for EPEC, based on a sample of 16 European countries.

16. www.emwis.org/documents/emwis-main-studies/studies-country/Jordan_Final.pdf

17. Action Plan for Implementing the Strategy (2009-2022) for the Water Sector, Ministry of Water and Irrigation, www.mwi.gov.jo/sites/en-us/default.aspx.

Annex 1.A1
Perception of some private companies on the governance challenges to private sector participation in the water sector of Jordan

As part of the water policy dialogue, the OECD collected information from private companies on their experiences and perceptions of being involved in water projects in Jordan. The objective was to inform policy makers on the private sector's perception of the challenges and risks faced by the companies, and their suggestions for reforms.

Four private companies responded to the OECD request for information. All four respondents have offices in Jordan and have been operating in Jordan for more than ten years in various areas such as the design, construction and/or operation of water and wastewater treatment plants; the operation of water networks; tasks such as supplying, upgrading and operating meters; bill collection services; customer relations; and maintenance and repair works. Three companies are large and one is of medium size. All have activities in other countries of the region.

The decisive factor for all companies to enter the water and wastewater sector in Jordan was a high-level political commitment for private sector participation. The second and third most important factors relate to a guaranteed revenue flow and the existence of central government guarantees for public contracting authorities' liabilities. The companies' investment decision is a function of the amount of funding to the projects coming from donors and budget and the level of cost coverage through tariffs.

Risk of violence, user charges that do not recuperate investment costs and weak capacity/competence among public sector counterparts were identified by the companies as the most important challenges for their involvement in the Jordanian water sector. By contrast, labour issues (burdensome labour legislation, high labour costs, lack of qualified local labour, difficulty bringing in expat workers, etc.), lack of inputs (need to import many inputs, e.g. equipment) or available list of projects do not match their appetite/capacity did not constitute important challenges in Jordan.

Consistently, all companies shared the assessment that the bidding process for water contracts was too long and/or faced many delays, which constitutes an important obstacle to private sector involvement. All companies deemed that contract negotiation and financial closure are more expensive in Jordan than in neighbouring countries.

Operational costs (e.g. electricity) were also considered high in Jordan compared to other countries in the Mediterranean region. By contrast, construction costs (e.g. equipment and other inputs) are deemed less expensive in Jordan than in other countries of the region.

In terms of risks associated with carrying out activities in the water sector, companies identified devaluation of the currency as the most important one, followed by change in regulations, change in contract terms, lack of enforcement of contract terms and protests from the public.

Looking ahead, companies were asked to comment on the government measures that would have the biggest effect in encouraging them to deepen their engagement in Jordan. All of them highlighted more donor funding as having the potential for a big effect. Higher tariffs, clarifying the legislative framework for PSP in water and guarantees from the central government followed.

Annex 1.A2
Main institutions in water and private sector participation in Jordan and their organisational structure

Name of institution	Functions/roles by mandate
Ministry of Water and Irrigation (MWI)	Established in 1992. The MWI is responsible for formulating national water strategies and policies; monitoring water resources; sector planning; implementing awareness and outreach programmes in the water sector; and establishing and maintaining water data banks and information systems. Within the MWI, the Water Demand Management Unit, created in 2002, works on demand management in the municipal and agricultural sectors.
Water Authority of Jordan (WAJ)	Established in 1983 as an autonomous, centralised corporate body with financial and administrative independence. It is responsible for public water supply and wastewater services, as well as for water resources planning and monitoring, construction, operations and maintenance. The WAJ created and owns the utilities, Miyahuna, Aqaba Water Company and Yarmouk Water Company.
Project Management Unit (PMU)	Established in 1996 within the WAJ. It operates under the supervisory control of an Executive Management Board, which is headed by the minister. It is responsible for regulating water supply and wastewater utilities. It is also responsible for promoting and developing private sector participation in the water sector and for tasks related to project planning and execution.
Jordan Valley Authority (JVA)	Founded in 1973. It is responsible for the development and utilisation of water resources in the Jordan Valley for irrigated farming, municipal, industrial and tourism purposes. The JVA is also responsible for the dams and reservoirs in the country. It is partially responsible for providing bulk water to municipal and industrial users.
National Water Advisory Council	Created in 2012 as a high-level, inter-ministerial entity chaired by the Minister of Water and Irrigation. It is comprised of ten ministries and secretary-generals and five members from the private sector and civil society. To date, the council has only met once.
Royal Water Commission	Established in 2008 by a Royal Decree. Its mandate is to develop an updated National Water Strategy, which it completed and presented to the government in 2009. It is chaired by Prince Feisal.
Ministry of Finance	Member of the Economic and Public Debt Committee. Responsible for the budget process, accounting of public debt, guarantees and liabilities. Contains a PPP Unit.
Ministry of Planning and International Co-operation (MOPIC)	Responsible for co-ordinating the overall Jordan development and investment plan. It plays an important role as the main facilitator between the donor community and the investment plan. Sits on the Economic Committee.

Sources: Responses to the OECD Questionnaire; Pérard, E. (2008), "Private sector participation and regulatory reform in water supply: The southern Mediterranean experience", *OECD Development Centre Working Papers*, No. 265, OECD Publishing, Paris, http://dx.doi.org/10.1787/245713883474; USAID (2012), *Review of Water Policies in Jordan and Recommendations for Strategic Priorities*, USAID, April.

Annex 1.A3
Current roles and organisational structure of the Project Management Unit

The Regulatory Affairs Directorate:

- monitors the activities of the retail water companies and measures their performance against performance indicators in the assignment agreements
- receives and reviews business plans from the water utilities and assesses revenues (tariffs and subsidies) necessary to meet the costs of implementation
- analyses water utility financial statements to ensure that maximum efficiency is obtained by the utility
- makes recommendations to the minister and Cabinet for tariff changes based on the analysis
- periodically audits the reporting process of the utilities to ensure accuracy of data
- provides reports and recommendations to the water utilities and other key stakeholders relating to the performance of the utilities
- periodically reviews and updates the assignment agreements in consultation with the water utilities
- establishes the link with the Water Authority of Jordan's (WAJ) administrative units and builds their capacities on performance monitoring procedures
- monitors the bulk water supply agreements between bulk water suppliers (WAJ, Jordan Valley Authority) and water utilities
- issues reports on performance monitoring, reviews of the assignment agreements and reviews of the utilities business plans.

The Project Development and Implementation Directorate:

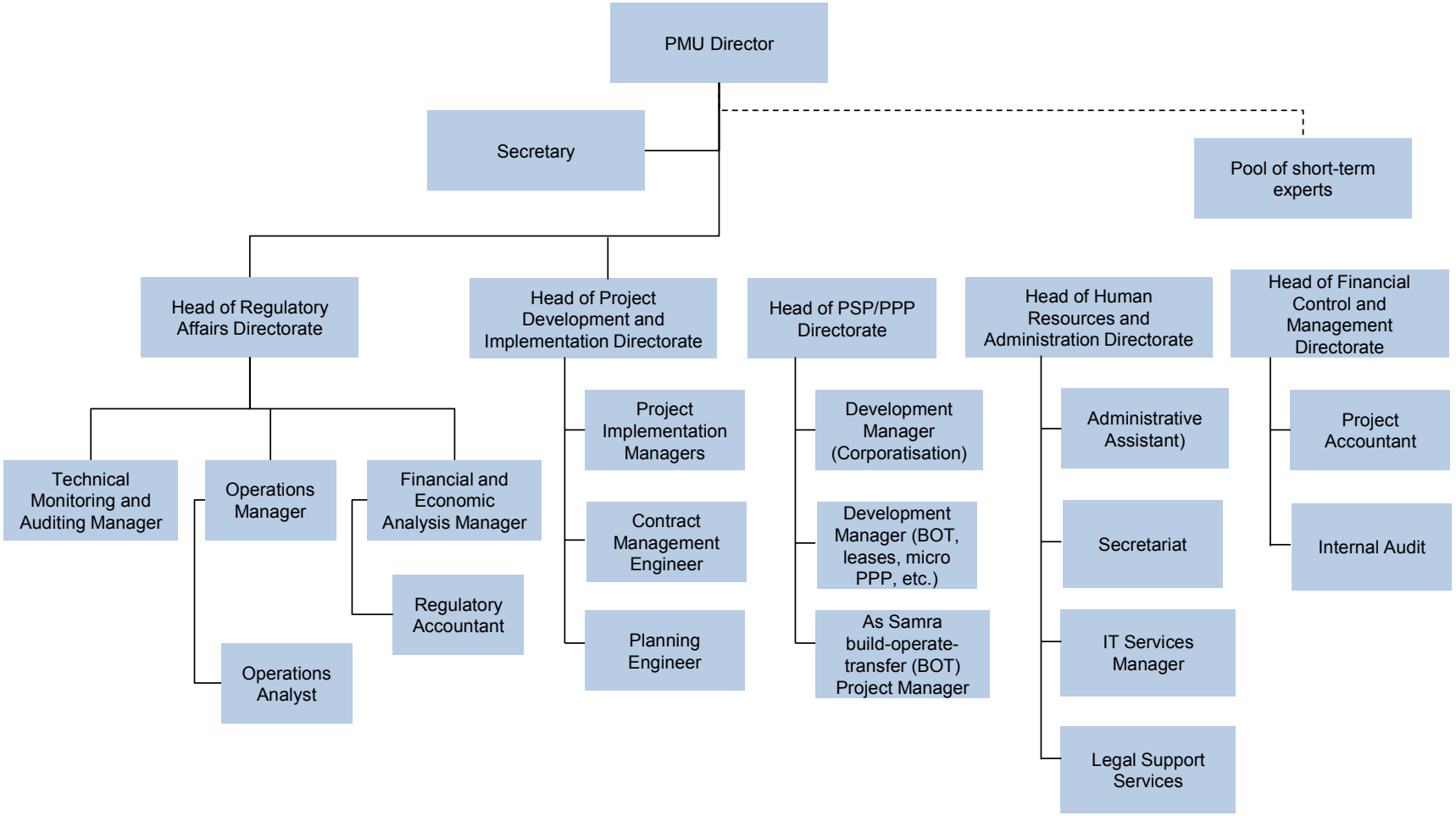
- monitors and controls all donor funded activities implemented through the WAJ, ensuring that targets are met, projects are carried out effectively and all reports to donors are provided in a timely manner
- manages activities related to the implementation of financial co-operation projects
- supervises and manages all national build-operate-transfer (BOT) schemes and lease or management agreements where the WAJ is the client
- manages other donor financed projects for which the WAJ assigns responsibilities to the PMU.

The PPP/PSP Directorate:

- develops policy and plans for continued corporatisation of the WAJ's administrative units
- prepares assignment agreements for corporatised utility companies
- prepares implementation plans, including the establishment of corporatised companies
- develops and prepares contractual documentation in relation to BOT schemes, lease options and management contracts for which the WAJ would be the client
- monitors the compliance of service providers with existing assignment agreements
- promotes the involvement of the private sector in the management of water services
- assists the WAJ's governorate administrations to promote change on the basis of commercial principles.

The PMU is often the public interlocutor for private companies engaged in PSP projects, as was the case for example for Balqa, Madaba and Kerak service contracts (KfW, 2013) and Samra Project Company.

Figure 1.A3.1. **Project Management Unit's organisational structure**



Source: Water Authority of Jordan (2013), "Project Management Unit (PMU) objectives and organizational structure", August (hardcopy).

Annex 1.A4
Performance indicators in the water sector

Table 1.A4.1. **Performance indicators for the Project Management Unit's regulated operators**

Performance categories	Indicators
Water consumption per capita	Amount of water delivered and sold to domestic consumers (litres/capita/day)
Microbiological water quality	Percentage of microbiological tests that comply with Jordanian drinking water standards
Water losses per water service connection	Volume of water lost (both real and apparent) per water service connection
Non-revenue water by volume	Difference between the volumes of system input and billed authorised consumption due to real and apparent losses as a percent of system input
Collection ratio	The ratio of the cash collected of the billed amount for the same period
Operating cost coverage ratio (water and sewerage)	Ratio of water and wastewater revenues of the total water and wastewater services operating costs for the same period
Subscribers receiving continuous supply	Percent of active subscribers receiving continuous supply of the total active subscribers
Non-billing (service) complaints	Percent of the total number of the non-billing complaints of the total number of registered subscribers. Includes complaints related to pressure, water continuity, water quality, interruptions, etc.
Billing complaints	Billing complaints as a percent of the total registered subscribers
Total employees per 1 000 subscribers	Total number of staff employed by the utility regardless of their function or status per 1 000 subscribers

Source: Miyahuna quarterly monitoring report, November 2013.

Table 1.A4.2. **Aqaba Water Company's performance indicators**

Performance categories	Indicators
Water supply, distribution and treatment	Meet or exceed all applicable Jordanian drinking water quality standards
Wastewater collection, transmission, treatment and reuse	Meet or exceed all applicable Jordanian wastewater effluent and reuse standards
Use of sludge	Meet or exceed all applicable Jordanian treated sludge standards
Constancy of water supply	– Provide potable water a minimum of 24 hours a day, 6 days a week, meeting all quality standards
Constancy of wastewater collection, pumping and treatment system operation	Provide for collection, pumping, treatment and reuse of all wastewater discharged to the central wastewater collection system within the service area 24 hours per day, 7 days per week

Source: Assignment Agreements Aqaba Water Company and Water Authority of Jordan.

Bibliography

Adam Smith International (2013), "Study of mechanisms to incentivize the financial sector to scale up financing of green investment in Jordan", May.

Aqaba Water Company (n.d.), "Area of service", Aqaba Water Company, http://aqabawater.com/eng/?page_id=1797.

Burger, Philippe and Ian Hawkesworth (2011), "How to attain value for money: Comparing PPP and traditional infrastructure public procurement", *OECD Journal on Budgeting*, Vol. 11/1, OECD Publishing Paris, http://dx.doi.org/10.1787/budget-11-5kg9zc0pvq6j.

Dahiyat, Iyad (2007), "The reform and modernisation process in the northern governorates water administration", Powerpoint presentation, World Water Week, Stockholm.

Dégremont (n.d.), "Sustainable water infrastructure development", brochure, Suez Environnement, www.degremont.com/en/activities/partnerships-for-water-and-wastewater/innovative-financing-partnership/sustainable-water-infrastructure-development.

De Pazzis, Anne (2014), "As Samra wastewater plant expansion continues", Deputy Head of BOT Contracts, Degrémont, World Finance, 15 January, www.worldfinance.com/infrastructure-investment/project-finance/as-samra-wastewater-plant-expansion-continues.

European Investment Bank (2009), "Disi-Mudawarra to Amman water conveyance system: Environmental and Social Management Plan Part 2 (ESMP 2)", EIB, July, www.eib.org/attachments/pipeline/20080462_esmp1_en.pdf.

El-Naser, H.K. (2009), *Management of Scarce Water Resources: A Middle East Experience*, WIT Press.

Engicon (2010), "Engicon signs its second management contract for water services in Al-Balqa", Engicon press release, 6 September, www.engicon.com/index.php?option=com_k2&view=item&id=12:engicon-signs-its-second-management-contract-for-water-services-in-al-balqa&Itemid=161.

EPEC (2013), "Termination and force majeur provisions in PPP contracts: Review of current European practice and guidance", European PPP Expertise Centre, March, www.eib.org/epec/resources/Termination_Report_public_version.pdf.

FEMIP (2013), "PPP legal & financial frameworks in the Mediterranean partner countries: Jordan – Wadi Al Arab Water Supply PPP Project", Executive Summary Draft, March.

FEMIP (2011), "Study on PPP legal & financial frameworks in the Mediterranean partner countries", European Investment Bank, Vol. 1, May.

Fiscal Reform II Project (FRP II) (2012), "Charge a fair price for water", *Policy Brief*, No. 15, February, www.frpii.org/english/Portals/0/PDFs/Policy%20Briefs/15%20Charge%20a%20Fair%20Price%20for%20Water.pdf.

General Electric (2009), "GAMA, GE to bring water to northern Jordan through investment in $1 billion pipeline", GE press release, 8 July, www.genewscenter.com/content/detail.aspx?releaseid=7249&newsareaid=2&menusearchcategoryid=.

GIZ (n.d), "Water user associations (WUA), German-Jordanian Programme on Water Resource Management", www.jva.gov.jo (last visited in December 2010).

Global Water Intelligence (GWI) (2013), "Jordan Red Sea Project still ready to go", Vol. 14, Issue 1, January, www.globalwaterintel.com/archive/14/1/general/jordan-red-sea-project-still-ready-go.html.

GWI (2002), "As-Samra wastewater BOT signed", Vol. 3, Issue 9, September, www.globalwaterintel.com/archive/3/9/general/as-samra-wastewater-bot-signed.html.

International Monetary Fund (IMF) (2013), "Jordan: First review under the stand-by arrangement", *IMF Country Report*, No. 13/130, IMF, Washington, DC, www.imf.org/external/pubs/ft/scr/2013/cr13130.pdf.

IMF (2012), "Jordan: Request for a stand-by arrangement", *IMF Country Report*, No. 12/343, IMF, Washington, DC, 27 December, www.imf.org/external/pubs/ft/scr/2012/cr12343.pdf.

