Very many people have said it and written it: in the 21st century water will be like "the black gold". Political battles and perhaps international wars will be fought over it, while the countries richest in water will be in

Water: so precious and so different from oil

ENVIRONMENT

by Donato Speroni

a privileged position. The world is facing a problem which, for reasons of population, economy and climate, concerns many interests and requires complex management strategies.

There's a fundamental difference between oil and water resources. Oil exploitation starts and develops in accordance with the strategies of large, integrated industrial enterprises. We could say that the big oil companies, the famous "Seven Sisters", the opponents in the battle led by Enrico Mattei, the President of ENI, were the first real multi-nationals in the world, because research, extraction, transport, refining and distribution entail enormous investments and projects spanning more than one continent.
In short, oil starts off as an "economic asset". Almost everyone consumes petroleum products but, though it may be inconvenient, we can also do without such products by using alternative resources, walking, or cooking over fires fuelled by camel dung. There are still some human beings outside the great fossil fuel cycle.
Water is a different matter, because we cannot live without water. Traditionally, ever since the birth of mankind, communities have generally drawn their own water directly at source. That is to say, water, like air, has always been considered a common asset, available close to one's own home or village. If there wasn't enough the community moved on or died out.
However, in the 21st century water is becoming an economic asset, for a whole series of reasons. Firstly, because the relationship between supply and demand has collapsed. The quantity of clean water is decreasing because the quantity of water polluted by industrial processes or fertilisers and pesticides has escalated and there is a constantly growing demand because of over-population and patterns of increased consumption.
Secondly, an increasing proportion of the global population lives in cities and so are far from water sources. Finally, greater awareness of diseases linked to the consumption of polluted water leads to a demand for water that has been made fit to drink: and this water is delivered via pipes or trucks or in plastic bottles. But this water comes at a price.
Therefore, unlike the disputes over oil, the battle for water is not simply a political argument about who owns the sources. There is also this aspect, because many countries in the world depend on rivers which enter their territory from beyond their borders and are always at risk of being cut off. But, first and foremost, it's a clash of


