Water Demand Management:
Making the most of the water we have

Water demand management — WDM — can be hard to define. More an issue of policy than of technology, it is about managing and moderating our demands for good quality fresh water. It is less a matter of piping and pumps and more a tool for changing the ways we use water and the rates at which we use it. ***In practice, WDM comes down to three key goals: efficiency, equity and sustainability.***

Economic efficiency

There are many ways to improve the efficiency of water use, for example by reducing losses in the distribution system, by reducing the amount or the quality of water needed to perform a task, and by changing the timing of water use.

Reducing the amount of water used is an obvious benefit, but reducing the quality of water used is almost as important. Lower quality, less costly water can safely be used for many purposes, from irrigation to industrial uses. It may be water that has not been treated to the point where it is potable water, or it may be reused water, like "grey water". It may also be water that is naturally saline or turbid.

Policies that encourage the use of lower quality water may require changing the way a task is performed, and of course it is essential that there are no negative effects on health or the environment.

The timing of water use can also affect efficiency. Irrigating crops at night instead of during the heat of the day reduces losses from evaporation. Using water at off-peak times for other purposes reduces strain on the water delivery system.

Equally important, the system needs to be able to cope with water shortages — to have the ability to continue to supply the basic needs of the population during times of drought or seasonal water shortages.

Social equity

Any strategy for the implementation of WDM must take into account the goal of social equity. A key element is the sensitive issue of water pricing, and ensuring that poverty is not a barrier to reasonable access to clean water. Responses to the needs of the poor will vary depending on the setting: the needs of the poor in urban situations are quite different from those in rural areas, where both demand and supply are based on different factors.

The situation of poor women and children requires that policy makers find ways to provide for at least a minimum supply of clean water. Women are frequently the "water managers" in the household, and difficulties in their efforts to ensure the family's water supply can become a barrier to opportunities for education and employment.

Control of the water supply has traditionally been a source of power in many societies. Policy makers and practitioners need to be aware of the sensitivities of local custom, as well as traditional water rights, when attempting to implement WDM strategies. Community participation in water management decision-making helps to ensure that the benefits of WDM are understood and are widely accepted, and greatly increase the likelihood of success.

Environmental sustainability

No other region of the world has so many people striving so hard for economic growth with so little water than the Middle East and

North Africa region (MENA) — MENA has five percent of the world's population but only one percent of its fresh water. While a Bedouin living a traditional lifestyle uses only about 10 litres of water daily, it is obvious that as populations grow and lifestyles change that traditional water supply systems cannot cope with the demands of modern life.

The problem is not that MENA nations are inefficient in their use of water, but rather that they have to be even more efficient if the region's development is to be sustainable. And it is important to note that some water must be left in natural watercourses (whether on the surface or underground) to protect the natural environment and to permit the environment to continue to provide services such as waste purification, habitat protection and flood control.

At the same time, there is rapidly growing evidence of the effects that climate change will have on water availability. The MENA region is particularly vulnerable, and can expect increased temperatures and reduced rainfall, according to the 2007 report of the Intergovernmental Panel on Climate Change (IPCC). In the past, water management has generally been based on the assumption that climatic conditions would remain more or less the same. If the IPCC's predictions are correct, governments need to be prepared to re-evaluate their policies and institutions for the management of water resources

WDM is an effective strategy for adaptation to the current challenge of water scarcity, and will become more so as climate change further reduces the availability of water and land, and brings more heat waves and frequent dust storms. Policies based on WDM strategies contribute to preparedness and social resilience in the face of the challenges that lie ahead for the governments and people of the MENA region.

To access the full paper from which this policy brief was derived, please visit:
HTTP://WWW.IDRC.CA/WADIMENA/EV-121555-201-1-DO_TOPIC.HTML

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WATER DEMAND MANAGEMENT MEANS…

MAKING THE MOST OF THE WATER WE HAVE

We can do that by moderating and managing the demand for fresh water.

- First, ensure fair access to sustainable water supply, as well as, responsible water use.
- Second, reduce the amount of fresh water we all use.
- Third, keep the water we all use as clean as possible.

Making the most of the water we have calls for effective policy as much as efficient technology. It means governing the demand for good quality water through policies that encourage or enforce efficient and equitable water use — either by changing the way water is used or by changing the task to use less water. Water policy can also mandate reducing the loss of quantity or quality of water as it flows, and ensuring security of supply in times of water shortage.

In short, WDM requires a new way of thinking about water: it is a strategy for social innovation, requiring that we examine not just the technical and economic issues, but also the personal and political choices leading to prudent and responsible decisions.

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