Jordanian Ombudsman Bureau (2011), *Annual Report 2011*, www.theioi.org/asia/jordan/jordanian-ombudsman-bureau.

Jordan Red Sea Project (2011), "JRSP project presentation: Information meeting presentations", JRSP, Amman, 6 January, www.jrsp-jordan.com/JRSP%20Informaton%20Meeting%20-%20Presentations%20-%2006%20January%202011.pdf.

KfW (2013), "Institutional study options for the southern governorates", GIZ, 7 October draft (hardcopy).

MCC (2012), "MCC completes first major build-operate-transfer project financing in Jordan", MCC in Action, Millennium Challenge Corporation, 11 September.

Ministry of Planning and International Co-operation (2011), "Executive Development Programme 2011-2013", Ministry of Planning and International Cooperation, Amman.

Miyahuna (2013), "Business Plan 2013-2017: Planning for the Future", Miyahuna, April.

Multilateral Investment Guarantee Agency (n.d.), "MIGA insures wastewater treatment plant in Jordan", MIGA, www.miga.org/news/index.cfm?aid=496.

Ministry of Water and Irrigation (2013a), "Structural benchmark: Action Plan to Reduce Water Sector Losses", Ministry of Water and Irrigation, Amman.

Ministry of Water and Irrigation (2013b), "Jordan Government Plan for Water Sector 2013-2016", Ministry of Water and Irrigation, Amman.

Ministry of Water and Irrigation (2009), "Water for Life: Jordan's Water Strategy 2008-2022", Ministry of Water and Irrigation, Amman.

OECD (forthcoming), *Applying Better Regulation to the Water Sector*, OECD Publishing, Paris.

OECD (2013a), *OECD Investment Policy Reviews: Jordan 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264202276-en.

OECD (2013b), *Making Water Reform Happen in Mexico*, OECD Studies on Water, OECD Publishing, Paris, http://dx.oi.org/10.1787/9789264187894-en.

OECD (2011), *Water Governance in OECD Countries: A Multi-Level Approach*, OECD Studies on Water, OECD Publishing, Paris, http://dx.oi.org/10.1787/9789264119284-en.

OECD (2010), *Dedicated Public-Private Partnership Units: A Survey of Institutional and Governance Structures*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264064843-en.

Pérard, E. (2008), "Private sector participation and regulatory reform in water supply: The southern Mediterranean experience", *OECD Development Centre Working Papers*, No. 265, OECD Publishing, Paris, http://dx.doi.org/10.1787/245713883474.

Project Management Unit (PMU) (2013), "Quarterly Monitoring Final Report – Q3/2013", Jordan Miyahuna Water Company, November.

PMU (2010), "Newsletter", Ministry of Water and Irrigation Water Authority, Amman, November, www.pmu.gov.jo/Portals/0/PMU/ALMMEYAH%20NEWSLETTER.pdf.

Rothenberger, D. (2009), "Improving water utility performance through local private sector participation: Lessons learned from the micro PSP in Madaba, Jordan", GTZ, August, www2.gtz.de/dokumente/bib-2010/gtz2010-0549en-water-utility-jordan.pdf.

Segura/IP3 Partners (2009), *Pricing of Water and Wastewater Services in Amman and Subsidy Options: A Conceptual Framework, Recommendations and a Pricing Model*, Amman Water Management Commercialization, USAID, Amman.

Suleiman, R., L. Van Well and J-E. Gustagsson (2008), "Governance of the Amman Water Utility", *Development in Practice*, Vol. 08/2008, http://dx.doi.org/10.1080/09614520701778355.

SWIM-SM (2012), "Regional review of national water plans and/or strategies", final document validated during the Expert Regional Workshop on Planning of Water Resources in the SWIM Countries (13-14 June, Athens, Greece), Sustainable Water Integrated Management – Support Mechanism, www.swim-sm.eu/files/SWIM-SM_1_1_1_IWRM_Review_FINAL_EN.pdf.

UNDP (2011), "Public service delivery in Arab countries: Corruption risks and possible responses", Regional Conference Synthesis Report, 29-30 September, www.pogar.org/publications/ac/2012/Report_Roundtable%20on%20corruption%20in%20water%20sectors_RC_29-30_09_2011.pdf.

USAID (2012), *Review of Water Policies in Jordan and Recommendations for Strategic Priorities*, USAID, April.

USAID (2011a), "Institutional Support and Strengthening Programme (ISSP) institutional assessment report", USAID, October.

USAID (2011b), "Jordan Fiscal Reform Project II", *Water Public Expenditure Perspectives Working Paper*, USAID, October.

USAID (2011c), "Communication Strategy for Achieving Behavioral and Policy Changes in the Water, Energy and Environment Sectors", Public Action for Water, Energy and Environment Project – Prosperity, Livelihoods and Conserving Ecosystems (PLACE) IQC Task Order #5, USAID/Jordan.

USAID (2010a), "KAP Household – Baseline Survey", Public Action for Water, Energy and Environment Project – Prosperity, Livelihoods and Conserving Ecosystems (PLACE) IQC Task Order #5, USAID/Jordan.

USAID (2010b), "Survey finding of the mapping concepts of water, energy conservation and solid waste management in the Jordanian national curriculum. Formal sector. Final report", Public Action for Water, Energy and Environment Project – Prosperity, Livelihoods and Conserving Ecosystems (PLACE) IQC Task Order #5, USAID, http://pdf.usaid.gov/pdf_docs/Pnady236.pdf.

Water Authority of Jordan (WAJ) (2013), "Project Management Unit (PMU) objectives and organizational structure", August (hardcopy).

WAJ (2011), "Ministry of Water and Irrigation, Water Authority – Jordan Valley Authority: Annual Report 2011", Directorate of Media and Water Awareness.

World Bank (2012), "Red Sea – Dead Sea Water Conveyance Study Program feasibility study", Draft Final Feasibility Study Report: Summary, The World Bank, July, http://siteresources.worldbank.org/INTREDSEADEADSEA/Resources/Feasibility_Study_Report_Summary_EN.pdf.

World Bank (2010a), *The Cost of Environmental Degradation: Case Studies from the Middle East and North Africa*, Leila Croitoru and Maria Sarraf (eds.), The World Bank.

World Bank (2010b), *Achieving Sustainable Development in Jordan: Country Environmental Analysis*, The World Bank.

World Bank (2008), "Strategic communication for privatization, public-private partnerships, and private participation in infrastructure projects", Daniele Calabrese, *World Bank Working Paper*, No. 139, The World Bank.World Economic Forum (2013), *The Arab World Competitiveness Report 2013*, World Economic Forum/EBRD, May.

Chapter 2

Ways forward: Improving financial sustainability, the regulatory framework and stakeholders' engagement

Based on the diagnostic analysis, this chapter suggests ways forward to overcome the main governance challenges faced by Jordan in delivering on its ambitious pipeline of projects with the private sector in the water sector. This chapter focuses on three main areas of recommendations: i) managing PPPs in a fiscally constrained environment through appropriate budget processes; ii) reducing the regulatory risk through supporting the development of a high-quality water regulatory framework; and iii) enhancing stakeholder engagement to improve accountability and buy-in. The Jordanian authorities are active in these three areas and a number of reform initiatives are already underway. This chapter seeks to support the existing efforts by providing a set of practical recommendations, building on the compendium of principles and good practices developed by the OECD and international experience.

Improving the budget processes and strengthening financial sustainability

If used correctly by competent authorities, public-private partnerships (PPPs) can deliver value for money (VfM) in an affordable and transparent way. In particular cases, through harnessing the private sector's expertise in combining the design and operation of an asset, a PPP can provide the service in a more efficient manner compared to traditional forms of procurement. However, a number of conditions need to be in place for a PPP to be successful; if they are not, PPPs may be dangerous for fiscal sustainability due to their complex nature in terms of risk sharing, their long-term nature, their financial size, capacity challenges to the public sector and accounting treatment (OECD, 2011).

Experiences from OECD countries clearly indicate that to ensure that PPPs represent value for money, are affordable and in order to manage fiscal risks, there needs to be an integrated PPP governance framework. The OECD Principles for Public Governance of Public-Private Partnerships gives guidance as to the key components of such a framework (see Annex 2.A1). The framework focuses on three overall issues:

1. Establish a clear, predictable and legitimate institutional framework supported by competent and well-resourced authorities. The procuring authorities, PPP units, the central budget authority, the supreme audit institution and sector regulators should be entrusted with clear mandates and sufficient resources to ensure a prudent procurement process and clear lines of accountability. There should be a coherent process of prioritisation of projects.
2. Ground the selection of PPPs in value for money. This means carefully investigating which investment method is likely to yield the most value for money. It may mean developing a relative VfM test (public sector comparator) that measures the cost efficiency of using a PPP versus using traditional capital procurement. A public sector comparator compares the net present cost of bids for the PPP project against the most efficient form of delivery according to a traditionally procured public-sector reference project. The comparator takes into account both the risks that are transferable to a probable private party and those risks that will be retained by government. It should be noted that VfM includes qualitative aspects and typically involves an element of judgement on the part of government. Emphasis needs to be put on the fact that competition in the bidding process is a pre-condition for value for money.
3. Use the budgetary process transparently to minimise fiscal risks and ensure the integrity of the procurement process. A PPP project needs to be affordable in the long term for either the government budget and/or the users. This requires the ordinary budget process to have a medium-term dimension that can be used to assess whether it is reasonable to expect funds to be available in the future. The system of government budgeting and accounting should provide a clear, transparent and true record of all PPP activities. The accounting treatment itself should not create an incentive to use a PPP by making it possible to use public-private partnerships to circumvent spending ceilings and fiscal rules.

The water sector in Jordan faces two crises: a fiscal crisis and a financial sustainability crisis. Due to external shocks, the country has suffered increasing deficits – primarily as a consequence of a sharp increase in the price of energy. The increasing deficits have been financed via borrowing resulting in a steep increase in the debt stock since 2009 and a breach of the fiscal ceiling set by the government at 60% of GDP. In response to this unsustainable development, Jordan has entered into a stand-by agreement

with the International Monetary Fund (IMF) that includes a consolidation and modernisation programme. Since May 2012, the authorities have taken measures as part of their programme to stabilise the economy and address Jordan's economic vulnerabilities (International Monetary Fund, 2012). There is consequently little domestic fiscal space in the short or the medium term to meet capital or operating needs in the water sector.

Second, Jordan's water sector is financially unsustainable and represents a drain on general revenue. With the exception of the Aqaba governorate, the tariffs derived from water users barely meet the operating expenditure needs and do not cover the capital investment needs. This is resulting in arrears and increasing borrowing by the water utilities. Eventually this will require a government bail-out or a marked increase in fees and/or subsidies to the sector. Exacerbating the problem is rising demand for water services; the depletion of water resources at an increasing rate; unsustainably high non-revenue water; deteriorating capital stock; and significant investment needs in non-conventional water sources.

A number of gaps need to be addressed in order to solve these two crises. They involve a strategic planning gap, a funding gap, a procurement and VfM process gap, a fiscal guardian gap and a capacity gap.

Strategic planning gap

Two committees prioritise and approve capital/PSP (private sector participation) projects: the Cabinet's Economic Committee consisting of the Ministry of Finance, the Ministry of Planning, the Ministry of Public Works and others; and the Public Debt Committee, which decides about guarantees and other long-term public investment engagements. The Public Debt Committee consists of the Central Bank, the Ministry of Planning and the Ministry of Finance. It is positive that there are high-level decision-making bodies in Jordan that can give mandate to PPP projects. However, it appears that they may have difficulty in performing their tasks effectively.

While there are a number of frameworks for investment planning, the link between political objectives and investment planning is not obvious. The Government's Development Plan (2011-13), the Government Plan for the Water Sector (2013-16) and the Executive Development Program are important political documents. However, the strategy appears to lack a strong political sponsor; specific projects appear to be driven by the need to match a list of projects with interested donors. The projects that are implemented are consequently the projects that have donor funding, rather than those that are the most important. This would seem to indicate that the priorities of the government are not sufficiently enforced and/or developed.

To address this gap, a dedicated high-level committee supported by a unit in the Ministry of Finance or Prime Minister's Office could be set up. The unit would provide the analytical work assessing VfM of the various procurement options; the high-level committee would take the unit's as well as whole-of-government views into account in order to ensure prioritisation, alignment with national plans and political buy-in. Inspiration could be drawn from the operation of the Major Projects Review Group (OECD, 2010) and the units that serve it in the United Kingdom as well as the Economic Committee procedures in Australia and Denmark. The draft PPP Law appears to be broadly aligned with such a mechanism.

Funding gap

The revenues from water fees do not cover the costs of the water sector. This is partly a consequence of the real costs not being reflected in the price of water and the fact that there is a large amount of non-revenue water (NRW) being produced. It is not clear that the operators do enough to limit this NRW. There may be limited incentives to take action – e.g. the operators receive the bulk water at a heavily subsidised price. The decision on the price consumers pay is highly political and increasing it will require significant political will, evaluation of affordability thresholds among users, and a consultation and communication campaign to ensure the buy-in of the public would be necessary if costs were to be raised.

Meeting the funding gap via PSP is not straight forward. There does not seem to be a consensus regarding PSP as a viable option in Jordan. Notwithstanding the increased cost recovery, there is a clear need for further investment and operational efficiency, arguably including further PSP. Some Jordanians are skeptical as to the relevance of PSP despite successful experiences in the region. In addition, there do not appear to be in place affordability tests to ensure that an increase in cost recovery is feasible.

It is unclear how large the funding gap is, which makes it difficult to address. The gap is difficult to identify for a number of reasons. First, bulk water is sold to the distributers at an artificially low price. Second, various subsidies to the water sector are distributed over a number of budgetary accounts which are not aggregated in other budget documents. Third, there does not appear to be a centralised process where the performance and needs of the water sector are annually assessed (see the section on the fiscal guardian gap). It should be noted that the government treats guarantees as public debt with regards to the debt ceiling. This creates clarity about a key component of the liabilities from the sector. Given the difficulty to address cost recovery in the short term, the key from a budgetary point of view is to ensure budget transparency.

The authorities need to develop a strategic financial plan for Jordan's water sector. The plan should identify the sources of revenues and the expected expenditures in the sector, as well as trade-offs and alternative scenarios to meet the costs. Only by bringing clarity to the choices that Jordan faces in this sector can consensus be built with regards to PSP and a coherent funding strategy can be pursued.

To address the funding gap, the Ministry of Finance should commission a report that details the subsidies in the water sector and the long-term needs. This report should be published annually as part of the ordinary budget process. Like the annual Contingent Liability Report the Chilean parliament receives from the Ministry of Finance, it should assess the bands of liabilities the government carries due to the water sector's dependence on general revenue.

Procurement and value for money process gap

As discussed in Chapter 1, the administration undertakes an assessment of infrastructure service needs; *ex ante* affordability analysis of projects, *ex ante* VfM analysis for water and sanitation projects; and monitoring of project execution. Articles 11-15 of the proposed PPP Law in particular provide detailed specification on how PPP projects should be procured and which tests and tools should be used to ensure that VfM is met. The law makes it mandatory for line ministries to prepare a viability report and feasibility study and for the Partnership Council to decide whether proposed PPP projects ensure value for money on the basis of these documents. This is all in line with

established practice, but other countries' experience shows that implementation is a challenge. Indeed, according to the Jordanian administration, the capacity to conduct feasibility studies, cost-benefit analysis, public comparator tests, risk evaluation and contract design is deemed by the administration itself to be a challenge for public officials (OECD Questionnaire).

The Ministry of Finance should develop a basic VfM methodology. There is little need to start from scratch. The basic French, South African or UK methodology should be a good point of departure. While developing a public sector comparator is a good idea, it should be kept in mind that this is in essence a technical tool. The most important thing is to make sure that the tendering documents are clear and attractive to a private party so that sufficient competition in the bidding process is ensured. France has to a very great extent, as in the United Kingdom, relied on a competitive bidding process to ensure VfM but has not to the same extent focused on developing an elaborate public sector comparator. Donor grants, concessionary lending or other credit enhancement techniques can also increase the attractiveness/bankability of projects by lowering the overall cost of the PPP project and thus increasing value for money. Such inputs should be integrated into the VfM methodology.

Good project preparation requires a top-down framework and bottom-up enthusiasm. Along the lines of the South African Gateway process (OECD, 2010) and the Korean process (Annex 2.A3), the line departments should submit projects to the dedicated Capital Procurement Unit in the Ministry of Finance. These projects should then be prioritised initially and if they make it to a short list, a dedicated professional transaction advisor, centrally financed, should be appointed to the project. The advisor should be assigned to the project until the operational phase commences. (S)he would typically be a former professional transaction advisor. (S)he would be responsible for preparing the project documents and liaising internally in the line department where (s)he would organisationally be placed. (S)he would be the main interlocutor both with the Ministry of Finance and the private contractor. Realistically, given existing capacity, it is likely that Jordan will have to hire external transaction advisors, at least in the early stages of the PPP Unit. The transaction advisors should be made responsible for dissemination of knowledge so that institutional memory and key capacities are developed within the procuring authority.

