

How four South Mediterranean countries increased their available water supply: best practices from Algeria, Israel, Jordan and Morocco showcased.

By reducing losses¹ (called non-revenue water, NRW) Algeria, Israel, Jordan, and Morocco increased their available water supply. Reducing non-revenue water (amounting up to 50% in some countries) may double the volume of water supply available for the consumer, reduces unbilled consumption and increases revenues for the concerned utilities.

Hereafter are the best practices used by the above-mentioned countries to cut their water losses and consequently increase their available water supplies, as reported in a recent SWIM-SM study.

- 1) **Implementation of water loss surveys** (both administrative, through customers interviews, and physical, to locate sources of physical losses) is a practice implemented in Israel that allows the water corporation to understand which elements of the system contribute most to NRW and, accordingly, helps guide planning for investment. This practice is promoted as the first line of action against NRW. Compared with changing aging systems or implementing new system-wide technologies, the survey costs are low and can be recovered in few months.
- 2) **Detection of losses and leakage repair** through pressure management and network modeling were used in Morocco to improve network efficiency and undertake rehabilitation works. The network efficiency increased from 53.3% to 63.3% during eight years, while the cost of the investment was recuperated before the end of the eight years.
- 3) The **micro Private Sector Participation (PSP)** used in Jordan can be considered as a fast track option for service improvement in preparation for other kinds of PSP in the operation and management of water and wastewater systems. The results included increased water and wastewater revenues and increased collection rates. The secret to the successful implementation of such an experience is to take the necessary time in the preparatory phase to transfer know-how to the local private sector up to the final pre-qualification.
- 4) **Licensing Service Connection Installation** in Jordan includes the training and the development of guidelines for improving the performance of staff who supervises the installation and the plumbers executing the work in view of licensing professional installers and supervisors.
- 5) **Service Connection Management Policy** in Morocco, the standardization of procurement policies and guidelines, the control of materials and implementation of services, and the provision of assistance to the partners and subcontractors in relation to service connections are profitable practices in the short and medium terms, considering that most of the leakage occurs in service connections.
- 6) **Installation of meters and replacement of old faulty meters** is a best practice presented by Algeria, Israel and Morocco; and is identified as part of the existing best practices in Jordan. Installation of meters, allows managers to understand water consumption in specific sectors of the network and to detect leakages.
- 7) **Pressure management** is another practice that results in high reductions in the physical loss component of the NRW with benefits outweighing costs. It is considered as a cost effective leakage management activity involving reduction in the consumption of energy. This practice is presented by Jordan and Israel, and has proven technically and financially feasible in mountainous topography in the two countries and under conditions of intermittent water supply in Jordan. The practice however requires availability of funds and know-how.

Details on each best practice can be found in the study and its annexes. Countries can pick and choose from the above practices the most fitting and lowest cost practice to gain on their available water.

¹ Water losses can be real (through leaks, sometimes also referred to as physical losses) or apparent (for example through theft or metering inaccuracies).