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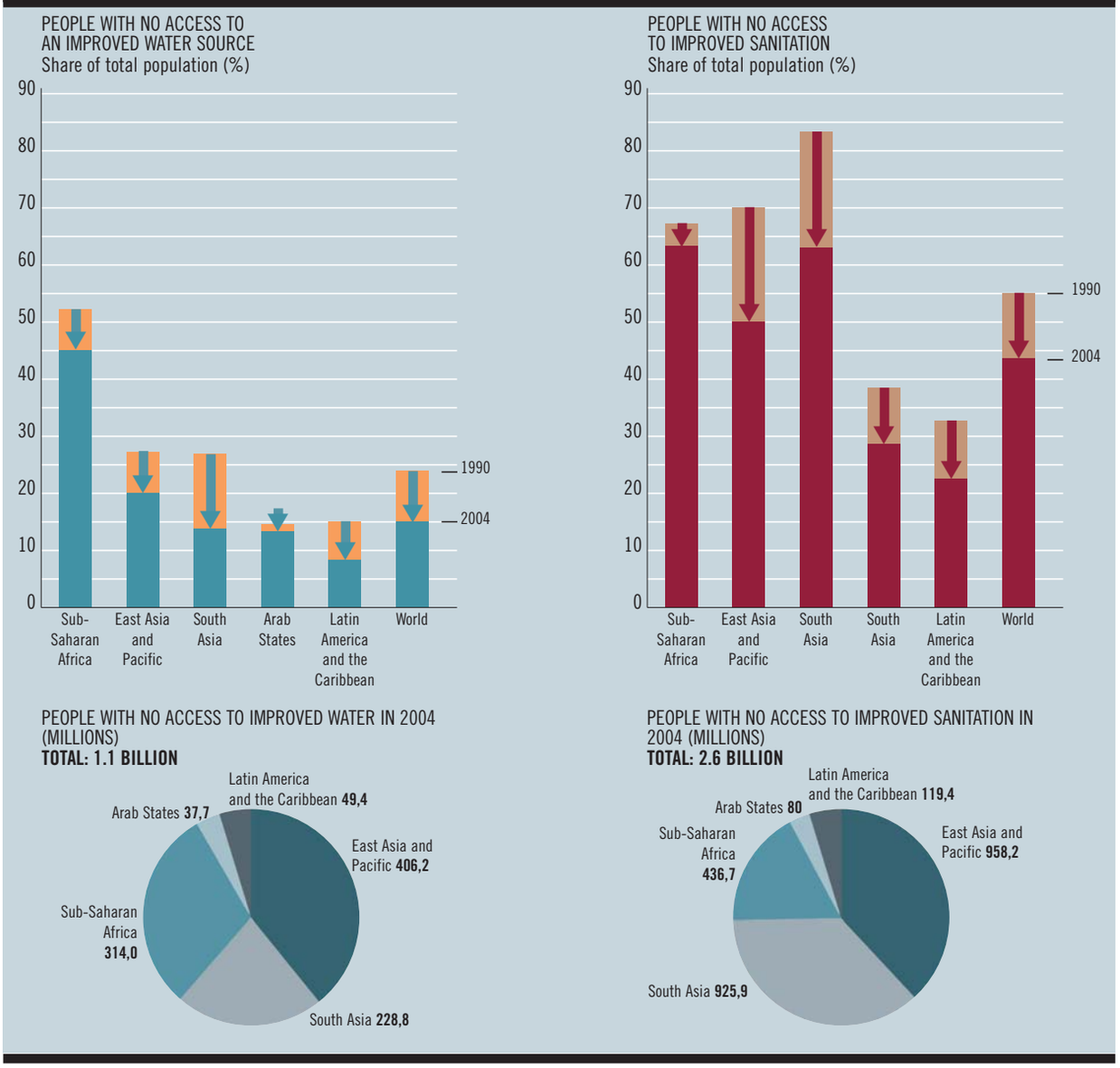
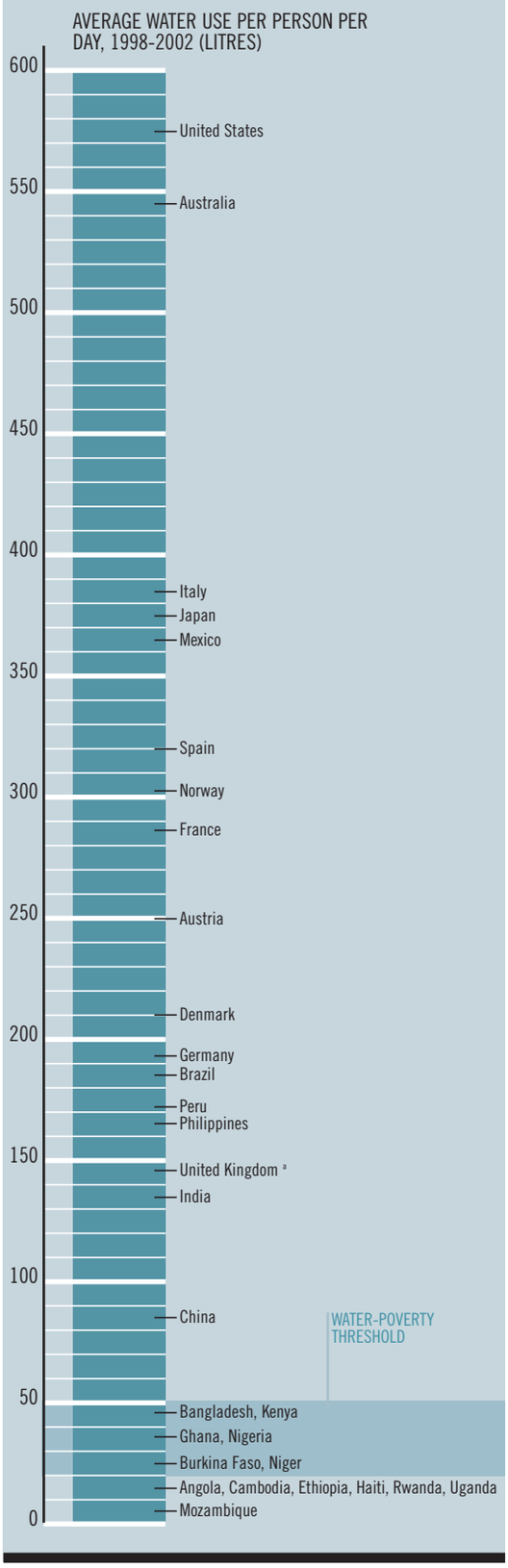
SHRINKING SLOWLY: THE GLOBAL WATER AND SANITATION DEFICIT