Standard contracts for PPPs should be developed. While PSP has happened in the past on an *ad hoc* basis, there is currently no standard framework for carrying out PPPs. The draft PPP Law would provide a basis for standard contracts, but it has been under way for a number of years. In order to minimise risks and attract private sector investors, a model that is well proven should be utilised and divergences from such a model contract should be minimised. Experiences from the Russian Federation show that too much variation across PPP contracts makes it difficult for both the public and private sector to operate and increases the regulatory risks. Evidence shows that adopting standard approaches and documentation also help address capacity constraints.[1]

The Jordanian authorities should ensure there is sufficient competition in the market through a competitive tender process. This might be attained by structuring the PPP programme so that there is an ongoing functional market. Where market operators are few, governments should ensure a level playing field in the tendering process so that non-incumbent operators can enter the market. This also involves reducing delays and burdens in the tendering process to avoid that transaction costs prohibit smaller or non-traditional bidders from participating.

Fiscal guardian gap and public affordability

The current fiscal crisis appears to have strengthened the Ministry of Finance's (MoF) role in critically scrutinising guarantees. Although the MoF has modernised its budgetary processes over the past ten years, it is unclear to what extent it has the capacity to critically address and assess the specific issues regarding PSPs. This concerns primarily the lack of a coherent affordability analysis regarding the fiscal commitments stemming from PPPs. It is important to ensure the integration of the PPP deal flow into the ordinary budget process. There does not appear to be a coherent way that the long-term commitments that PPPs represent are integrated into the budget process.

A procedure to generate a contingent liability report and the annual publication of such a work as part of the budget documentation will create transparency about the fiscal stress that the water sector is placing on the general revenue. Should this be combined with a stronger medium-term budgeting methodology, which is standard in OECD countries and increasingly also in the Middle East and North Africa (MENA) region, the role of fiscal guardian in the MoF would be strengthened and affordability ensured.

Capacity gap

A successful PPP/PSP programme requires that all government entities which play a role in PPP/PSP procurement and management have sufficient capacity. Apart from the development of a PPP Unit, the procurement process should be part of the ordinary procedures in the relevant agency/line ministry, Ministry of Finance, Ministry of Planning, supreme audit institution and other relevant organisations. While widespread training is important, learning by doing is key. This will entail hiring experts that have extensive experience with PPP/PSPs and placing them within the relevant organisations. The United Kingdom has had good experiences with using a mix of career civil servants and senior experts for the private sector assigned to the relevant functions in the PPP/PSP procurement process.

Box 2.1. **Key positions with a public-private partnership project team in South Africa**

The accounting officer/authority provides overall direction to the project, obtains all the necessary Treasury approvals and is the signatory of the project agreement with the private partner, as well as an anti-corruption policy for the project. During project implementation, the accounting officer/authority is responsible for ensuring that the project agreement is appropriately enforced.

The project officer manages the project agreement full-time from project preparation until at least the first few years of the delivery. This requirement is designed to ensure institutional memory and support the development of a durable relationship with the client. The project officer is a public servant within the relevant implementing department/public entity.

The transaction advisor works on the legal, technical and financial aspects of the project agreement. This includes, among other things, preparing a project feasibility study, preparing the necessary documents for Treasury approval as well as providing support during the first few years of project construction/operation. The transaction advisor does not have to be a public servant; (s)he may be an external consultant hired specifically for the project.

The National Treasury (PPP Unit) project advisor supports the relevant department/public entity throughout the procurement cycle, including preparation and implementation throughout the full project term. The project advisor also helps the accounting officer/authority to apply for project development funds available through the National Treasury, to establish a project team and other key project activities.

Source: OECD (2010), *Dedicated Public-Private Partnership Units: A Survey of Institutional and Governance Structures*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264064843-en.

Improving the regulatory framework for water

A number of reforms are underway to address the shortcomings in the regulatory framework for water services identified in the diagnostic part of this work. In particular, the reallocation of regulatory functions –in terms of economic regulation – to the Project Management Unit (PMU) and its transformation over the long run in the economic regulator for the water sector are under discussion. Together with the current country efforts to improve the institutions and tools of better regulation, this will be an important step to clarify the regulatory framework and make it more effective through unbundling of policy making, regulatory and service provision functions. At the same time, the establishment of a quality regulatory framework for water services cannot be dissociated from the reform of the water industry. The current efforts to consolidate the water industry and corporatise operators are important steps in the right direction that need to be sustained over time. They are prerequisites to higher quality service provision and a *sine qua non* condition for successful private sector participation in water and wastewater services.

Improving the regulatory framework through the establishment of the regulator

The authority of the PMU has been so far established under the Assignment Agreements signed with the two utilities Miyahuna and Yarmouk, under the Water Authority of Jordan ("WAJ") Law (no. 18 of 1988), Article 28 (a). These agreements specifically state that Yarmouk and Miyahuna are regulated by the PMU,[2] whose obligations are legally binding. In May 2013, a ministerial decree provided for Rules of Procedures for the PMU building on the assignment agreements and expanding the functions of the PMU. An official document dated August 2013 (Water Authority of Jordan, 2013) sets the PMU's objectives and organisational structure. A broader founding legislation for the PMU, once under consideration, seems to have been taken off the table until further notice.

As the PMU takes on additional regulatory functions in the water sector in Jordan and establishes its position as the regulator for the sector, the clarity of its role will be a critical dimension of its credibility and success. Based on the OECD Best Practice Principles for the Governance of Regulators (OECD, forthcoming), a guidance supporting the establishment of efficient and effective regulators, with good regulatory management and governance practices, role clarity has several underpinning elements, including the following, which are of particular relevance for Jordan:

1. A founding legislation or other government tools to clarify the roles of the regulatory body so that the purpose of the regulator and the objectives of the regulatory scheme are clear to the regulator's staff, regulated entities and citizens.
2. Clear co-ordination mechanisms with other bodies (non-government and other levels of government) where this will assist in meeting their common objectives to reduce overlap and regulatory burden.
3. Mechanisms to avoid or deal with potentially conflicting functions, e.g. the performance of one function should not limit, or appear to compromise, the regulator's ability to fulfil its other functions.

The Rules of Procedure (RoP) developed for the PMU is a useful tool to clarify the functions of the PMU. One important (review) mechanism in support of the RoP is the possibility, one year after the effective date of the rules, for the PMU to invite the service

providers to a proceeding to establish a new protocol, including new performance indicators, new performance targets, self-scoring elements and compliance protocols. However useful the RoP are to delineate the activities of the PMU in the relative legal vacuum in relation to the water and wastewater services (WWS) regulatory framework, the general buy-in that they will generate (not by utilities that are bound by the assignment agreements, but by other responsible authorities, including the WAJ and various ministries with regulatory responsibilities) remains unclear. In the longer run, the activities of the regulator for WWS need to be anchored in legislation. The authorities should work towards the objective of developing a founding legislation that will clarify the role of the regulator for WWS and any other bodies involved in regulating water services.

According to the RoP, the PMU performs a number of functions that are core activities of water regulators in other countries, as illustrated by Annex 2.A4 which provides preliminary findings from a survey conducted by the OECD with some 30 dedicated regulatory bodies for WWS. The functions of the PMU as spelled out in the RoP are in line with international practices. These include functions in relation to:

- Tariff regulation: The PMU has an advisory role in developing the substantive and procedural requirements for a tariff review. According to the RoP, this involves, in particular: developing an appropriate methodology for tariff setting; determining the tariff structure for each regulated activity; developing rules and procedures on tariff-related issues; maintaining and continuously updating the economic performance data and cost indicators of service providers to be used in the tariff-setting methodology.
- Monitoring of service delivery performance: The PMU is tasked for monitoring, evaluating, inspecting, reviewing and setting targets for the regulated suppliers in relation to their technical performance, operational organisation, cost effectiveness, financial performance, and the quality of services and customer services.
- Analysis of business plans of utilities: The PMU is tasked with reviewing and approving the business plans, health and safety plans, emergency plans, as well as with reviewing the capital budget of utilities. The PMU shall review the economic, financial and environmental feasibility of proposed capital investments and operation and maintenance plans proposed by a regulated supplier.
- Information and data gathering: The PMU is tasked with determining performance indicators, minimum service standards, targets and benchmarks; collecting and analysing data and other information; developing, maintaining and implementing technical, financial and customer service monitoring and evaluation systems. Regulated suppliers shall report quarterly and annually on the targets.

In addition, the PMU is mandated to perform functions that are less common for water regulators in relation to:

- Enforcement of water quality parameters: testing, monitoring and enforcing existing water quality parameters for potable water and wastewater and water and wastewater treatment residuals in accordance with Jordanian laws and regulations.
- Monitoring and enforcing reuse water distribution programmes as to distribution and proper usage.

Currently, the PMU's Rules of Procedure do not explicitly accord it a role in monitoring private sector contracts. However, in a context where the institutional framework of the water sector is undergoing changes, there is an opportunity to rethink the allocation of the contract supervisory powers, especially as the PMU has a *de facto* role in following the performance of the utilities overall.

The capacity of the regulator to effectively discharge its functions will depend on several dimensions, a critical one being the powers vested by legal instruments and other channels to the regulatory body. In relation to the PMU's powers, the RoP include obligations that are legally binding under the assignment agreements, as well as procedures and processes of a different nature, i.e. deemed to allow the PMU to fulfil its obligations under the assignment agreements. The PMU has explicit powers in relation to data collection.[3] This is in line with the results of the OECD Survey of Water Regulators' Practices (as reflected in Annex 2.A4).

In addition, the PMU has the power to set minimum service standards, targets and benchmarks.[4] The PMU has an advisory role to the minister in relation to tariff applications, capital investment plans, sector reform initiatives and matters related to the continuing development of the sector's legal framework. The PMU can conduct inquiries, investigations and inspections, but does not impose fines or other financial sanctions. However, the PMU's powers to enforce compliance with regulation (for instance enforcing the water quality standards) are not defined in the rules of operation. If other documents complement the RoP in this respect, they are not mentioned. The PMU's enforcement powers should be clarified, as should the recourses available to the regulated parties to contest a regulatory decision.

One important missing dimension is the function of transparency to which regulators usually contribute in publicising information on water operators and their benchmark. The PMU should have a clear responsibility of making the information collected on the state and performance of water services publicly available (on a website, but also through other means of dissemination).

The capacity of the regulator to carry out its functions and exert its powers will also depend on its human and financial resource endowments, which should be in line with the tasks at hand. The OECD Best Practice Principles for the Governance of Regulators make it clear, in particular, that "Funding levels should be adequate to enable the regulator, operating efficiently, to effectively fulfil the objectives set by government, including obligations imposed by other legislation" (OECD, forthcoming). The Rules of Procedure do not specify the resource endowment of the PMU. There should not be any disconnect between the RoP (or any other statement of expectation or document underpinning the PMU's activities) and the mechanisms, processes and documents (budgetary or other) establishing the available resources to the PMU to carry out its tasks. The resources (level and sources) available to the regulator should be clarified and ensured over a sufficient period of time.

From the diagnostic analysis of the regulatory framework, several regulatory functions for WWS are shared by the WAJ and the PMU. The WAJ and the PMU have overlapping regulatory functions for defining incentives for efficient use of water and investment, engaging with customers on the performance of operators, and consumer protection and dispute resolution between water operators and consumers. The PMU's Rules of Procedure do not address the potential overlaps with other responsible authorities and related co-ordination needs. They refer to a number of shared activities or lines of accountability, but not in an exhaustive manner, and do not address any

conflicting allocation. The OECD Recommendation of the Council on Regulatory Policy and Governance identifies effective co-ordination of regulatory activities as critical to bring significant administrative benefits. Regulators should be encouraged to see themselves as part of an integrated system of regulation and to work together and learn from each other. According to the OECD Best Practice Principles for the Governance of Regulators (OECD, forthcoming), the effectiveness and efficiency of a regulatory system depends, in part, on the extent to which potential duplication and gaps between regulators are anticipated and avoided. A systematic mapping of the lines of accountability and the shared responsibilities deriving from the new PMU functions would help clarify the potential reform needs in the mandate and functions of other authorities and the need for co-ordination mechanisms.

Formal co-ordination mechanisms to clarify roles and responsibilities might include agreements detailing respective roles and co-operation with regulators in other jurisdictions and electronic access to information held by other regulators. Lessons learnt from the experience of regulators in other sectors (in particular telecom and electricity) may be helpful in this regard. The effectiveness of such arrangements will depend on the capacity of regulators to identify opportunities and forge effective working relationships. Legislation should explicitly empower regulators to co-operate with other agencies and bodies in pursuit of the regulator's objectives. Specific provisions can be included in legislation for the accreditation of other bodies' activities and staff where they are consistent with the standards applied by the regulator. Ways of dealing with potentially overlapping functions and lines of responsibility should be clearly stated in the RoP.

The capacity of the PMU to discharge its functions and contribute to improve the regulatory framework for WWS will also depend on the coherence of its mandate and, in particular, the avoidance of conflicts of interest in its tasks. "The assignment to a regulator of both industry development and regulatory functions, such as protecting health or the environment, can reduce the regulator's effectiveness in one or both functions and can also fail to engender public confidence. Such conflicting functions can impair a regulators' clear role and they do not contribute to effective performance. For these reasons, this combination should be avoided" (OECD, forthcoming). In that respect, the fact that the PMU is responsible for both regulating water supply and wastewater utilities and for promoting and developing private sector participation in the water sector, as well as for tasks related to project planning and execution, is creating risks for the credibility of the regulatory framework and its ability to properly carry out its regulatory functions. In these situations, the OECD Principles recommend structural separation of conflicting functions (OECD, forthcoming). However, if this is not possible (in particular in the short run) attention should turn to the separation of teams with these potentially conflicting roles and their reporting lines. Some form of oversight or review of the regulatory activities is also warranted. Separation within the PMU between the team in charge of regulatory activities and that in charge of project development and piloting PSP is critical.

Applying the tools and principles of regulatory policy in Jordan to improve the private sector participation environment in water and wastewater services

Jordan has recognised the need to foster good regulatory policy principles and embarked in a number of reforms to mainstream good regulatory practices (Box 2.2). However, the extent to which this has trickled down to the water sector and to PPPs remains unclear. For instance, there is no evidence that regulatory impact assessments have been used for any water legislation or for the proposed PPP Law.

Three instruments of regulatory policy could be more systematically embedded in the water sector: consultation with the regulated and the public on new regulation, regulatory impact assessment and *ex post* evaluation of existing regulations. Various authorities have a role to play in this respect, including the regulatory body and the MWI in its quality of regulator of water resources. The first two instruments are commonly used across regulators, as illustrated in Annex 2.A4.

Box 2.2. **Regulatory reform in Jordan**

Recognising the importance of institutional arrangements for the success of the reform effort, Jordan set up the National Agenda Steering Committee by Royal Decree on 9 February 2005. The committee began a qualitative, holistic review of the structures, functions, management systems and working procedures of the public sector.

In Jordan, all texts related to legislation issues, since the establishment of the country, are available on an online database, maintained by the Legislation and Opinion Bureau Registry, and the Palace of Justice (www.lob.gov.jo/ui/main.html). Information on legislation can be accessed in several ways and at more than one level; the database is updated whenever a new legislation is issued.

Jordan introduced regulatory impact assessment (RIA) to enhance the quality of legislation. This has been assigned to the Economic and Social Council, established in 2009, with the aim of acting as an advisory body to the government on economic and social issues and policies. The council is mandated to assess the impact of existing and proposed economic and social legislation and consult relevant stakeholders in the process. In October 2012, Jordan established the Evaluation and Impact Assessment Unit to evaluate the formulation, programming, implementation and assessment of the national development plans. This unit has provided specific evaluations of policies and programmes for the government of Jordan.

Jordan undertook the regulatory guillotine approach to simplifying the stock of regulation. The government also adopted a series of measures of successful administrative simplification. For example, the government discarded the second step within the list of procedures to obtain construction permits in a number of areas in Amman which led to the improvement of Jordan's ranking in the World Bank's *Doing Business Report 2012* by one rank under the construction permit indicator. In January 2012, the Customs Department implemented an automated system for releasing order and exit notes.

Source: OECD (2013), *Regulatory Reform in the Middle East and North Africa: Implementing Regulatory Policy Principles to Foster Inclusive Growth*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264204553-en.

Supporting autonomous, efficient and financially sustainable water operators

There are concrete, ongoing efforts to consolidate the water industry and corporatise operators that could have a positive impact on private sector participation in water and wastewater services. These efforts need to be continued and focused on the continued corporatisation of the water sector based on competent, autonomous and financially sustainable water operators and the establishment of an effective and efficient monitoring system.

Addressing the lack of autonomy of operators is an issue of corporate governance of state-owned enterprises. A thorough evaluation of the corporate governance of these operators is needed, but is beyond the scope of this work. It could be the object of further work.

Critical accompanying steps include a careful selection of the members on the board of directors and of managers, based on their professional competences and merits with a view to avoid potential conflicts of interest. Similarly, managers could be selected through a competitive process and based on criteria supporting a high level of qualifications. In that respect, senior staff nomination could follow a practice in other countries, where heads of agencies are selected for terms that do not follow the political cycle and do not respond to political interest.

