IWRM Action Hub

CASE STUDY

Morocco: Demand management in urban water supply

Drinking water supply of the Rabat-Casablanca coastal area has depended on water transfers from groundwater. Estimates showed that transfers would have to be extended to include surface water, requiring water transfer together with investments in production, distribution, and sanitation. A policy initiative was undertaken to address the issue. The key lesson is that integration of water demand management in water policies is effective for strengthening water security.

Background

The Rabat-Casablanca coastal area has a total population of some 4,900,000 inhabitants, or nearly 45% of the total urban population of the Kingdom of Morocco. The population connected to the drinking water supply is estimated at nearly 4,475,000 or almost 90% of the total population of the area.

This area, in which more than 70% of the country's economic activity is concentrated, is situated in a region where the available water resources are low; the annual average provided by the wadis of the region barely exceeds 100 million m^3, or a little under 20 m^3 per inhabitant per year.

Since the 1930s, the drinking water supply of the Rabat-Casablanca coastal area has depended on water transfers from groundwater, from Maamora, and surface water, from the Bou Regreg Basin.

Assessments carried out during the 1980s, based on patterns of water use at that time, showed that by 2010, transfers would have to be extended to include the surface water of Oued Sebu if water requirements were to be met. The investments required to realise this water transfer together with investments in production, distribution and sanitation in the Bou Regreg Basin would have been considerable, as well as incompatible with the State budget.

Actions taken

This situation highlighted the importance of water demand management to balance water demand with the water available.

Within this framework, a policy initiative was undertaken to contain the water demand of the area. This was based primarily on tariff measures, raising awareness of water saving opportunities among users, improved efficiency of supply (production and distribution), involvement of the private sector in water distribution.

The considerable fall in the demand for water can be explained essentially by the steps taken, aimed at rationalising the use of drinking water. The main ones are:

Pricing: Progressive pricing which, while favouring access to drinking water among low-income social groups, acts as an incentive against wastage. Pricing is the most dissuasive factor, which has contributed significantly to saving water and conserving water resources in the Rabat-Casablanca coastal area. In effect, the introduction of progressive pricing and large rises in the price of water, which had practically stagnated before the 1980s, led to major reductions in the demand for water.

Awareness of water saving: Children and young people were targeted by specific campaigns in schools, holiday camps, girls' homes, youth centres, shows and fairs by means of displays, exhibitions, competitions, and the distribution of documents suited to different age groups. The private companies which distribute water in the coastal area also make an effective contribution to raising the awareness of users towards water saving.

Institutional reform: Because of the substantial investments needed to distribute drinking water properly and to develop waste-water systems, the urban councils in this area delegated the management of drinking water and electricity distribution, and the management of the waste-water systems to the private sector.

Technical improvements relating to the prevention of loss: The technical causes of water loss occur generally either in faulty metering, or through losses in the pipes and connections. As for public bodies, several lines of action have been taken to help them to rationalise their consumption of water. The main ones are the system of payment by vouchers and individual connections being made obligatory in staff accommodation.

Outcomes

Integrating the management of water demand in the Rabat-Casablanca coastal area, particularly pricing and the recovery of costs, has significantly reduced the demand for water in this area. The efforts to introduce water-saving measures have resulted in substantial reduction in the demand for water in this area. This control of the demand for water has proved cost-effective for the local authorities and the companies responsible for producing and distributing the water.

The principal lesson to draw from this experience is the need to firmly integrate the management of water demand into the water policy by adopting a deliberate pricing policy to stimulate sensible use and rationalisation of water. The participation of the private sector in the management and the distribution of drinking water can form a strategic orientation to benefit from the investments necessary to make a significant improvement in the drinking water service. The beneficial results achieved by the coastal area in this field have led the authorities to consider a more widespread use of delegated management in the other main urban areas with more than 300,000 inhabitants.

Implementation of this policy led to a significant reduction in water demand in the area:

- A decrease in the production of drinking water of almost 20 million m3 in Casablanca and Mohammedia between 1998 and 2000;
- A decrease in the production of drinking water of almost 10 million m3 in Rabat and Bouznika between 1998 and 2000 and a predicted drop in water demand of about

30% by 2020;
- Most importantly, investments in the expensive transfer systems can be postponed for more than 20 years.

Following aspects reinforce the significance of an IWRM approach:

- Water savings are likely to be produced when financial incentives are established;
- Reduction of water discharges will ensure the protection of the natural environment;
- Strong participation of water users for financing water resources management;
- Substantial reduction in investments for the realisation of works.

Lessons Learned

Strong integration of water demand management in water policies was very effective in strengthening the country´s water security.

Involvement of the private sector in water resources management can be an effective solution to water resource management problems.

An adequate tariff structure is the principal measure for encouraging a water economy.

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