Source: Calculated based on UNICEF 2006°

two perceptions: water as a "need" to be supplied by the usual market conditions, and water as a "right" which must be guaranteed, at least in minimum quantity, to everyone. So is it an ideological debate? Partly; and reliance on ideology may well lead to paralysis, as is often the case when practical solutions are rejected in the name of an abstract principle. However, it's better to say that it's a political confrontation that has developed since the 1990s between, on one hand, the big water companies which are always ready to build dams and pipelines all over the world as long as they are guaranteed the right to sell the precious mineral for at least 30 years and, on the other, the local communities who are very reluctant to suffer the "commercialisation" of what, for them, is not merchandise but a right. Then, somewhere in between, there are the big international organisations. There has been a decade of hard-fought battles all over the world, but they may now be leading to the general awareness that water management cannot be left completely in private hands: that without a

WORLDS APART:
THE GLOBAL WATER GAP



a. OFWAT 2001 Source: FAO 2006

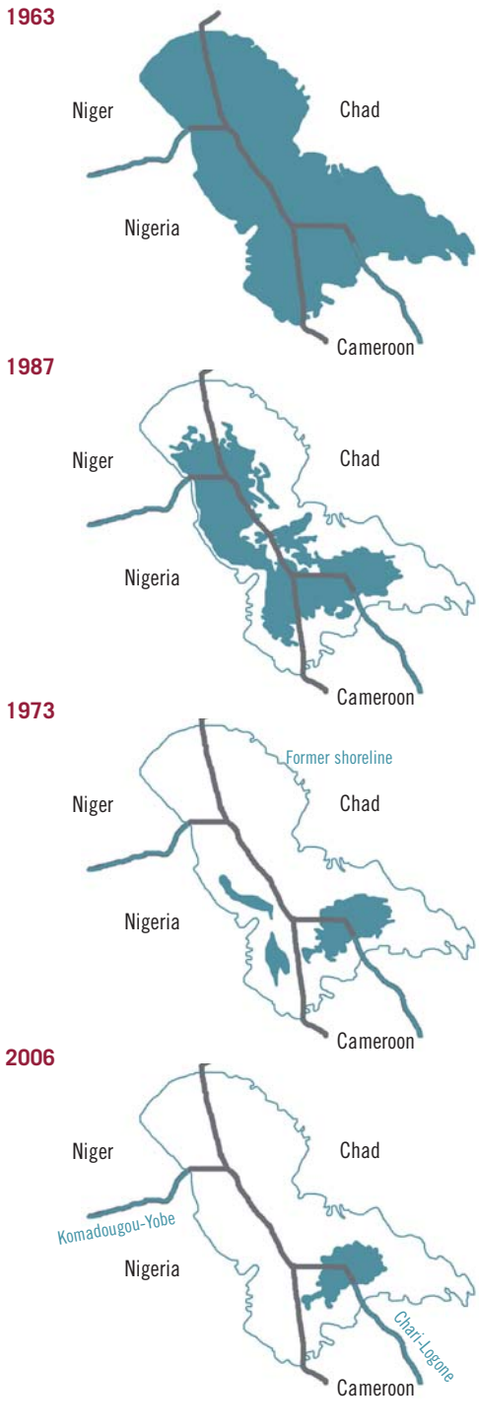
parallel economic arrangement which will guarantee provision of the huge investments required, water will never reach the parched margins of the gigantic third world cities; that, at the same time, though huge investments in infrastructure are required in many cases, micro-projects run by local communities to make the most of the water near their villages and enhance its quality are equally important.