Some steps should be taken to strengthen the financial sustainability of operators through a more technical approach to tariff setting along with accompanying measures that would ensure better use of tariff revenues. Service providers crucially depend on revenues raised through tariffs (in addition to subsidies) to cover their operation and maintenance costs. Maintaining tariffs artificially low may fulfil short-term political considerations. However, it is an important barrier to the financial sustainability of operators and to efficient water demand management. It may also fail to address the social objectives that may serve as their initial justification. Tariffs are usually not the best tool to address the needs of the poor. They are, however, a powerful instrument to signal scarcity. There are ways of ensuring a more technical discussion on tariff setting and approval. For instance, making tariff regulation (the process of setting tariffs, of updating and approving them) more transparent and disclosing information and technical reports on the use of revenues would help to build a more consensual understanding on the link between tariffs and sustainability of service provision. Strengthening the financial sustainability of utilities also involves accompanying measures, such as improving bill collection rates and the capacity of utilities to manage well the resources at their disposal.

The flip side of increased autonomy of water operators is the setting up of appropriate accountability mechanisms, including performance indicators and regular reporting exercises to both the board of directors and the relevant state auditing authorities. For the time being, the set of key performance indicators used in monitoring Yarmouk and Miyahuna, on one hand, and for Aqaba Water Company (AWC), on the other hand, are different, while service provision outside of these three utilities is not monitored. Addressing the gaps in performance monitoring would involve the coherent development and use of performance indicators, and their disclosure to exert pressure on operators to improve their performance. In particular, a set of common performance indicators should be developed for the whole sector. The resulting information needs to be made publicly available. The example of the Water and Waste Services Regulation Authority (ERSAR) in Portugal could be of value in this area to Jordan to identify a practical way to introduce more transparency and benchmarking in the water sector.

Enhancing stakeholder engagement to improve accountability and citizen buy-in

A window of opportunity

The Arab Spring has pushed several MENA countries to move from the traditional role of "government" as the single decision-making authority to a transition process towards democracy. This implies relying more on "open governments", an active and multifaceted civil society, private sector participation and a new political class inspired by the principles of openness, transparency, integrity and inclusiveness. This ongoing change reflects a more general trend in public policy, stepping away from the old "top-down hierarchical model" exerting sovereign control over the people and groups making up civil society, to gradual involvement of a broader range of stakeholders at different levels.

Until recently, and as in most MENA countries (UNDP, 2013), accountability to the public in Jordan's water sector has been rather weak. Stakeholder engagement, although not completely absent, has remained sporadic in both water resource management and water and wastewater services. According to the World Bank Governance Indicators (World Bank, 2012), in 2011, Jordan's score for "voice and accountability" was negative, with an indicator of -0.88, versus -0.37 for Tunisia and -0.71 for Morocco, calculated on a scale from -2.5 (weakest performance) to +2.5 (strongest performance) Hence, many of the accountability gaps observed in the water sector are largely present in the broader public policy field, and similarly improvements in the governance of water can also have spillover effects on other policy areas.

Many conditions for successful stakeholder engagement in water PSP are exogenous to the water sector. They refer to the role of civil society organisations (and the administrative obstacles they face when carrying out their activities), government (direct and indirect democracy) and donors' incentives at large in the technical assistance programmes. They also relate to the capacity of stakeholders to engage in knowledgeable and informed public debates, with result-oriented frameworks and incentives to contribute to the decision making or, at least, to impact projects and initiatives.

The National Strategy for Water, launched in 2008 in Jordan, established a set of goals to raise awareness among the Jordanian public and decision makers while committing the government to a number of targets for which implementation (tracking and effectiveness) remains unclear:

- Target audiences to include the public and private sectors and the general public.
- Prepare and disseminate messages at multiple levels once audiences are identified and current levels of knowledge ascertained.
- Work with the Ministry of Education to introduce water awareness programmes in the form of events and curricula at all school grades.
- Invite associations to participate with the government in setting and implementing protection zones of surface and groundwater.
- Create public awareness through various means about the risks associated with the exposure to untreated wastewater and the value of treated effluents for the different end uses.
- Design and conduct programmes on public and farmers' awareness to promote the reuse of treated wastewater, methods of irrigation, handling of produce.
- Begin to inform the public on the use of treated wastewater for aquifer recharge as is done in other countries. Only through gradual public education can the perception issues surrounding this potential use be addressed.

What stakeholder engagement can help achieve: An OECD perspective

Improving accountability to the public in Jordan's water sector is a critical step to build the social acceptability of PSP. Stakeholder engagement can also exert a strong push towards increasing the accountability of private actors and public authorities. A menu of options should be considered to strengthen existing mechanisms when they have proven effective, and develop a larger consultation base that can support inclusive water policy, with a positive impact on the willingness to pay and financial sustainability of the sector.

OECD work has stressed that rather than a policy objective per se, stakeholder engagement is a means to an end. It is a governance instrument that can help achieve better outcomes in terms of efficiency, transparency, inclusiveness and equity when managing the delivery of water supply and wastewater services. Stakeholder engagement can also be a powerful tool to address territorial and institutional fragmentation, align divergent objectives, improve the accountability of decision makers and service providers, and support result-oriented action (OECD, 2011).

In the case of Jordan, strengthening stakeholder engagement (across the public, private and not-for-profit sectors) can help government authorities:

- raise awareness on water challenges, especially growing water scarcity and the inevitable impact on water availability and quality
- provide a platform to address conflicts over water allocation across end users, especially in the context of uncertainties generated by the presence of refugees and the share of water used by the agriculture sector
- build the political and social acceptability for private sector participation, where contemplated, through better communication and clarification of what the private sector can and cannot do, especially as public protests and strikes were pointed out as a high risk factor in the survey on private companies' involvement in the sector
- increase the willingness to pay through better information about the economic value of water as a resource, and the cost of producing, treating and managing water services

OECD experience shows a wide range of mechanisms that public authorities can use to strengthen their interactions with end users and major stakeholder groups (Table 2.1), ranging from institutional arrangements (inter-ministerial bodies, programmes, agencies, partnerships) to communication and media-based tools, for example. Some of these tools are already in place in Jordan and positive changes are taking place through strategic planning, innovative platforms and communication strategies to better involve stakeholders. The following sections shed light on how some of the existing instruments in Jordan could be improved, which information gaps need to be bridged, how to strengthen the multi-stakeholder interface for informed decision making, as well as needed communication and education strategies for proper stakeholder engagement.

Table 2.1. **Stakeholder engagement mechanisms**

Inter-ministerial bodies	Stakeholder analysis
Inter-agency programmes	Workshops/Fora
Water institutions	Expert panels
Public-private partnerships	Focus groups
Shareholding (public, private, mix)	Citizen committees
Water user associations	Consensus conference
Innovative contracts and partnerships	Meetings
Referendum	Hotlines
Information and communications technologies (online platforms, email, social media, etc.)	Media (news release, newspaper insert, social media networks, etc.)
Surveys/polls	Capacity building

Source: OECD (forthcoming), *Stakeholder Engagement for Effective Water Governance*, OECD Publishing, Paris.

Strengthen existing mechanisms and platforms for stakeholder engagement in Jordan

Several mechanisms currently in place in Jordan have the potential to build consensus on investment priorities, debate on tariff levels, prevent conflicts likely to arise around PPPs and improve service quality. They can also contribute to engage further dialogue between non-governmental organisation (NGOs), academics, and citizens and local governments and service providers on water-related issues. This can help gain greater citizen buy-in, a shared understanding of the issues at hand and more informed inputs to the decision making. Selected examples include water users' associations (WUAs), the Highlands Water Forum, the National Water Council and customer satisfaction surveys.

Jordan's WUAs can provide interesting and replicable lessons to develop formal mechanisms through which domestic drinking water and sanitation users could present their needs and report service problems to local officials and utilities. Recent years have seen the development of local community organisations and WUAs in a number of Arab countries with varying objectives, constituencies and influence in decision making. Jordan's 22 WUAs are mostly located in the Jordan Valley and limited to irrigation and groundwater management. They mostly comprise farmers, given the important share of agriculture in water uses. But striking a balance across different stakeholders requires representativeness of the different categories of users, especially the "unheard voices", such as households (domestic drinking water) when it comes to securing urban water needs, which is not the case at present. Farmers involved in these groups have reported that these associations help reduce tensions with officials; contribute to a more transparent and self-regulating process; and also contribute to conflict resolution (UNDP, 2013).

The recently established National Water Council is still in its infancy, so there is an opportunity for it to define its role more concretely as time goes by. Ways forward in terms of including a broader range of stakeholders could help build further consensus on investment priorities, restructuring, water allocation policies, and facilitate enforcement and compliance with regulations.

The Highland Water Forum was established to support the Ministry of Water and Irrigation in developing an action plan for sustainable management of the Highlands groundwater basins. The forum is supported by an Advisory Board and a Steering Committee, as well as donor agencies to generate alternative income opportunities for the rural population. The forum is intended as a permanent platform of discussion and information, not as a decision-making or fund-allocating body. It represents an open place for ideas and projects where important players can meet. Between 2010 and 2013, the core group met 11 times to discuss essentially issues related to sustainable groundwater. The outcomes of the first two sessions were documented in the form of a Policy Recommendation Paper, which reflects the voice of the water user community to support governmental bodies' efforts to shape policies to needs and expectations. A concrete outcome is the Azraq Groundwater Action Plan, established and approved by the MWI and the Highland Water Forum Steering Committee in February 2014.

The establishment of the Highlands Water Forum is an important step toward addressing the political economy of enforcement decisions, in a context where the enforcement of groundwater bylaws has fallen far short of national needs. This innovative multi-stakeholder initiative could also provide a platform where public, private and not-for-profit actors can share their concerns on service provision, especially as its mandate for the coming years is being discussed. Another hook is that the MWI is

currently working on "institutionalising" the fora at the basin level, not only for awareness purposes but also as consultative bodies that could then also embrace critical questions related to the quality and efficiency of water service provision.

Another interesting mechanism to further develop is customers' surveys carried out to improve the quality of drinking water and wastewater services. In the governorate of Zarqa, a comprehensive Subscribers Survey was carried out between 2007 and 2010 by Engicon O&M for the Water Authority of Jordan (O&M Engicon, n.d.). It covered all water (140 000) and sewerage (90 000) subscribers with the objectives to improve the collection efficiency through:

- Geographic identification of subscribers: This was accomplished by introducing a unique DLS coding through village name and number, block name and number, and plot number on the GIS system.
- Reducing non-revenue water: Reports were produced detailing the necessary rectifications for office and field, which identified lost subscribers, broken or idle water meters, unsealed meters, non-billed sewerage subscriptions, illegal connections for water and sewer, added floors and other irregularities.
- Updating the *Subscriber Database*: A *Subscriber Database* was developed to gather information about the real estate, water subscription, water meters and sewer connections. The list helped redefine new collection areas by linking them to the route system in order to update the existing *Subscriber Database*, which included customer addresses.
- Improving customer services: With the redesigning of the subscriber business processes, the overall quality of service was improved substantially. This was realised from improving staff experience, an outcome produced through learning by doing, including such activities as meter reading, reading assessment, bill distribution, inspection and follow-up.

Regular public customer satisfaction surveys are common practice in several OECD countries for water and wastewater services, and the data collected is available to the general public. In the United States, the City of San Diego Public Utilities Department, for instance, distributes survey forms to be filled in by customers on the quality of water leak repairing crews or the effectiveness of their co-operation with Street Division to repair utility service trenches.[5] They also encourage citizens to submit comments on the overall quality of service and share their experience. Similarly, the Alameda County Water District surveys customer satisfaction on the capacity of the district to address requests for residential fire sprinkler connections or water main extension projects requiring utility infrastructure planning, design and installation.[6] In Canada, Strathcona Country carries out a regular public opinion survey on the quality of services covering, amongst others, water, sanitation and recycling programmes.[7]

Strengthen the information base to raise citizens' awareness on the cost of water supply and sanitation

Lack of access to regular and up-to-date information is a major barrier to engage informed stakeholders in Jordan's water debate and reform. An important step to address this issue is the recent initiative taken by utilities to provide a tariff breakdown in the bills. This is a good means to sensitise the population, but it is not sufficient to convey detailed information about the cost of treating, transporting and distributing water.

Bridging this information gap would help to raise awareness on critical issues such as the state of water resources, the costs of water and wastewater supply services and the role of private companies.

- Quality standards are established through technical norms at the central level (Ministry of Water and Irrigation, Project Management Unit), but information related to their enforcement and compliance is not publicly accessible, hence raising transparency concerns.
- Tariff setting and regulation could be subject to public debates at the local/national level, especially when increases are foreseen. This could contribute to raise awareness on the costs related to water production, treatment and distribution and secure more willingness to pay.
- Social obligations: Some sporadic NGOs and action groups have supported accessibility, equity and warranty of drinking water supply and sanitation on an *ad hoc* basis, including for marginalised population, but there are no systematic instruments to do so.

In Jordan, the general public does not have a comprehensive understanding of the state of water resources (USAID, 2011), despite the existence of a Water Demand Management Unit within the MWI, which works on demand management in the municipal and agricultural sectors. Citizens usually understand scarcity from water rationing in their own daily experience, but not issues such as impending trade-off decisions related to leveraging resources from one sector to support another. The general public also holds misconceptions about their right to water, lacks incentives (beyond price instruments) for reducing consumption and heavily relies on the government to provide the necessary measures to solve scarcity challenges. The limitations to the scope of activities of the institution responsible for demand management is one element of the lack of awareness. For one, the Water Demand Management Unit only focuses on awareness-raising in relation to water scarcity, but not beyond. It is not supported by other tools, such as price instruments or rationing technologies – so effectiveness is likely to remain limited.

The MWI is currently working on integrating economics in national water planning in Jordan through Decision-Support tools for Integrated Water Resources Management, WEAP (Water Evaluation and Planning) and its component MYWAS (Multi-Year Water Allocation System). WEAP is a software tool for integrated water resources planning originally developed by the Stockholm Environmental Institute (SEI) in 1998, which can be used as a database for maintaining water demand and supply information. As a forecasting tool, WEAP simulates water demand, supply, flows, storage, pollution generation, treatment and discharge. As a policy analysis tool, WEAP evaluates a full range of water development and management options, and takes account of multiple and competing uses of water systems. MYWAS was also developed by the SEI and allocates available water supplies to various uses to maximise social welfare and net benefits, subject to physical and policy constraints defined for the analysis. The key insight gained through the use of MYWAS is the identification of optimal infrastructure and water policies system-wide. In the context of efforts underway to develop a National Water Plan in Jordan, the MYWAS/WEAP modelling approach would give the MWI the ability to do a system-wide cost-benefit analysis of water infrastructure projects and policy reforms, taking into account future scenarios related to drought frequency and intensity, population growth and economic/political developments.

Strengthening the information base to raise awareness of Jordan's citizens on the real cost of water and wastewater services, as well as the pros and cons of private sector participation, requires action on three fronts.

- Establish a public, reliable and up-to-date database informing stakeholders about costs and benefits related to water production, treatment and distribution. This implies setting up monitoring mechanisms to collect and update data from reliable sources and on a regular basis. Such data should cover, amongst others, consumption levels, the quality of drinking water and wastewater, as well as tariffs. This important information will enable "informed" citizens to take part more effectively in discussions related to drinking water and sanitation.
- Produce clear and evidence-based information on the potentially beneficial role that private actors can play in the water sector to dispel the myths and clarify what the private sector has (or has not) brought in Jordan based on previous experiences. Such an independent stock-taking and assessment exercise should clearly set out the upsides as well as downsides of change and raise awareness among priority target audiences (e.g. households) on the role, responsibility and contribution of the private actors in the water sector.
- The communication of these results could then help secure the political acceptability of PSP projects and contribute to rebuilding trust among the public of the water supply.

Fostering greater multi-stakeholder interface between NGOs, science and government on water services

Rising players such as NGOs and universities should be further supported to encourage new research and better connect with policy-making platforms. Thus far, many have been devoted to water "resources" management, while there are opportunities for gaining their insights on water supply and sanitation as well.

NGOs and action groups are in number in Jordan but few of them deal with water services and sanitation. NGOs such as the Jordan Environment Society are mainly involved in developing public awareness and education on national environmental issues (e.g. ecosystem protection, sustainable use of natural resources, etc.), identifying problems and proposing solutions for environmental protection. The Jordan Environmental Society was founded in 1988, accounts for 500 members, and aims to protect the environment and ensure a balance between development and economy in Jordan without harming the environment. Jordan's Royal Society for the Conservation of Nature aims to create, manage and advocate for a national network of protected areas to conserve Jordan's biodiversity and support local community development, while promoting wider public support and action for the protection of the natural environment within Jordan and neighbouring countries The Jordanian Strategy Forum is an independent institution supporting private sector participation in Jordan's economic sector. Other associations could also be engaged as water affects their parochial interests (e.g. EDAMA, chambers of industry, engineer's associations and hospital associations).

