



Foreword

MAHMOUD ABU-ZEID

Ministry of Water Resources and Irrigation, Kornish el-Nil, Imbaba, Giza 12666, Egypt.

Email: abuzeid@mwri.gov.eg

One of the main drivers in the Middle East and North Africa (MENA) region is water, which has always been the central concern of the countries of the region. Early civilizations emerged along the Nile, Tigris and Euphrates and the struggle for water shaped life in desert communities. However, at present, the MENA region is facing one of the severest water scarcities in the world: most of the countries of the region are in the arid to semi-arid zone, and rainfall is low, variable and unpredictable in most of the area.

Some 60% of the freshwater resources in the MENA countries come from outside the region. Within the MENA countries, most of the water resources have already been developed. Several MENA countries are suffering from water deficiency and others are heading that way with an annual population growth of about 3% and rising levels of consumption due to socio-economic development. While water per capita consumption rates are the lowest in the world, municipal and industrial water requirements are expected to double and triple over the next years, respectively.

Meeting the long-term priorities of the region for the improvement of water resources management, especially the provision of drinking water and wastewater services, will require harnessing private sector investment hand in hand with government budgets in terms of partnership to reduce the financial burden on the government and assure improved levels of service.

From discussions in several panels and fora in recent years, it is becoming clear that 'water' has certain *general characteristics*, which need to be taken into consideration when thinking about possibilities for private sector involvement in its management. A closer look at such characteristics immediately reveals the consequences and implications to be taken into account, for example the following.

- *The water sector is a capital-intensive sector*, requiring investments estimated at US\$180 billion annually over the next 25 years (US\$4500 billion) to cover the necessary capacity extensions only and not accounting for the equally necessary rehabilitation, modernization, operation and maintenance costs. Is the public sector in a position to provide such vast amounts?
- *Water is vital for human life* and therefore a precious commodity. Water is wasted in quantity, for example through the high incidence of leakage in drinking water supply systems in many cities and towns. In agriculture, irrigation water is often used in an inefficient and unproductive way. In the MENA region, water used for agriculture accounts for around 89% of the total

- available water. Water is also wasted quality-wise; for example, water pollution is a common phenomenon in industry and at the household level. Apparently the cost of water for the user does not seem to reflect its real value.
- *Management of water has far-reaching impacts beyond the water sector*, for example on public health and the environment. Socio-economic benefits often surpass financial benefits and required sector investments are likely to exceed what a private sector investor (and the consumer) is willing to pay. For a potential investor only the financial returns and not the socio-economic benefits count.
 - *Distribution of water is often a 'natural' monopoly*. For example, it would be inefficient to have several—competing—irrigation networks in an agricultural area or water distribution and sewerage networks in a city. Consequently the single service provider is in a dominant position making it necessary to protect the consumer against monopolistic behaviour.
 - *Pricing of water is rarely efficient*. Tariffs are often below costs, recovery rates remain below projections and governments are required to finance construction and operational deficits, which makes water (again) a 'public good' in many situations. Charging an appropriate price from an economic viewpoint for water is a politically very sensitive issue in many countries.

Each of these characteristics has implications for the involvement and distinctive roles of the public and the private partners in the water sector. Together they highlight the manifold challenges to public–private partnerships (PPPs) in the construction and operation of water infrastructure globally, including the MENA region.

These characteristics also help us to define a number of principles that guide us in analysing and tackling the institutional, legal and practical problems for the participation of PPPs in the construction and operation of water infrastructure. These *principles* might include the following.

- The (new) task of the public sector, which will be to ensure that sufficient water of good quality is available and accessible for the different users and to ensure the optimal socio-economic division of scarce resources.
- The comparative advantages of the private sector in terms of efficiency and productivity.
- The provision and enforcement of a clear conceptual and regulatory framework.
- An effective framework of financial incentives that directs market parties to provide the goods or services as required and as efficiently as possible.
- Monitoring the effectiveness of implementation by market parties and by the government, and adequate instruments to measure performance.
- The need for transparency to protect the consumer, safeguard the resources and assets and ensure optimal information to market parties; markets need to be transparent.
- The prices need to reflect all the costs. If they do not, the market mechanisms will be ineffective for achieving a self-financing allocation and production of goods and services.
- The freedom of choice and flexibility. The (transaction) costs of shifting from one supplier to another should not be too high. Especially in water resources management this principle may prove to be impossible to meet to its full extent. On the other hand, the public sector has to ensure that (under monopolistic conditions) the interests of the consumers are protected.

Some principles are not easy to apply completely in some cases or sectors. For example, in the agricultural water sector, the freedom of choice and flexibility for consumers (irrigating farmers) with respect to the choice of the water supplier is not a realistic option since the water arrives through an irrigation system that cannot be replaced by another.

Also, there will, most probably, always be a monopolistic situation where only one private sector supplier is delivering water, running a sewer system or so on. In such a case, the choice and flexibility could involve aspects such as choices of quantities, qualities, frequencies/periods of delivery and prices, etc. To avoid monopolistic behaviour by the suppliers, concessions or leases might be given that would make it possible (for the consumers or the government) to terminate the contract if certain conditions were not met. Freedom of choice and flexibility could also be improved when consumers are involved in or even completely take over services such as water distribution, operation and maintenance, for instance through water user organizations and the like, and thus become competitors in the market themselves.

In the specific case of Egypt, PPP is implemented on three levels.

- *PPP in services provided by the Ministry of Water Resources and Irrigation (MWRI).* The MWRI provides a wide scope of services to the public in general and to various sectors in the country. The MWRI's overall responsibility is to authorize water use and to manage the national surface water and groundwater resources. The design, construction, operation and maintenance of all infrastructures for water resources development and irrigation and drainage networks are also among the core work of the MWRI in addition to actions for implementation of the national water quality legislations and Nile protection. In this regard, there are many opportunities for the MWRI to enhance involvement of the private sector in public works and water resources management. In general, three forms of PPP models can be adopted: privatization of part of the activities or responsibilities; privatization of all activities or responsibilities; and privatization of ownership.
- *Decentralization and management transfer in the old lands.* In the old lands of the Nile valley, delta and fringes, 90% of the landownership is of less than 1 acre (0.405 ha). With expansion of agricultural lands to new areas and to reduce the burden on the government, the MWRI's policy is generally to withdraw up to a higher level in the management of the system. This will be achieved through the application of the water boards concept. Water boards are seen as a form of decentralizing water management alongside irrigation management transfer and privatization. Regarding the management (operation and maintenance) of the government-owned water management infrastructure, the new draft Law 12 for Irrigation and Drainage offers the option to delegate part of the management or to transfer complete management to water boards or to specialized companies. The level at which the water boards or specialized companies operate is at the secondary (branch) canal or above.
- *PPP in new lands (mega projects).* The government of Egypt is planning to increase habitable land from the current 5% to 25%, increasing the cultivable land area from the current 8 million acres to 11.4 million acres by 2017. Toward greater PPP in these development projects, the government of Egypt has established two holding companies to manage, operate and maintain the irrigation and drainage networks in the Toshka and North Sinai development

projects. The companies will offer mechanisms to provide appropriate services to both investors and small farmers. However, the main infrastructure including irrigation and drainage networks and pump stations will still be the property of the government, maintained and operated by the MWRI.