More and more people, less and less water

It's not easy to find one's way around the thousands of pages that use different facts and figures to describe the size of the problem. As stated in the UNDP (United Nations Development Programme) 2006 report, "Even if the Earth is considered to be the water planet, 97% of its water is in oceans. Much of the rest is locked in Antarctic icecaps or deep underground, leaving less than 1% of water available for human use in easily accessible freshwater lakes and rivers". During the course of the natural cycle, around 7,000 cubic metres of water per person per year is available from the hydro-geological system. Much of this water can neither be managed nor accessed, "yet the world has a much larger quantity than the minimum threshold of 1700 cubic metres per person generally agreed by hydrologists as the minimum quantity necessary to produce food, sustain industry and preserve the environment". It is estimated that, due in part to the effect of over-population, in the last 40 years the amount of water per capita annually available worldwide has reduced from 17,500 to 7,000 cubic metres, and it is estimated that by 2025 the amount available will reduce to 4,800 cubic metres. The UN describes as "water war zones" the areas where there are fewer than 1,000 cubic metres per person per annum. One of these is the Middle East, where the quantity varies from 1,700 cubic metres – considered to be the water stress level – and 1,000 cubic metres.

But we must be careful, because these figures are not just for personal use of water; they cover all the purposes for which water is used, including irrigation and industry. So what is the threshold for an adequate water supply for humans? The

THE VANISHING LAKE CHAD



Note: The boundaries and names shown and the designations used on the map do not imply official endorsement or acceptance by the United Nations.

international norms established by agencies such as the World Health Organisation (WHO) and the United Nations Children's Fund (UNICEF) suggest a minimum requirement of 20 litres per day from a source not more than one kilometre from the home. That's sufficient for drinking and essential personal hygiene. If we add bathing and laundry, the personal threshold rises to around 50 litres per day. The table highlights the extent of global inequality: average use of water ranges from 200-300 litres per person per day in most European countries, to 575 litres in the United States. Residents in Phoenix Arizona, a desert city with some of the greenest lawns in the United States, use over 1,000 litres a day. By contrast, average use of water in countries like Mozambique amounts to less than 10 litres per day.

It is estimated that at present around 1.1 billion people in developing countries have inadequate access to the minimum quantity of clean water and 2.6 billion are without basic sanitary provision. The lowest coverage rate is found in Sub-Saharan Africa, but the largest number of people without access to clean water is in Asia. Here are some of the consequences of the situation as set out in the UNDP report:

1.8 million child deaths each year from diarrhoea, that's some six times greater (in 2004) than deaths resulting from armed conflict.

The loss of 443 million school days each year from water-related illness.