End-users' involvement and influence on the management of water and waste water services remains limited. They are sporadically involved through subscribers' surveys undertaken by operators or are asked to report on their satisfaction/dissatisfaction over the quality of service on an *ad hoc* basis. These surveys provide real-time feedback on the performance of services, and can support a discussion on the quality of service provision,

and tariff setting. Nevertheless, their use is not systematic, and their results are not publicly available. Overall, discussions on tariff setting, quality standards and performance monitoring remain the sole prerogative of central authorities and water companies, and do not involve civil society.

Academia and research centres (e.g. the University of Jordan and the Jordan University of Science and Technology) are paying increasing attention to water policy and management. Large scientific institutions have been reinventing themselves as NGOs and have become active in advocacy as they have prestige and scientific knowledge. For example, as the largest applied research institution, consultancy and technical support service provider in Jordan, the Royal Scientific Society provides for science and technology related water insights. However, academic lobbying and advocacy efforts have had only a limited effect on decisions in the water sector, and consultation is not systematic (Zeitoun, 2009).

Good practices from OECD countries can shed light on the potential for further engagement of science and the private sector at large in Jordan's water sector. For example, in the Netherlands, the government rolls out a "golden triangle" approach to the water sector, involving three types of stakeholders: businesses, knowledge institutes and the government. This new form of public-private co-operation is focused on the development of a common vision, multi-year agreements, the financial commitment of all parties, the linkage of education and the private sector and the close links between entrepreneurs and research. This approach is geared towards the production of knowledge and innovation, and contributes to raising awareness among Dutch citizens about water risks.

Set in motion a communication and capacity development strategy to address customers' needs

Communication and capacity gaps have been largely pointed out by international organisations and donor agencies present in Jordan's water supply and wastewater sector, especially for what regards local "empowerment". Their activities often consist in infrastructure financing, capacity building and education programmes as well as policy guidance and they are a vital means of complementing limited public sector and operator capacity to undertake these activities.

In particular, youth has a key role to play to encourage a change of behaviour. Hence, better educational materials for different grade levels related to water availability and sustainable development should be developed. In order to make these support materials effective and to ensure that teachers are using them efficiently, comprehensive training programmes need to be developed for educators.

Environmental conservation clubs introduced by Jordan's Royal Society for the Conservation of Nature in single-gender primary and secondary schools throughout the country are another example of NGOs' contribution to awareness raising and capacity development. In the face of increasing water scarcity and a rapidly growing population in the mid-1990s, USAID-Jordan provided, through GreenCOM, technical assistance in research, teacher training, evaluation, and curriculum development and implementation. The project developed a secondary school water conservation curriculum covering the natural water cycle and water sources in Jordan: irrigation, pollution, home gardens, household water consumption, and groundwater and surface water. The curriculum emphasised the importance of engaging students in discussions and hands-on experiments to help them understand the topic's relevance and the need to change their water

consumption habits. The project succeeded in building skills among staff members of the NGO staff, opening a public dialogue on water conservation, and introducing Jordanian teachers to interactive teaching, which contrasted sharply with their traditional lecture-based methods.[8]

Box 2.3. **The education gap on water in Jordan**

In a mapping of the Concepts of Water and Energy Conservation and Solid Waste Management in the National Jordanian Curriculums conducted in 2010, USAID diagnosed environmental illiteracy and the lack of educational material as critical obstacles to the understanding of the environment and environmental sustainability in Jordan. The mapping assessed that environmental education is still considered a relatively new subject that has been addressed only modestly in the Jordanian national education system. Results showed that while there were more water than energy concepts in the curriculum, most focused on scientific facts and information and were often repeated. Although the sequential development of the water concepts was very good compared to that of energy and solid waste, important concepts related to issues of social, political and economic implications of environmental problems and crises, as well as sustainable development, were missing, along with participatory and ethical approaches.

Source: USAID (2010), "Survey finding of the mapping concepts of water, energy conservation and solid waste management in the Jordanian national curriculum. Formal sector. Final report", Public Action for Water, Energy and Environment Project – Prosperity, Livelihoods and Conserving Ecosystems (PLACE) IQC Task Order #5, USAID, http://pdf.usaid.gov/pdf_docs/Pnady236.pdf.

Interesting experiences from selected Jordanian NGOs have contributed to better communication, transparency and awareness raising. JES conducts campaigns on water efficiency across categories of citizens (school, students, women). The Royal Society for the Conservation of Nature promotes the sustainable use of natural resources, raises awareness on a range of environmental issues (e.g. endangered species, ecosystems protection, etc.) through educational programmes, and supports socio-economic development of rural communities. Other NGOs in Jordan are involved in water resources measurement, testing, training, education and monitoring, and work as third party independent inspectors (e.g. Royal Scientific Society, Water and Environment Research Centre at the University of Jordan). Groups or initiatives such as the Al-Rahmanya Association for Social Development, the Mawakeb Al-Noor Women Co-operative for Charitable Causes, the Al-Khudair Women Co-operative for Social Development and the Muharib Co-operative help cultivate social bonding among women in rural communities and provide them with full access to essential services.

In the frame of the Highland Water Forum (HWF), the Ministry of Water and Irrigation (MWI), with the support of the United Nations Development Programme (UNDP) in Jordan, organised a water friendly projects competition in the area of Azraq, Northeast Badia. The main output of this competition was water-friendly project proposals submitted by the community-based organisation. In addition, a capacity development programme was organised towards representatives from community-based organisations, also known as groundwater ambassadors. The MWI is therefore organising a ceremony to reward projects and innovations of the local community that are replicable and contributing to saving groundwater resources. This helps raise awareness and reach more than 700 students and other stakeholders.[9]

Building the capacity of the staff in Jordan's ministries, utilities and NGOs is also critical. Institutions such as the Arab Countries Water Utilities Association (ACWUA) can help strengthen capacities of utilities and foster experience sharing with other

countries in the region. Research conducted in 2010 has shown that one of the biggest problems is how decision makers in these structures view and misunderstand both the customer and the role of communication (USAID, 2011c). There are very few communication professionals working closely across departments to provide support, inform the public when water cuts might be expected ahead of time, show industry how to improve their own consumption, provide access to details about new programmes online, or build credibility and a favourable ambience for future changes in the pricing of water (USAID, 2011c). Water professionals overall need more training in the soft sciences and communication fields to create systemic and systematic behaviour change among stakeholders, such as acquiring English language skills or becoming versed in communication strategy.

Communication and social marketing have also been increasingly used to raise awareness and trigger behaviour change. Recently, the Jordanian Abu Tawfir Water Saving cartoon campaign achieved some success in Jordan in confirming awareness of some methods of saving water that people were already engaged in. A USAID survey of KAP households showed that some 18% of all respondents had heard of Abu Tawfir and could recall some of the main messages of the water-saving campaign, such as using a bucket instead of a hose, and 15% of all respondents felt that their water-saving behaviour had been improved by exposure to the campaign (USAID, 2010a). Such media campaigns should be further encouraged. A well-thought-through communication strategy on water needs should be launched, building on existing assessment and recommendations (e.g. from USAID), to help raise awareness. It should be supported by well-trained staff and marketing professionals to help move beyond awareness raising and toward communication strategies that take into account consumers' needs and existing knowledge, attitudes and behaviours.

In 2000, USAID supported the first Jordanian behaviour change programme, Water Efficiency and Public Information for Action Program (WEPIA). It successfully influenced the integration of water concepts in Jordan's curriculum reform and contributed to increase the knowledge levels of Jordanians on critical water issues. Research has shown evidence of residual effects of WEPIA five years later. Over 60% of the population could still cite water conservation methods in residences, and over 45% were still employing many of these methods. At the end of WEPIA, these numbers were 70% and 35% respectively, suggesting that there was little degradation in knowledge and an overall increase in behaviour. Feedback loops need to be established with stakeholders to signal needed change and measure its achievement as real world pressures affect the designed changes.

In 2005, a joint project between the Jordanian government and USAID administered a community support programme that engaged grassroots community action in water demand management activities by providing selected poor communities with small grants which the communities then used in a revolving credit form. The recipients were responsible for managing the programme and were expected to work with a community-based organisation to develop their capacities in writing proposals, financial administration and programme management. Partnerships between donors and NGOs, universities and other associations could encourage further specialisation in public participation activities, such as technical support and training in communication and social marketing.

Greater engagement from women likely helps to increase awareness on water scarcity and successful adoption of potential water-saving solutions. Women are central to household water management and hygiene and need to be included in water management and in feedback as customers to water suppliers and utilities. Women engineers and water resource experts are becoming more common in Jordan; several community-based organisations (about 30% of total) are led by women and more than one-quarter of the microloans disbursed by the latter were made directly to women.

Box 2.4. **"Heroes of the UAE": An example of an awareness-raising media campaign**

The United Arab Emirates has developed media campaigns to better inform civil society on sustainable water consumption. The Heroes of the UAE campaign aims to raise awareness of the importance of rationing energy consumption to avoid shortages. It is a national press campaign jointly developed by the Emirates Wildlife Society in association with the Worldwide Fund for Nature (EWS-WWF) and the Environment Agency-Abu Dhabi, and endorsed by the Ministry of Energy, the Ministry of Environment and Water, MASDAR and the Abu Dhabi Water and Electricity Authority.

The campaign involved the press and radio advertising in early 2009, as well as a website (www.heroesoftheuae.ae). Information was made available to everybody to learn more about the problem's causes and also find out what they can do to help reduce energy consumption. The principal features of the website include an animated sequence that explains the present situation in simple, graphic terms, along with a long list of energy saving tips, a calculator that enables households to establish exactly how and where they can make real savings on their consumption, and a unique pledge facility that enables households to positively state their intention to make a difference.

As part of the school Heroes campaign, EWS-WWF organised an Energy and Water Reduction Competition inviting all government and private schools in the United Arab Emirates to participate. The competition aimed to raise awareness among students of the urgent need to conserve energy and water to mitigate the impact of climate change.

Source: UNDP (2013), *Water Governance in the Arab Region: Managing Scarcity and Securing the Future*, UNDP-RBAS.

A well-thought communication and capacity development strategy on water supply and wastewater in Jordan could bring several benefits. It should build on previous lessons and recommendations and be supported by well-trained staff and marketing professionals to capture consumers' needs and existing knowledge, attitudes and behaviours. This implies a definition of clear rules and procedures on relations between utilities, governments and the press, social media and the public (events, open houses, educational activities with targeting the youth, etc.). Named spokespersons could mitigate fragmented communication across institutions, and between central and subnational levels.

The Jordan National Strategy for Water should include a strategic pillar on communication to trigger further engagement from citizens and decision makers and improve the delivery and sustainability of water supply services. This would help in navigating the social and political issues associated with water reform to integrate strategic communication programmes into the broader reform agenda. Such a communication strategy should target key stakeholders such as youth and women. International networks such as Women for Water Partnership and the Youth Water Network provide valuable learning opportunities.

Box 2.5. A communication strategy for change behaviour in Jordan's water sector: Lessons from USAID experience

In 2010, USAID conducted research and dialogues with more than 100 agencies in Jordan to identify key players in the systems that provide services in water, energy and solid waste, and looked into the behaviours of relevant individuals and groups which for the water sector include:

- policy makers and financial and technical managers of national suppliers of water
- water providers
- large consumers of water
- universities and other institutions
- municipality staff at relevant levels
- households
- youth
- NGOs, consulting firms, relevant professional and commercial associations.

USAID outlined a communication strategy to rally interest around national social and environmental goals and to unify diverse stakeholders to promote an integrated communications approach and achieve similar gains across the water sector in Jordan. It recommends that Jordanian institutions employ social marketing (i.e. the systematic application of marketing, along with other social science and psychology concepts and techniques, to achieve specific behavioural goals) to achieve the nation's conservation and efficiency goals. This strategy outlines the following primary behaviour change purposes in the water sector, which can be achieved through social marketing and communication methodologies:

- increase household efficiency in new and existing homes
- increase and maintain water-conserving behaviours among households
- increase water efficiency among large consumers, including iconic buildings
- increase and maintain water-conserving behaviours among large consumers, including iconic buildings
- increase water conservation behaviour among youth.

Source: USAID (2011), "Communication strategy for achieving behavioral and policy changes in the water, energy and environment sectors", Public Action for Water, Energy and Environment Project – Prosperity, Livelihoods and Conserving Ecosystems (PLACE) IQC Task Order #5, USAID/Jordan.

Notes

1. See the assessment of Egypt and the Russian Federation against the OECD Checklist for Public Action: www.oecd.org/daf/inv/investment-policy/water.htm.
2. Under its Assignment Agreement, the third corporatised operator, Aqaba Water Company, is directly regulated by the WAJ.
3. The Rules of Procedure specify that: *i)* a regulated supplier shall report quarterly and annually on the targets identified in the form and according to the procedure indicated by the PMU; *ii)* the PMU may request information related to any matter subject to its jurisdiction at any time; *iii)* the PMU may require any person subject to its jurisdiction to provide books, accounts, records or other information; *iv)* the PMU may require supplemental information, further investigations or the collection of additional data if it determines that any information provided is insufficient or inadequate.
4. In areas where reference standards do not exist – in particular in relation to customer service quality – the PMU has the power to establish (but also to monitor and ensure compliance) with new standards.
5. www.sandiego.gov/water/gen-info/outreach/opssurvey.shtml.
6. www.acwd.org/index.aspx?NID=175.
7. www.strathcona.ca/files/files/at-comc-2012-public-satisfaction-survey-results.pdf.
8. USAID Communication brochure "Jordan's Water Conservation Education", http://pdf.usaid.gov/pdf_docs/PDACI974.pdf (last visited in December 2013).
9. http://highlandwaterforum.wordpress.com.

Annex 2.A1
OECD Recommendation on Principles of Public Governance of Public-Private Partnerships

A. Establish a clear, predictable and legitimate institutional framework supported by competent and well-resourced authorities

1. The political leadership should ensure public awareness of the relative costs, benefits and risks of public-private partnerships and conventional procurement. Popular understanding of public-private partnerships requires active consultation and engagement with stakeholders as well as involving end-users in defining the project and subsequently in monitoring service quality.
2. Key institutional roles and responsibilities should be maintained. This requires that procuring authorities, public-private partnerships units, the central budget authority, the supreme audit institution and sector regulators are entrusted with clear mandates and sufficient resources to ensure a prudent procurement process and clear lines of accountability.
3. Ensure that all significant regulation affecting the operation of public-private partnerships is clear, transparent and enforced. Red tape should be minimised and new and existing regulations should be carefully evaluated.

B. Ground the selection of public-private partnerships in value for money

4. All investment projects should be prioritised at senior political level. As there are many competing investment priorities, it is the responsibility of government to define and pursue strategic goals. The decision to invest should be based on a whole-of-government perspective and be separate from how to procure and finance the project. There should be no institutional, procedural or accounting bias either in favour of or against public-private partnerships.
5. Carefully investigate which investment method is likely to yield most value for money. Key risk factors and characteristics of specific projects should be evaluated by conducting a procurement option pre-test. A procurement option pre-test should enable the government to decide on whether it is prudent to investigate a public-private partnership option further.
6. Transfer the risks to those that manage them best. Risk should be defined, identified and measured and carried by the party for whom it costs the least to prevent the risk from realising or for whom realised risk costs the least.
7. The procuring authorities should be prepared for the operational phase of the public-private partnerships. Securing value for money requires vigilance and effort of the same intensity as that necessary during the pre-operational phase. Particular care should be taken when switching to the operational phase of the public-private partnerships, as the actors on the public side are liable to change.

8. Value for money should be maintained when renegotiating. Only if conditions change due to discretionary public policy actions should the government consider compensating the private sector. Any re-negotiation should be made transparently and subject to the ordinary procedures of public-private partnership approval. Clear, predictable and transparent rules for dispute resolution should be in place.
9. Government should ensure there is sufficient competition in the market by a competitive tender process and by possibly structuring the public-private partnerships programme so that there is an ongoing functional market. Where market operators are few, governments should ensure a level playing field in the tendering process so that non-incumbent operators can enter the market.

C. Use the budgetary process transparently to minimise fiscal risks and ensure the integrity of the procurement process

10. In line with the government's fiscal policy, the central budget authority should ensure that the project is affordable and the overall investment envelope is sustainable.
11. The project should be treated transparently in the budget process. The budget documentation should disclose all costs and contingent liabilities. Special care should be taken to ensure that budget transparency of public-private partnerships covers the whole public sector.
12. Government should guard against waste and corruption by ensuring the integrity of the procurement process. The necessary procurement skills and powers should be made available to the relevant authorities.

Annex 2.A2

The transfer of risks in public-private partnerships

Risks should be carried by those that manage them best. The key aspect to PPPs is thus identifying and sharing the risks between private and public partners. Three categories of risks, listed in Table 2.A2.1, can be identified: macroeconomic, commercial and legal/political risks. Risks are events that can be measured and the probability for their occurrence assigned. Risks vary in nature, some are endogenous (controllable by a party to a meaningful extent) and others are exogenous, uncontrollable, to at least some of the parties, but measurable.

