



WATER AND DEVELOPMENT IN THE ARAB WORLD



Situation and climate of the Arab world

The Arab world covers North Africa, South West Asia, and areas 85% of which have an arid or semi-arid climate with generally high temperatures, high rates of evaporation, low humidity rates and low rainfall : about 67% of its total surface area has under 100 mm. of rainfall per year, 18% has 100-300 mm. per year, and only the remainder has quantities which still do not exceed 300 mm. per year.

What are the Arab world's main sources of water?

The Arab world draws its water resources from rainwater, rivers and underground water sheets as well as sources that are not classic - desalinated water and treated waste water. The quantities that can be got from these sources differ widely from one country to the next and from one region to the next within a single country: rainfall is inexistent in some countries and heavy in others, for example (over one thousand billion cubic metres per year in the Sudan). Similarly, countries such as Sudan, Egypt, Syria, Iraq, Lebanon, Jordan and Morocco have large and small rivers but other countries have neither rivers nor lakes.

Where water resources are rare and financial resources permit the abundant water found underground is exploited (the East Al Jazira underground sheet covering 1.6 million sq. km. and the Nubian underground sheet covering 2 million sq. km.). Other non-classic sources are being promoted, with the result that the Arab countries are in the forefront of the development of water desalination techniques, producing over 5 million cubic metres a day, that is, over 70% of world production.

Water consumption and needs

Water consumption refers to water that is used by various consumers (drinking water, agriculture, industry etc.) where there is no maximal threshold. Water needs refers to water necessary for well-defined uses. Water consumption may be less or greater than water needs, according to the specific circumstances and conditions of one country, one town or one given individual. For example, the amount of water needed when taking a bath is 50 litres for a shower; thus when a person consumes 85 litres for a real bath his water consumption is greater than his (50 litres) need.

What is the minimal threshold of the individual's water requirements?

The United Nations Environment Programme and a number of water and development experts have assessed the individual's water requirements at about 1,000 cubic metres a year. This includes drinking water, agriculture, industry and other development sectors.

The Arab world's water consumption and requirements

Water is seen as being one of the main factors that determine the growth rate in most Arab countries. It is used domestically (drinking water), agriculturally (food production) and industrially as well as for energy production, transport of people and goods, leisure, making the environment lovelier, and refuse management.

Water for the future generations?

Regarding existing water potential in the Arab world, it appears that four countries are at present suffering from a lack of water and that in the year 2025 eight countries will be in this situation. This is because of the anticipated rise in water requirements resulting from demographic growth, from the extension of irrigated areas to feed those people, and from the consequent growth of industrial and commercial activity. It also springs from the rising rates of individual consumption to improve living standards. Thus the problem of a water deficit and the need to guarantee permanent water resources will constitute the main challenge to be addressed to assure the future of coming generations.

Present situation and future projection of water resources and requirements in the Arab world

(estimated in billion cubic metres a year)

YEAR	1990	2000	2025
Resources	257	274	278
Individual's share in cubic metres a year	1431	1142	801
Requirements	154	190	281
	+ 130 (surplus)	+ 84 (surplus)	- 3 (deficit)

To confront this water deficit in the Arab world, it is vital that a number of steps be taken to economize on water consumption and protect water resources from pollution. These steps are :

- exploiting rainwater by building dams and reservoirs
- provision of water needs only, with guaranteed drinking water as

a priority

- promoting water distribution and use techniques and keeping an eye on modes of running and upkeep
- setting water rates in a way that will avoid waste
- recycling water after it has been treated in the appropriate way for being reused in urban use and irrigation
- developing water desalination techniques, especially since the Arab world is surrounded by seas and oceans and since solar energy is available throughout the year.

The appropriate solution

A quick glance at the Arab countries' budgets (taken individually and then together) that are set aside for the water sector allows us to draw the following conclusions :

- Over 60-70% of water resources is earmarked for agricultural requirements; this means that food security is the main reason for the water deficit.
- Most of the Arab countries cannot achieve food security with their own water resources.
- The water resources of certain Arab countries far exceed their water requirements, and they thus have a water surplus, while other countries suffer from an acute deficit which will certainly become worse in the future. Thus, water sector dovetailing will be profitable for both parties - even a need imposed by their economic, environmental and social circumstances. The same holds good on a wider scale for the entire Arab world.

Realised by : National Centre for Environmental Protection

National coordinator : Dr. Abdelkader Abou Faed,
National Centre for Environmental Protection,
P.O. Box 83618, Tripoli, Libya
Tel : (218-21) 444 8452 - Fax : (218-21) 333 8098



Coordinateur Régional : Prof. Dr. Abdelhamid BELEMLIH
Société Protectrice des Animaux et de la Nature «SPANNA» 41, Résidence Zohra, Harhoura
12 000 Témara - Maroc - Tél : (212-7) 74 72 09 - Fax : (212-7) 74 74 93 - E-mail : spanna@mtds.net.ma