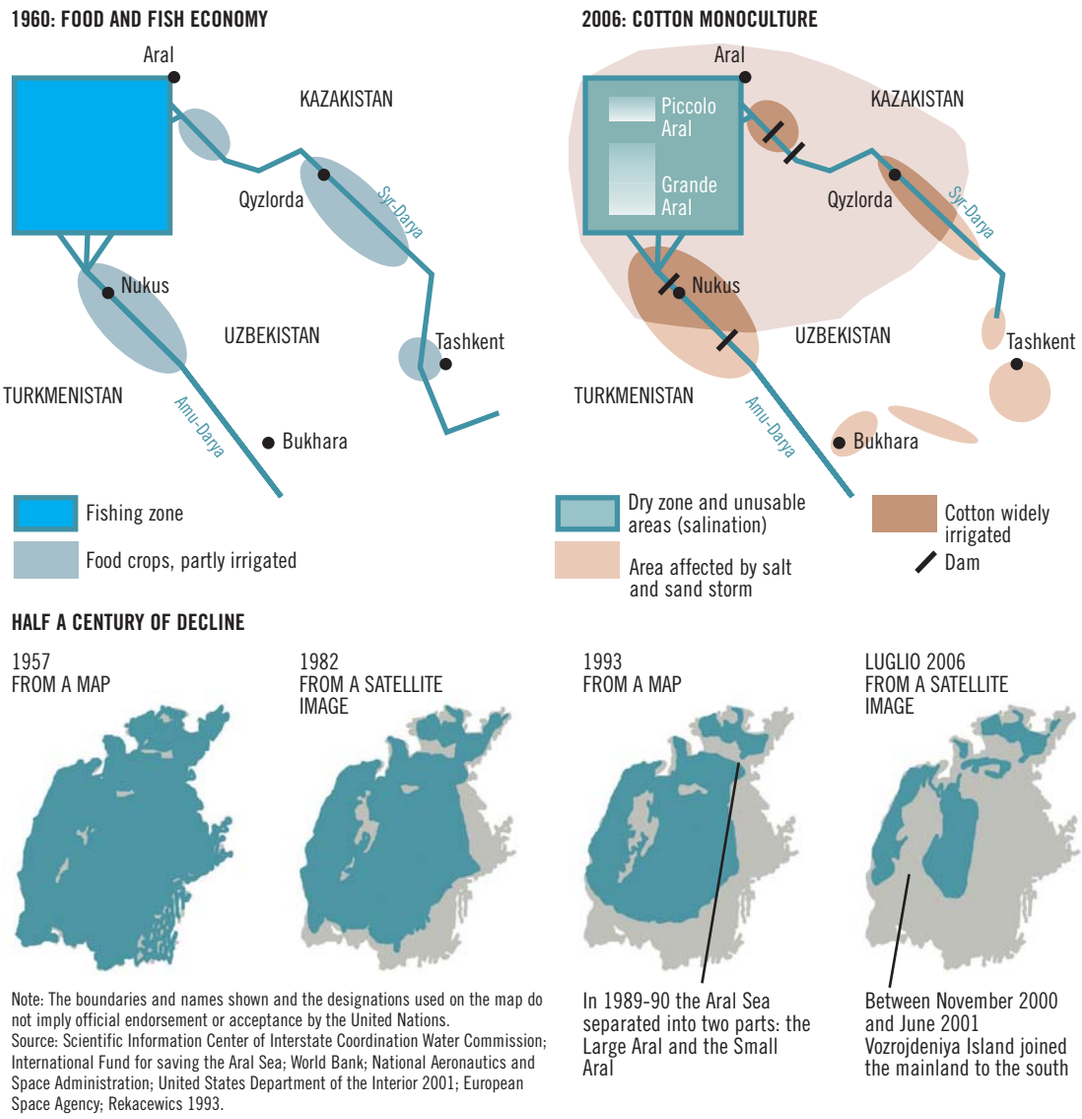
Close to half of all people in developing countries suffer from a health problem caused by water and sanitation deficits.

Millions of women spend several hours a day collecting water. For example, it has been calculated that in 23 Sub-Saharan countries 25% of women spend at least half an hour (and 19% over an hour) carrying the water required for daily needs.

International commitment

In such a situation, it's no wonder that water should be one of the primary commitments for international organisations. One of the Millennium Development Goals, the targets set for 2015 and announced by the United Nations in the year 2000, is to halve the number of people without access to safe drinking water and basic sanitation. In 2007, almost half the time allowed has already

THE SHRINKING ARAL SEA: THE ENVIRONMENTAL COSTS OF COTTON



Note: The boundaries and names shown and the designations used on the map do not imply official endorsement or acceptance by the United Nations.
Source: Scientific Information Center of Interstate Coordination Water Commission; International Fund for saving the Aral Sea; World Bank; National Aeronautics and Space Administration; United States Department of the Interior 2001; European Space Agency; Rekacewics 1993.

elapsed but the target is still a very long way off. However, the situation is varied: "Largely because of strong progress in densely populated countries like China and India, the world is on track to reduce the percentage of people without access to water by half", the UNDP report states, "but it is still far from the target for hygiene and sanitation. In fact, for water, 55 countries are off track for 2015; over 234.5 million people will fail to reach the goal, leaving 800 million altogether still without access to water. For hygiene and sanitation, 74 countries are lagging behind; 430 million people will miss the goal, leaving 2.1 billion still without access".
To increase efforts, the UN inaugurated the "Water for Life" decade from 2005-2015, a massive publicity and awareness campaign about the world's water requirements. But the most important opportunities for the world to be brought up to date on the problems and progress are afforded by the triennial conferences. The first World Water Forum took place at Mar del Plata in 1977, the latest in Mexico City in 2006 and the next will be held in Istanbul from 15-22 March 2009.
But what can be done about the water problem? In 2000, in the Hague, during the