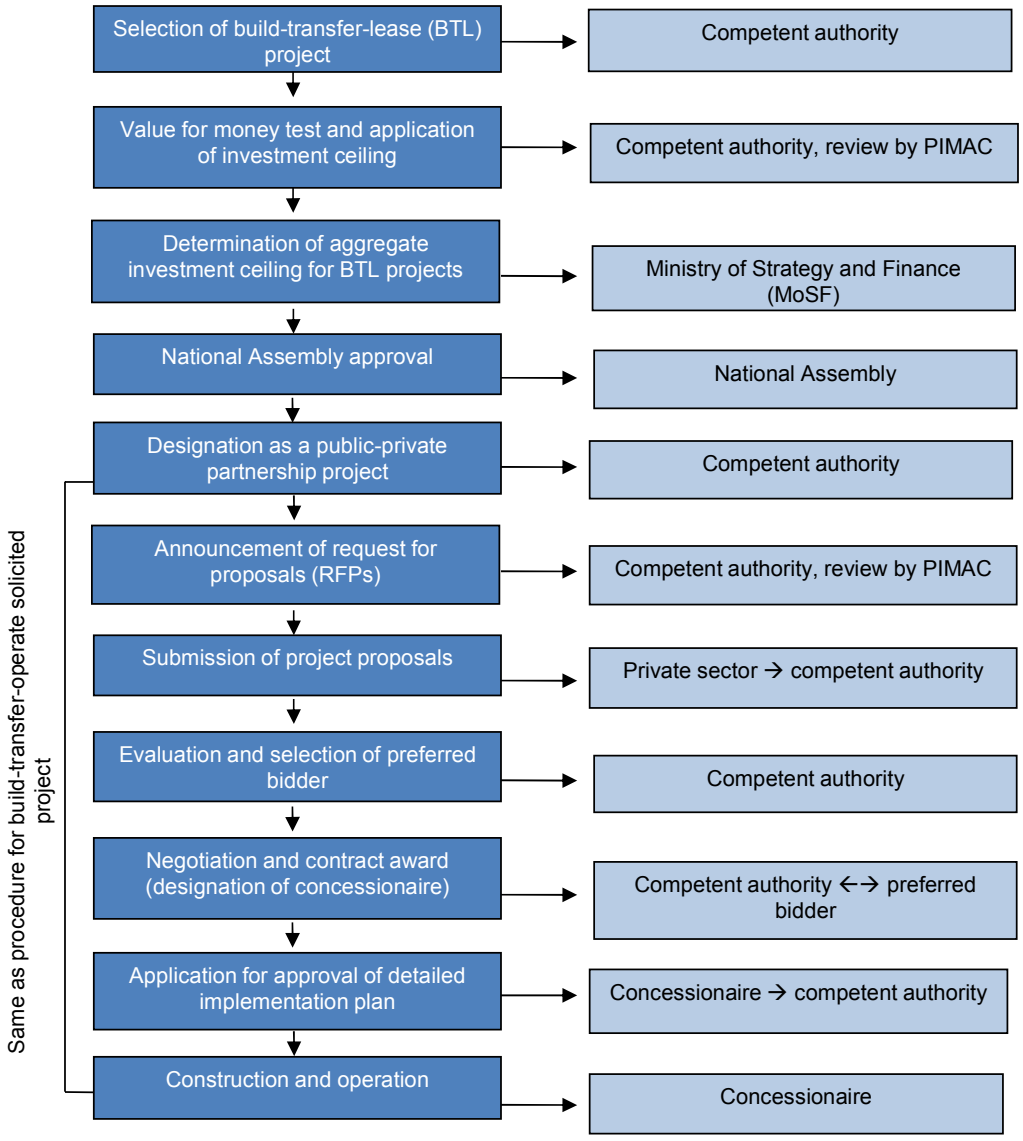
Table 2.A2.1. **Risks of public-private partnerships**

Risk	Agent	Type of risk		
		Macroeconomic	Commercial	Legal and political
External/ exogenous	Private	Aggregate demand	*Force majeure*	Different investment preferences of alternating governments
		Interest rate risk	Demand risk	Expansionary anti-crises policies raising the cost of financing
		Liquidity risk		Risk of exploitation
		Exchange rate risk		
	Public	Aggregate demand	*Force majeure*	
		Interest rate risk		
		Liquidity risk		
		Exchange rate risk		
Project specific/ endogenous	Private		**Project risk**	
			Design and construction risk	
			Operation	
			Maintenance	
			Input and output quality and quantity risk	
			Residual value risk	
			Contractor failure risk	
			Renegotiation risk	
			Early termination risk	
			Security risk	
			Technology risk	
			Idyosincratic interest rate	
			Idyosincratic liquidity rate	
			Credit risk	
			of the SPV	
			of the constructing and operating	
			of the financial institutions	
	Public		Sovereign risk	Different investment preferences of alternating governments
			Demand risk	Expansionary anti-crises policies raising the cost of financing
				Risk of expropriation

Source: Burger, P., et. al. (2009), "The effects of the financial crisis on public-private partnerships", *IMF Working Paper*, No. 144, IMF, Washington, DC.

As a general rule, parties are better at managing those risks which are endogenous to them. However, it is difficult to determine a clear list of which risks should be borne by whom as this will often depend on an assessment of a concrete case. Legal/political risks are typically exogenous to the private partner but endogenous to the public partner and therefore are probably better managed by the public side. Macroeconomic risks are exogenous to both private and public partners, but the private partner could be expected to carry the normal business cycle movements. Demand risk is a type of risk that can be both exogenous and endogenous for the public sector depending on whether the demand is based on end users' preferences or whether it is based on public sector consumption.

Annex 2.A3
The public-private partnership procurement process for build-transfer-lease projects (BTL) in Korea



Source: Public and Private Infrastructure Investment Management Center (PIMAC), Korea in OECD (2010), *Dedicated Public-Private Partnership Units: A Survey of Institutional and Governance Structures*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264064843-en.

Annex 2.A4
OECD perspective on regulatory framework for water and wastewater services

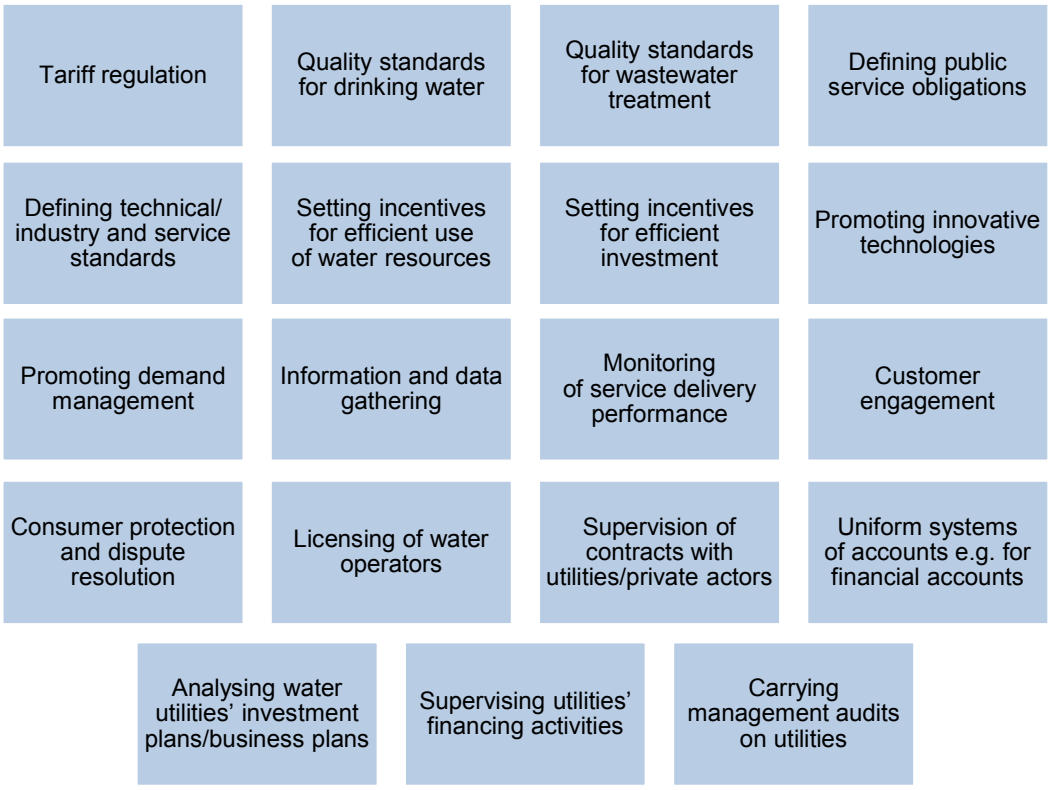
The water sector has intrinsic features that justify the recourse to regulatory instruments. Regulation is a key issue in monopolistic sectors, which is typically the case of water, where competitive pressures are limited, the partnership is multi-stakeholder (with distinct incentives and requirements across stakeholders) and the relationships are long term and thereby need to adapt to changes. Appropriate regulation is also all the more necessary in the water sector given the need to preserve the well-being of users and environmental sustainability, from water extraction to wastewater discharge.

Regulatory frameworks can be more or less effective. In particular, there are ways to reduce the costs and inefficiencies of a regulatory framework without compromising policy objectives. A sound regulatory framework reduces the costs to business and enhances the chances that PPP projects bring value for money. Private investment will be facilitated if unnecessary red tape is removed and the legislative and regulatory framework is clear and stable. In addition, while private partners may be brought in because they are deemed more able to mobilise the necessary financing to cope with huge upfront capital investment costs, ultimately, they must be repaid through project cash flows or public funds. Tariff regulation is a critical component in the mix between the ultimate sources of revenue, the so-called "3Ts" (defined as tariffs, taxes and transfers), ensuring long-term affordability for the central budget and users.

Regulatory functions in WWS vary widely. OECD (forthcoming) identifies some 19 regulatory functions routinely discharged in the water service sector (Figure 2.A4.1). Some are purely economic, some environmental and others embracing social issues, such as equity, affordability, universal coverage. Regulatory functions do not necessarily have to be in the hands of a single institution. However, they need to be clearly spelled out and allocated to avoid overlap and incoherence. International experience shows that regulation of WWS can have various solutions and be embodied in a wide variety of institutional arrangements and legal instruments, depending on the particular characteristics of the country under consideration (see various publications, including Marques and Simões, 2010).

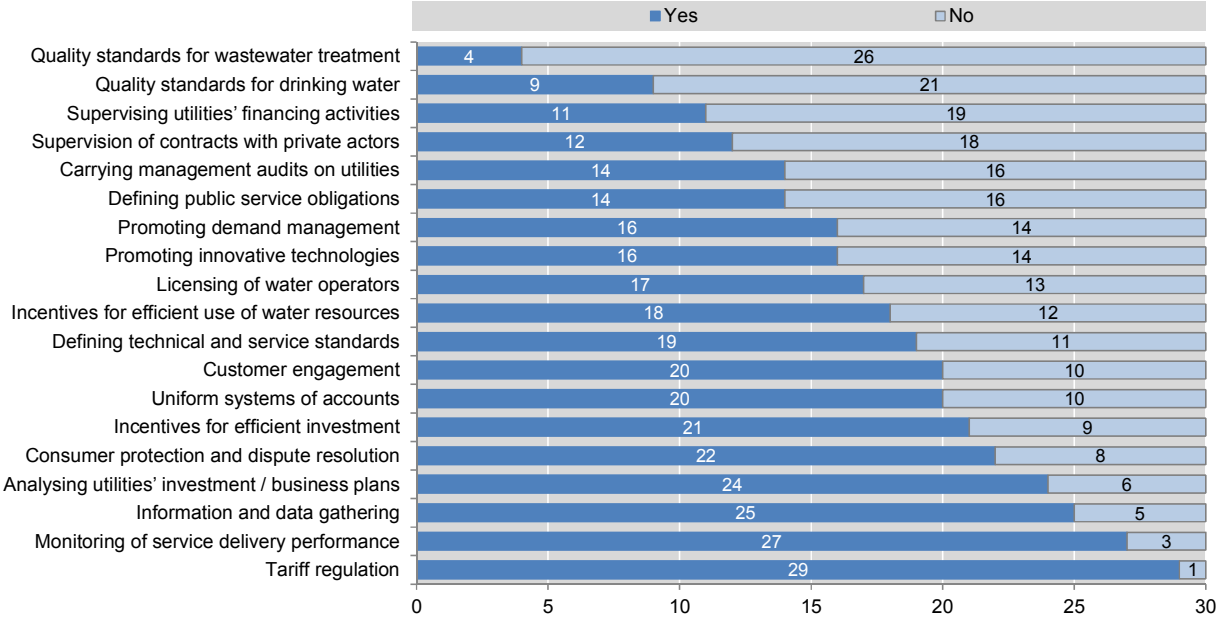
In 2013/14, the OECD carried out a survey to a large sample of OECD and non-OECD water regulators to take stock and analyse the governance arrangements, operational modalities and regulatory policy tools used by dedicated regulatory bodies responsible for water services to discharge their functions. Preliminary results (as of April 2014) from the survey based on responses from 30 regulators illustrating the key functions, key powers and regulatory governance practices are displayed in Figures 2.A4.2-2.A4.4 (OECD, forthcoming).

Figure 2.A4.1. **Regulatory functions for water and wastewater services**



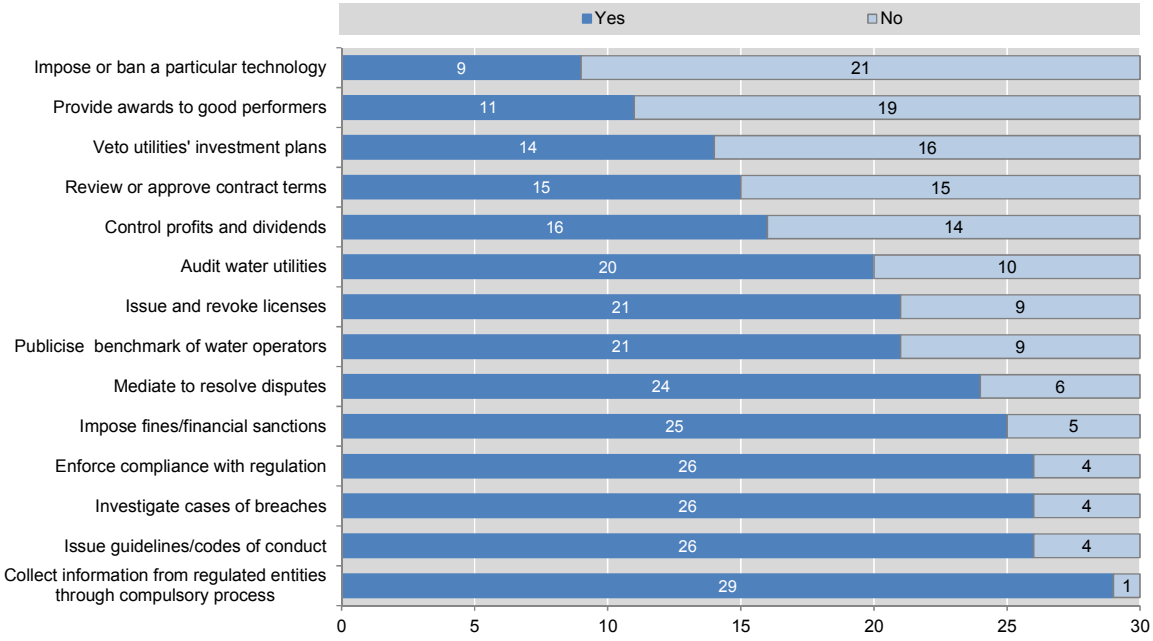
Source: OECD (forthcoming), *Applying Better Regulation to the Water Sector*, OECD Publishing, Paris.

Figure 2.A4.2. **Key functions of water regulators (based on 30 answers as of April 2014)**



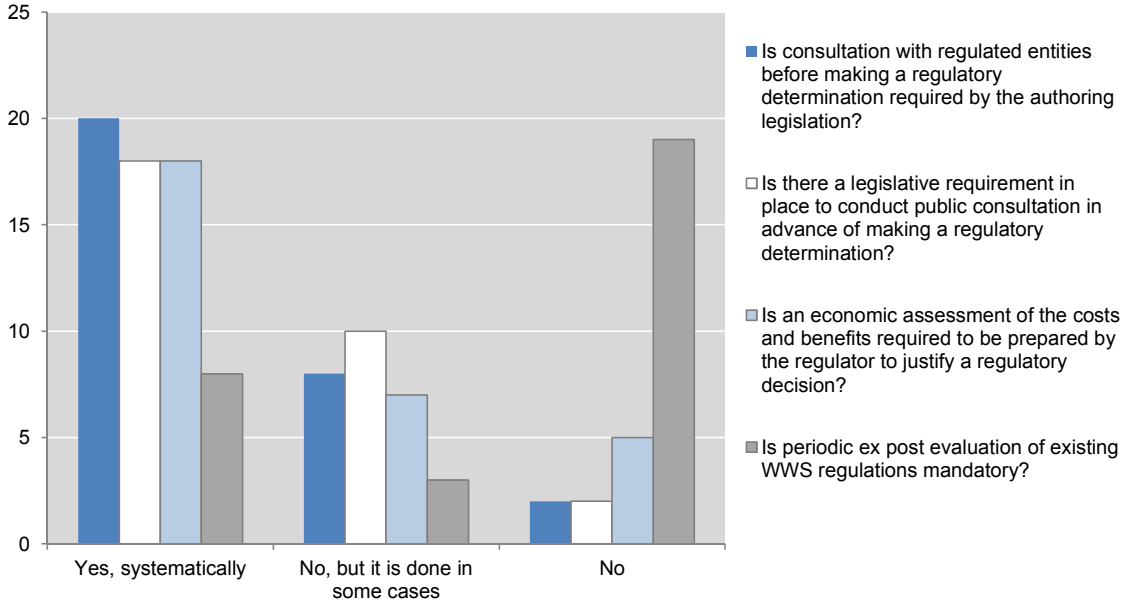
Source: OECD (forthcoming), *Applying Better Regulation to the Water Sector*, OECD Publishing, Paris.

Figure 2.A4.3. **Key powers of water regulators (based on 30 answers as of April 2014)**



Source: OECD (forthcoming), *Applying Better Regulation to the Water Sector*, OECD Publishing, Paris.

Figure 2.A4.4. **Regulatory governance practices of water regulators (based on 30 answers as of April 2014)**



Source: OECD (forthcoming), *Applying Better Regulation to the Water Sector*, OECD Publishing, Paris.

Bibliography

Burger, P., et. al. (2009), "The effects of the financial crisis on public-private partnerships", *IMF Working Paper*, No. 144, IMF, Washington, DC.

International Monetary Fund (IMF) (2012), "Jordan: Request for a stand-by arrangement", *IMF Country Report*, No. 12/343, IMF, Washington, DC, 27 December, www.imf.org/external/pubs/ft/scr/2012/cr12343.pdf.

Marques, R. and P.T.F. Simões (2010), *Regulation of Water and Wastewater Services, An International Comparison*, IWA Publishing.

OECD (forthcoming), *Stakeholder Engagement for Effective Water Governance*, OECD Publishing, Paris.

OECD (forthcoming), *Applying Better Regulation to the Water Sector*, OECD Publishing, Paris.

OECD (forthcoming), *The Governance of Regulators*, *OECD Best Practice Principles for Regulatory Policy*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264209015-en.

OECD (2013), *Regulatory Reform in the Middle East and North Africa: Implementing Regulatory Policy Principles to Foster Inclusive Growth*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264204553-en.

OECD (2011), *Water Governance in OECD Countries: A Multi-Level Approach*, OECD Studies on Water, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264119284-en.

OECD (2010), *Dedicated Public-Private Partnership Units: A Survey of Institutional and Governance Structures*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264064843-en.

O&M Engicon (n.d.), "Comprehensive Subscribers Survey in the Governorate of Zarqa", www.engicon-om.com/index.php/showcase/item/9-comprehensive-subscribers-survey-css-in-the-governorate-of-zarqa (last visited in December 2013).

UNDP (2013), *Water Governance in the Arab Region: Managing Scarcity and Securing the Future*, UNDP-RBAS.

USAID (2011), "Communication strategy for achieving behavioral and policy changes in the water, energy and environment sectors", Public Action for Water, Energy and Environment Project – Prosperity, Livelihoods and Conserving Ecosystems (PLACE) IQC Task Order #5, USAID/Jordan.

USAID (2010a), "KAP Household – Baseline Survey", Public Action for Water, Energy and Environment Project – Prosperity, Livelihoods and Conserving Ecosystems (PLACE) IQC Task Order #5, USAID/Jordan.

USAID (2010b), "Survey finding of the mapping concepts of water, energy conservation and solid waste management in the Jordanian national curriculum. Formal sector. Final report", Public Action for Water, Energy and Environment Project – Prosperity, Livelihoods and Conserving Ecosystems (PLACE) IQC Task Order #5, USAID, http://pdf.usaid.gov/pdf_docs/Pnady236.pdf.

USAID (n.d.), "Jordan's Water Conservation Education", communication brochure, http://pdf.usaid.gov/pdf_docs/PDACI974.pdf (last visited in December 2013).

Water Authority of Jordan (WAJ) (2013), "Programme Management Unit (PMU) objectives and organizational structure", August (hardcopy).

World Bank (2012), *Worldwide Governance Indicators 2012*, The World Bank, Washington, DC.

Zeitoun, M. (2009), "The political economy of water demand management in Yemen and Jordan: A synthesis of findings", WaDImena, www.uea.ac.uk/polopoly_fs/1.147019!Zeitoun_PE_WDM_Yemen_and_Jordan.pdf.

Chapter 3

Action Plan for the Jordanian water sector

This chapter provides an action plan building on the diagnostic analysis provided in Chapter 1 and related recommendations provided in Chapter 2. It presents the practical steps that the Jordanian authorities, together with various stakeholders including donors, could take to make water reforms happen in Jordan. The concrete actions are defined in a time frame. They are related to relevant reforms and initiatives currently underway in Jordan and refer, where appropriate, to international practices.

Table 3.1. **Area of recommendations 1: Improve budget processes to ensure value for money and support financial sustainability**

OECD recommendations	Practical steps	Calendar (short, medium or long term)	Current reforms and initiatives supporting the recommendation	Stakeholders	International experience
Recommendation 1: Address the strategic planning gap					
Set up strong dedicated public-private partnership (PPP) capacity in the Ministry of Finance, the Prime Minister's Office and other key agencies; and develop related methodologies	Provide a legal framework for the PPP Unit under consideration through the PPP Law Staff dealing with PPP issues should be endowed with the relevant expertise Relevant tools and methodologies should be developed to support the work of the PPP Unit, including: – a capital investment assessment methodology – a value for money (VfM) methodology – a methodology linking capital investment projects to the budget process (see below)	Short term: The legal framework is the basis to move forward, but the other initiatives can be started beforehand	– Draft PPP Law – Build on the existing PPP Unit in place in the Ministry of Finance – Build on current World Bank assistance	Cabinet, Ministry of Finance, Prime Minister's Office, Ministry of Water and Irrigation, parliament	PPP units are usually established in, or under, Ministries of Finance (France, South Africa). However, the unit is not in itself sufficient. The focus should be on building broad PPP capacity in all relevant units, including the Prime Minister's Office.
Recommendation 2: Address the funding gap					
The Ministry of Finance should commission a report that details the subsidies in the water sector and the long-term needs	– A project proposal should be drafted by the Ministry of Finance and presented to Cabinet for approval – A prominent official or politician should be appointed to lead the analysis – Clear deadlines for various draft versions of the document should be made clear – An activity plan with respect to consultations should be made clear	The work should be started as soon as possible	There have been various exploratory studies undertaken by the government with regards to PPP/PSP, but no conclusions have been made public	Cabinet, Ministry of Finance, Prime Minister's Office, Ministry of Water and Irrigation, Ministry of Planning and International Co-operation, operators	
Develop a strategic financial plan for the water and waste water service sector	The plan should identify the sources of revenues and the expected expenditures in the sector as well as trade-offs and alternative scenarios to meet the costs	Medium term		Ministry of Water and Irrigation, water operators and Ministry of Planning and International Co-operation will be the main actors. Broader consultations involving various stakeholders can help gather useful feedback on alternative scenarios	OECD (2011) and OECD (2009) for examples of strategic financial planning in the water sector

Table 3.1. **Area of recommendations 1: Improve budget processes to ensure value for money and support financial sustainability** (*cont.*)

OECD recommendations	Practical steps	Calendar (short, medium or long term)	Current reforms and initiatives supporting the recommendation	Stakeholders	International experience
Recommendation 3: Address the procurement and value for money process gap					
Develop a basic value for money methodology building on established practices	Review current internal VfM processes and methodologies used in the different sectors to support the choice between PPP and traditional public procurement A stock taking of the relevant data available in Jordan should be made A model reference project – i.e. the basic public sector comparator – should be developed	– Related to the new PPP Law passing – Should be in place in time for the forthcoming mega projects		Ministry of Finance should set the framework for the relevant VfM tests, but the Ministry of Water and Irrigation and procuring authorities in the water sectors should be the main users of the tools	The United Kingdom is the lead user of VfM in terms of public sector comparators. It should be noted, that this is a useful tool but no better than the data and methods employed
Develop a standard contract for PPPs to bridge the legal framework gap	Engage a specialist to develop a standard contract for the most typical water sector tasks	Related to the new PPP Law passing		Ministry of Finance; donors could provide support	
The key to value for money in all procurement is a competitive bidding. Therefore steps should be taken to ensure competition in the bidding process	– Develop a strategy to ensure competition in the procurement process – Reduce delays and burdens in the tendering process to ensure the number of bidders – Avoid practices that *de facto* exclude smaller or non-traditional bidders from participating			Procuring entities and relevant procurement control units Ministry of Finance	

Table 3.1. **Area of recommendations 1: Improve budget processes to ensure value for money and support financial sustainability** (*cont.*)

OECD recommendations	Practical steps	Calendar (short, medium or long term)	Current reforms and initiatives supporting the recommendation	Stakeholders	International experience
Recommendation 4: Address the fiscal guardian gap and public affordability					
Improve budgeting procedures and link projects and budget preparation, execution and accounting to ensure that fiscal risks are identified, managed and treated transparently	– Develop a methodology linking capital investment projects to the budget process and the medium-term expenditure framework to ensure affordability – Establish a procedure to generate a contingent liability report and the annual publication of such a work as part of the budget documentation and the annual financial statements. In cases where contingent liabilities cannot be quantified, they should be listed and described – Ensure that the budget documentation adequately discloses the main capital projects as well as running subsidies to the water sector	Short term	The Jordanian budget process has been modernised in recent years and is on a path to good practice. Challenges remain with institutionalising the reforms such as the medium-term expenditure framework, performance budgeting and ensuring that the budget documentation is transparent and covers all relevant fiscal risks	Ministry of Finance	Contingent liability report submitted by the Ministry of Finance to the parliament in Chile The budget documentation should align with the OECD Best Practices for Budget Transparency (OECD, 2002)
Recommendation 5: Address the capacity gap					
Enhance private sector participation capacity in the administration	– Assess the PSP-related training needs in the Ministry of Finance, line ministries (including the Ministry of Water and Irrigation) and define targeted training activities – Make it standard procedure to appoint a dedicated professional transaction advisor, to be the main public side co-ordinator on each project – Develop terms of reference for transaction advisors	Related to the new PPP Law passing	The additional staff provided as part of the Deauville Partnership Project led by the EBRD to support WAJ could contribute to enhance PSP capacity in the water administration.	Ministry of Finance, Prime Minister's Office, Ministry of Water and Irrigation, Ministry of Planning and International Co-operation, donor support	Draw on the experiences of Chile and South Africa

Table 3.2. **Area of recommendations 2: Develop a high-quality regulatory framework for water**

OECD recommendations	Practical steps	Calendar (short, medium or long term)	Current reforms and initiatives supporting the recommendation	Stakeholders	International experience
Recommendation 1: Embed more systematically the instruments of good regulatory policy in the water sector to improve the efficiency and accountability of the regulatory framework for water					
Roll out systematic use of tools that ensure regulatory quality in the water sector	Conduct systematic consultation with regulated entities and the public on new regulation and regulatory decisions Conduct regulatory impact assessment and *ex post* evaluation of existing regulations	Medium term Medium term	Build on the burgeoning regulatory management system under development in Jordan around the Economic and Social Council and the Evaluation and Impact Assessment Unit	Ministry of Water and Irrigation, Project Management Unit, Economic and Social Council	OECD (forthcoming)
Recommendation 2: Improve clarity on the Project Management Unit's roles and functions as the utility regulator, align its resources with its core work and establish appropriate accountability mechanisms to enhance the credibility of the regulatory framework					
Clarify the Project Management Unit's (PMU) roles and responsibilities in relation to the regulation of water services	Delineate clearly the functions and powers of the regulatory unit of the PMU. In particular, the PMU's enforcement powers should be clarified, as should the recourses available to the regulated parties to contest a regulatory decision Ultimately, if a dedicated regulatory body is established, a founding legislation will need to clarify its roles and responsibilities	Short term Long term	– Build on the Rules of Procedure recently approved by the Ministry of Water and Irrigation and existing assignment agreements – Build on ISSP support to develop a detailed action plan that rolls out the implementation of the PMU's Rules of Procedure	Project Management Unit, Ministry of Water and Irrigation/Water Authority of Jordan, donors	OECD (forthcoming)
Ensure prudent separation within the PMU between the team in charge of regulatory activities and that in charge of project development and private sector participation	Clearly divide responsibilities, teams and lines of accountability across the two areas	Short term		Project Management Unit, Ministry of Water and Irrigation/Water Authority of Jordan, donors	
Ensure that the capacity and resources available to the PMU are clear, secured over a sufficient period and in line with its mandate and responsibilities	– Evaluate the capacity and resource needs of the PMU to carry out its activities – Clarify the revenue sources of the PMU in its rules of procedure or in accompanying documentation and ensure resource commitment over a sufficient period of time – Support the building of capacity in the PMU through appropriate staffing and capacity building efforts	– Should start immediately in parallel with the endorsement of the Rules of Procedure – Capacity building should be continuous and in line with the growing responsibility of the PMU	– ISSP support programme – KfW support to staff the PMU (until 2016) – Meetings of the OECD Network of Economic Regulators to allow for peer exchanges – EBRD support to staff the Water Authority of Jordan	Project Management Unit, Ministry of Water and Irrigation/Water Authority of Jordan, donors	OECD (forthcoming)

Table 3.2. **Area of recommendations 2: Develop a high-quality regulatory framework for water** (*cont.*)

OECD recommendations	Practical steps	Calendar (short, medium or long term)	Current reforms and initiatives supporting the recommendation	Stakeholders	International experience
Clarify the co-ordination mechanisms and the reform needed in the mandate and functions of other authorities	Undertake a systematic mapping of the lines of accountability and the shared responsibilities deriving from the PMU's new functions	Short term	Build on newly endorsed Rules of Procedure and existing assignment agreements	Ministry of Water and Irrigation, Water Authority of Jordan, PMU, donors and water operators	OECD (forthcoming)
	If necessary, modify the mandate and responsibilities of overlapping water authorities accordingly and establish necessary co-ordination mechanisms	Medium term			
	Modify the assignment agreements to clarify line of responsibilities of relevant utilities	Medium term			
Make the information collected by the PMU on the performance of water services publicly available	Participate in the consolidation of the list of key performance indicators that apply to water operators (see below in Recommendation 3)	Short term	Build on the Rules of procedure and commitment of water utilities to put their annual report on their website	PMU, water operators, donor support	The experience of ERSAR in Portugal
	Develop a dedicated website for the publication of performance of water services	Can be started immediately and develop over time			
Recommendation 3: Continue the corporatisation efforts and strengthen the autonomy of water providers					
Professionalise the staff in the water operators	– The selection of the managers should be based on their professional competences and merits – Support peer learning and exchange of practices across water operators			Water operators, Ministry of Water and Irrigation/Water Authority of Jordan, donor support; ACWUA has a role to play as a platform for exchange of experience and good principles across utilities	

Table 3.2. **Area of recommendations 2: Develop a high-quality regulatory framework for water** (*cont.*)

OECD recommendations	Practical steps	Calendar (short, medium or long term)	Current reforms and initiatives supporting the recommendation	Stakeholders	International experience
Strengthen the financial sustainability of operators	Develop a tariff methodology that provides for the criteria, frequency and conditions for tariff updates	Short term		Water operators, Water Authority of Jordan/ PMU, donor support	Tariff norm in Mexico (OECD, 2013)
	Disclose information and technical reports on the use of revenues and engage in information campaigns on the value of water	Medium term			
	Define and design accompanying measures aimed at improving efficiency of use of resources and reduce costs, such as improving bill collection rates	Short term			
Address the gaps in performance monitoring through the development of a set of common performance indicators	– Consolidate the list of key performance indicators that apply to water operators – Extend the coverage of the key performance indicators to water services of all governorates – All water operators should put their reports on their website		– Planned workshop supported by the ISSP to launch the revision of the key performance indicators – Deauville Partnership Project led by EBRD will support WAJ and ACWA in benchmarking water utilities		Development of key performance indicators by OFWAT (OFWAT, n.d.)

Table 3.3. **Area of recommendations 3: Enhance stakeholder engagement to improve accountability and citizen buy-in**

OECD recommendations	Practical steps	Calendar (short, medium or long term)	Current reforms and initiatives supporting the recommendation	Stakeholders	International experience
Recommendation 1: Strengthen the information base to raise citizen awareness on critical issues related to water					
Establish a public, reliable and up-to-date database informing stakeholders about costs and benefits related to water production, treatment and distribution	Set-up monitoring mechanisms to collect and update data from reliable sources and on a regular basis. Data should cover consumption levels, drinking water quality, quality of water treatment and tariffs	Medium term	– The new mandate of the Highlands Water Forum provides an opportunity to include topics related to economic value and costs of water – Water Authority of Jordan's experience in setting up a website to facilitate bill enquiries and customer complaints could serve as a basis for the database – WAS's services manual for citizens and price list could also be of use for satisfaction surveys	Donors, Ministry of Water and Irrigation/ Water Authority of Jordan, water operators, PMU and potential to-be-created regulator	Economic database of the Water Information System in France (ONEMA)
Support relevant NGOs and universities that have a productive role to play in strengthening the information base for the water sector	Set-up consultation mechanisms (expert panels, consensus conference, focus groups, etc.) up-stream of decision-making processes related to a water project/reform to involve NGOs and researchers and benefit from their expertise and experiences	Medium term	Build on ACWUA training programmes and activities with Jordanian utilities, as well as on existing CSR initiatives to empower civil society organisations in the MENA region	Universities, research centres, academics, NGOs, business, government	Golden Triangle in the Netherlands (information exchange between business, knowledge institutes and the government)
Produce clear and evidence-based information on the potentially beneficial role that private actors can play in the water sector	Develop a joint nationwide communication strategy (leaflets, media campaign, educational tools, etc.) to raise awareness among priority target audiences (e.g. households) on the role, responsibility and contribution of the private actors in the water sector	Medium term	The ongoing review of privatisation experiences (including water) can provide valuable insights, when ready and publicly available	Ministry of Water and Irrigation, water operators, research community and universities	– Donor agencies' reports on lessons from PPPs (*Agence Française de Développement*, World Bank) – Scientific community papers in a wide range of countries taking stock of national experience – Reports by independent national audit institutions

Table 3.3. **Area of recommendations 3: Enhance stakeholder engagement to improve accountability and citizen buy-in** (*cont.*)

OECD recommendations	Practical steps	Calendar (short, medium or long term)	Current reforms and initiatives supporting the recommendation	Stakeholders	International experience
Recommendation 2: Strengthening existing mechanisms and platforms for stakeholder engagement					
Strengthen multi-stakeholder platforms to encourage the dialogue between NGOs, academics, citizens and local governments and service providers on water-related issues	– Enlarge the mandate of the Highland Water Forum to include key topics related to service provision, beyond the current focus on water resources management – Clarify the role of the National Water Council to strengthen the interface between citizens and decision makers	Short term	– Lessons learnt and good practices from the Disi conveyance project, in particular the public consultations organised by the World Bank in Amman and Aqaba could serve as a basis for reflection – Jordan's water users' associations can provide interesting and replicable lessons to develop formal mechanisms through which domestic drinking water and sanitation users could present their needs and report service problems to local officials and utilities – Ministry of Water and Irrigation is currently working on "institutionalising" the fora at basins level, not only for awareness purposes but also as consultative bodies that could then also embrace critical questions related to the quality and efficiency of water service provision	NGOs, citizens, academics and research centres, local/ municipal governments, service providers, water users' associations, Ministry of Water and Irrigation	France (Observatoire parisien de l'eau)

Table 3.3. **Area of recommendations 3: Enhance stakeholder engagement to improve accountability and citizen buy-in** (*cont.*)

OECD recommendations	Practical steps	Calendar (short, medium or long term)	Current reforms and initiatives supporting the recommendation	Stakeholders	International experience
Engage customers more systematically	Carry-out regular national satisfaction surveys at household/customer level and make the results available to the public	Short term	The Comprehensive Subscribers Survey undertaken in 2006-07 in Balqa governorate and in 2007-08 in Karak governorate could be further developed to cover all governorates	Water Authority of Jordan, water operators, water users' associations (households and industry)	– France (customer surveys of the National Consumer Association – *UFC Que Choisir*) – Customers' service and complaints in the United Kingdom – City of San Diego Public Utilities Department customer" form (City of San Diego Public Utilities Department, n.d) – Public opinion survey from Strathcona country (Strathcona Country, n.d)
	Set-up a (online) customer complaints system at country level to collect and address complaints related to service requests, service improvements, comments on administrative decisions, etc.	Short term	Build on the initiative launched in 2009 by the Ombudsman to enable Jordanians to file complaints at post offices on public services and tailor to the water services sector		
Recommendation 3: Define a communication and capacity development strategy					
Develop media campaigns based on previous lessons and recommendations	Develop communication and media strategies, including the definition of clear rules and procedures on relations with the press, social media and the public (events, open houses, educational activities with targeting the youth, etc.)	Short term	Seize the opportunity of the Jordan National Strategy for Water's objective to raise awareness among the Jordanian public and decision makers, to put communication as a strategic priority	Water operators, donors, communication advisors, NGOs, Ministry of Water and Irrigation, media and associations of journalists working on water/environment	– World Bank's learning note on communication strategy for water sector reforms[1] – Kenya communication strategy for the water sector (Ministry of Water Resources Management and Development, 2004) – Communication strategy in the region of Aragon, Spain (Izquierdo, n.d.)
	Name spokespersons to avoid fragmented communication across institutions, and between central and subnational levels	Short term			
Target key stakeholders such as youth and women	Develop tailored media plans for specific audiences, such as youth and women, to be adapted to their needs and means of communication	Medium term		Water operators, donors, communication advisors, youth groups and associations, women's groups and associations	Learning opportunities through the Water Youth Network and Women for water partnership[2]

Notes: 1. http://blogs.worldbank.org/publicsphere/communication-water-sector-reform-obstacles-opportunities. 2. www.wateryouthnetwork.org .

Bibliography

City of San Diego Public Utilities Department (n.d), "Customer Satisfaction Survey", www.sandiego.gov/water/gen-info/outreach/opssurvey.shtml.

Izquierdo, Rafael (n.d.), "Communication strategy in the region of Aragon", Powerpoint Presentation, www.un.org/waterforlifedecade/pdf/09_side_event_rafael_izquierdo.pdf.

Ministry of Water Resources Management and Development (2004), "Communication Strategy for the Water Sector Reform Programme", www.wsp.org/sites/wsp.org/files/publications/3282007112547_afCommunicationsKenyaShortVersion.pdf

OECD (forthcoming), *Applying Better Regulation to the Water Sector*, OECD Publishing, Paris.

OECD (2013), *Making Water Reform Happen in Mexico*, OECD Studies on Water, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264187894-en.

OECD (2011), *Meeting the Challenge of Financing Water and Sanitation: Tools and Approaches*, OECD Studies on Water, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264120525-en.

OECD (2009), "Strategic Financial Planning for Water Supply and Sanitation", a report from the OECD Task Team on Sustainable Financing to ensure Affordable Access to Water Supply and Sanitation, OECD, Paris, http://www.oecd.org/env/resources/43949580.pdf.

OECD (2002), "OECD Best Practices for Budget Transparency", *OECD Journal on Budgeting*, Vol. 1/3, OECD Publishing, Paris, http://dx.doi.org/10.1787/budget-v1-art14-en.

OFWAT (n.d), "Key performance indicators – guidance", www.ofwat.gov.uk/publications/guidance/gud_pro1203kpi.pdf

Strathcona Country (n.d), "2012 Public Satisfaction Survey", www.strathcona.ca/files/files/at-comc-2012-public-satisfaction-survey-results.pdf.

Annex A
List of stakeholders consulted during the policy dialogue

Name	Affiliation
Abbadi, Mufleh	International Union for Conservation of Nature (IUCN)/ West Asia office ROWA
Abdalla, Hazem	Samra Project Company
Abu Allan, Aysha	Water Authority of Jordan, Highland Water Forum Secretariat
Abu Eid, Omar	European Union Delegation
Abu Ghosh, Walid	Arabtech Jardaneh
Abu Roos, Subhi	Jordan Water Company LLC – Miyahuna
Afana, Mohamad	Ministry of Environment
Al Absi, Khalil	Jordan Valley Authority
Al-Assad, Hamza	European Bank for Reconstruction and Development (EBRD)
Al-Ayed, Joumana	Jordan Water Company LLC – Miyahuna
Al-Dwairi, Mohammad	Ministry of Water and Irrigation
Al Fouqaha, Eyad	Ministry of Finance
Al-Jazzar, Ahmad	Ministry of Planning and International Co-operation (MOPIC) – Projects Department
Al Khreisha, Hazem Y.	Royal Society for the Conservation of Nature
Al-Kofahi, Ahmad	Jordan Environment Society
Al-Mahamid, Jihad	Ministry of Water and Irrigation
Al Naser, Safa	Ministry of Planning and International Co-operation
Al Qudah, Basel	Ministry of Environment
Al Shakhanbeh, Ibrahim	Ministry of Water and Irrigation
Al-Waqfi, Mohammad	Ministry of Water and Irrigation/Performance Management Unit (PMU)
Al Z'oubi, Kamal	Millennium Challenge Account – Jordan (MCA)
Al-Zubi, Bashar	Jordan Investment Board
Al Zubi , Jarrah	Arab Countries Water Utility Association (ACWUA)
Alawneh, Ziyad	Land and Human to Advocate Progress (LHAP)
Almomani, Mohammad R.	Ministry of Water and Irrigation

Athamneh, Diana	USAID Jordan Water Reuse and Environmental Conservation Project
Attili, Shaddad	Palestinian Water Authority
Bahdousheh, Mary	Consultant
Bani-Hani, Aiman	US Agency for International Development (USAID)
Bany Mustafa, Mohammed	Ministry of Water and Irrigation
Barghout, Muna	Swedish International Development Co-operation Agency (Sida), MENA Unit
Bataineh, Nasr	Jordan Water Company LLC – Miyahuna
Batarseh, Mervat	The Royal Society for the Conservation of Nature
Bon, Bernard	Samra Project Company
Brown, Alan	US Agency for International Development (USAID) – Institutional Support & Strengthening Program (ISSP)
Btoosh, Jomana	Jordan Environment Society (JES)
Busche, Daniel	GIZ (GmbH – German Society for International Co-operation)
Cojocaru, Iulia	World Bank
Dahiyat, Iyad	Ministry of Water and Irrigation/Performance Management Unit (PMU)
Foudeh, Haitham H.	Arab Bank (Corporate & Institutional Banking)
Griffies Weld, Esther	European Bank for Reconstruction and Development (EBRD)
Habahbeh, Rowieda	Ministry of Municipal Affairs
Habjoka, Nour	GIZ (GmbH – German Society for International Co-operation)
Haddadin, Nisreen	Ministry of Water and Irrigation
Hadidi, Khair	Water Authority of Jordan
Haobsh, Janseit	Ministry of Water and Irrigation
Hasan, Yousef	Jordan Valley Authority
Hasweh, Reem	Ministry of Municipal Affairs
Hijazi, Jamal	Arabtech Jardaneh
Ihrén, Niclas	Respect Sustainable Business RSB AB
Jägerskog, Anders	Embassy of Sweden
Jaradat, Hamzah	Ministry of Finance, PPP Unit
Hummash, Obyda	Jordan Environment Society
Khalil Hammash, Ghazi	Jordan Water Company LLC – Miyahuna
Khasman, Khaldon	Arab Countries Water Utilities Association (ACWUA)
Khleifat, Saddam	US Agency for International Development (USAID) – Institutional Support & Strengthening Program (ISSP)
Knight, Melissa	US Agency for International Development (USAID)

Kreshan, Majed	Ministry of Environment
Kurdi, Hani	Japan International Co-operation Agency (JICA)
Lane, Philippe	French Embassy in Jordan
Langford, Thomas	Consolidated Contractors Company (CCC) Group
LeScraigne, Yvon	Consolidated Contractors Company (CCC)
Mahfouz, Ahmad	Ministry of Water and Irrigation/Performance Management Unit (PMU)
Mesnil, Alexandre	French Embassy in Jordan
Mulot, Jean	GIZ/Ministry of Finance
Nasereddin, Mustafa	Arab Countries Water Utility Association (ACWUA)
Nilsson, Esse	Swedish International Development Co-operation Agency (Sida)
Oweis, Munir	Jordan Water Company LLC – Miyahuna
de Pazzis, Anne	Degrémont
Perard, Edouard	European Investment Bank (EIB)
Perrin, Serge	Agence Française de Développement (AFD)
Ponte, Jean-Marc	Suez Environnement
Quteishat, Koussai	Jordan Desalination and Reuse Association
Robinson, Simon	Mott MacDonald
Rossmiller, Barbara	US Agency for International Development (USAID) – Institutional Support & Strengthening Program (ISSP)
Russin, Alex	Millennium Challenge Corporation
Sander, Irene	GIZ (GmbH – German Society for International Co-operation)
Scatasta, Monica	European Investment Bank (EIB)
Shroof, Zaid	EngiCon
Snrech, Serge	Agence Française de Développement (AFD)
Subah, Ali	Ministry of Water and Irrigation
Sukkar, Waleed	Ministry of Water and Irrigation/Performance Management Unit (PMU)
Taha, Suzan	EC-funded project SWIM-SM
Talhami, Michael	International Committee of the Red Cross
Telfah, Basem	Ministry of Water and Irrigation
Totaro, Francesco	European Investment Bank (EIB)
Van Gilst, Thomas	European Investment Bank (EIB)
Zureikat, Tarek	EngiCon

Glossary

BOT (build-operate-transfer) contracts correspond to greenfield concessions. These contracts involve take or pay provisions, i.e. revenue guarantees, that subject governments to contingent liabilities. On expiration of a BOT, the assets are returned to the public sector. **BOOs (build-own-operate)** are similar to BOTs except that they do not involve a transfer of the assets to the public sector after a pre-determined period of time. The private operator thus remains responsible for carrying out all the investment required to meet its service obligations. Under **BOOT (build-own-operate-transfer)** schemes, the private sector obtains the capital needed for construction, builds and operates the infrastructure for an agreed period of time (anywhere from 15-30 years) and then transfers ownership back to the relevant government. **BOTT (build-operate-train-transfer)** is another variation of BOT whereby the private operator commits to train the public sector to allow a smoother transfer. Other permutations of the activities for which the private sector takes responsibilities exist and typically involve design, build, operate, maintain and finance.

Under a **concession**, the private operator is also responsible for asset replacement and network expansion. The level of risk transferred to the private sector is therefore higher and compounded by the nature of retribution of the operator, mainly based on user charges.

A **lease** is a written agreement under which a property owner allows a tenant to use the property for a specified period of time and a specified rent. The private sector operator is responsible for providing the service at its own risk, including operating and maintaining the infrastructure for a given period of time. The operator is not responsible, however, for financing investment such as the replacement of major assets or expansion of the network. If payments from users cover more than the operator's remuneration, the operator is generally supposed to return the difference to the public authorities in order to cover the cost of the investments under the latter's responsibility.

Under a **management contract**, a private firm is appointed by the government to provide managerial services, often for a fixed fee. The contract typically requires the private party to manage a utility and provide services to the public for a given period of time. The remuneration of the private operator may be fixed at the outset, in which case the commercial risks of the operation are borne entirely by the public sector, or it may be linked to the performance of the utility, in which case the private operator bears some commercial risk.

Private sector participation (PSP) is broadly defined to include non-financial forms that involve managing infrastructure services. However, to differentiate from traditional public procurement, participation is defined as involving some transfer of risk to the private partner. A wide range of risk-sharing arrangements is available to policy makers and forms a quasi-continuum between cases where the public sector assumes most of the risk to cases where there is significant risk transfer to the private sector.

Public-private partnerships (PPPs) are long-term contractual arrangements between the government and a private partner whereby the private partner delivers and funds public services using a capital asset, sharing the associated risks. In a PPP agreement, the service delivery objectives of the government are intended to be aligned with the profit objectives of the private partner. The effectiveness of the alignment depends on a sufficient and appropriate transfer of risk to the private partners. In a PPP contract, the government specifies the quality and quantity of the service it requires from the private partner. The private partner may be tasked with the design, construction, financing, operation and/or management of a capital asset required for service delivery as well as the delivery of a service to the government, or to the public, using that asset. The private partner will receive either a stream of payments from the government for services provided or at least made available, user charges levied directly on the end users, or a combination of the two. This definition excludes a wider array of arrangements where non-governmental organisations such as non-profit civil society groups, trusts, church groups, etc. are involved in the development and delivery of public or semi-public services. It includes concession-type arrangements where the concession is designed to deliver a public service but excludes concessions such as licenses to use government assets such as mining which are another way for government to raise revenue. It also excludes traditional public works contracts.

Stakeholders are defined as persons or groups who are directly or indirectly affected by water policy, as well as those who may have interests in it and/or have the ability to influence its outcome (are in their sphere of influence), either positively or negatively – and want to engage in the decision-making process. They may include civil society organisations and groups with special interests including locally affected communities or individuals and their formal and informal representatives, national or local government authorities, elected representatives, regulators, agencies, end users, the academic community, utilities and other businesses and non-state actors/non-governmental organisations.

Under a **subcontracting arrangement – typically a service contract –** the private party performs specific, time-bound tasks, such as supplying inputs, taking care of planning studies, computing and payroll services or public relations, construction, maintaining assets, installing meters or billing customers, usually in exchange for a fixed fee. In this situation, the private sector bears very little risk and there is very little uncertainty around the expected outputs.

Value for money is what government judges to be an optimal combination of quantity, quality, features and price (i.e. cost), calculated over the whole of a project's life.

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