second World Water Forum, the World Water Council, the UN agency that deals with these problems published its "World Water Vision". As well as requesting massive investments to manage water resources, this report put forward the principle of "full-cost pricing", i.e. that the price of water must reflect the cost of production cost. The principle was opposed and was not included in the final ministerial statement, but the problem of the price of water resources reappeared in the report prepared by a group of financial experts headed by Michel Camdessus, which, at the next forum (Kyoto in 2003), estimated the global financial requirement to deal with the problems of water at $180 billion.
Why was full cost pricing opposed? Principally because of the widespread conviction among many countries' delegates that the problem of water is specific in nature and must not be handled solely as a question of large operations managed by big companies. Clearly, the fear is that water managed as "merchandise" will not reach the poor.
In fact, poor families who live in "cardboard cities" already pay dearly for their water. Here are a few examples from UNDP sources: "At Barranquilla, in Colombia, the average price of water charged by the public utility company is 0.55 dollars per cubic metre and the price charged by haulage companies is 5.5 dollars. In the same way, in Accra and Nairobi's cardboard cities those who buy from water sellers usually spend eight times as much per litre per day as families who use water from the tap indoors". But it's not easy to make these families pay for connection to the pipeline, because installation costs are often as much as several months' wages: a lump sum that poor people simply cannot afford. Hence the fear that private management will result in benefits only for wealthier families.

The political confrontation

The alternative movement to an "economic" approach to water began in 1988 with an international group led by the former President of Portugal, Mario Soares. The group formed an official Committee for a World Water Contract and published a manifesto. The document declares that water is an inalienable individual and collective right and that it must always be managed "with a high degree of democracy at local, national, continental and world level". The Committee proposes the creation of a network of 'Water MPs' and the promotion of information campaigns on the most sensitive themes, such as modernising the distribution systems in the 600 cities worldwide that will have populations of over one million by 2020 and the structural reform of irrigation systems in intensive industrial agriculture, the major consumer of fresh water on the planet.
The movement suggests forms of international solidarity, such as a "world tax" on water consumption to benefit the most disadvantaged countries, and proposes a means of guaranteeing basic supplies (at least 20 litres) which must be provided free of charge, with a progressive scale of charges for increased consumption: a system already in use in cities like Dakar, Durban and Bangalore.
The confrontation over water is based on these opposing views and there have been some bitter moments. In 2002, at Cochabamba, in Bolivia, the public took up cudgels to protest against the decision by the multi-national Bechtel to increase its water prices. In the end, after a month of heavy clashes, Bechtel withdrew its operations.
From Cochabamba, the movement spread to other countries, especially in Latin America, but it has also had an influence on the UN Forums. The one in Mexico City placed considerable importance on building a so-called "water community" and strengthening the role of local companies. And it was with special reference to Cochabamba, that in Mexico City the best example of "local empowerment" was presented in order to emphasise that the affair was not simply an "anti-privatisation movement", but the launch of a new form of "bottom-up" water management, which envisages the participation of a citizens' committee to identify the nature of the demand, a private company (the Agua Tuya Programme) to provide technical expertise and construction, a non-governmental organisation (CIDRE) to provide micro-credit, a local authority department (SEMAPA) to supervise and be responsible for connection to the main water system. All to be achieved with funds provided by the local authorities in the context of a new national law which recognised the power of Water Committees formed by local people themselves with elected representatives

_Families who live in "cardboard cities" already pay dearly for their water: in Accra and Nairobi those who buy from water sellers spend eight times as much per litre per day as families who use water from the tap indoors

from every district.
Preparations for the Istanbul conference have already begun. According to the President of the World Water Council, Loïc Fauchon, the greatest challenges are the demand for water created by population growth, polluted resources, and the requirements brought about by climate change. The alternative movements are also getting ready: in Brussels on 20 April, 600 representatives from various countries met in the European Parliament building. Emilio Molinari, Chairman of the Italian Committee for the World Water Contract explained: "The main players in a global movement talked, discussed and made commitments: in 2008, on the 60th anniversary of the Declaration of Human Rights, we will try to involve all governments, starting with Italy, which is a provisional member of the UN Security Council, in introducing a declaration stating that water is a human right".
Still, there is hope that in future policies on water will not necessarily be rigidly opposed. The final report of the Fourth World Water Forum in Mexico City recognised the democratic, rather than purely technocratic, importance, of water-related issues. "One of the principal results of the Forum", the final report states, "is that it revealed and highlighted the political nature of issues surrounding water. Water is complicated, because it is at one and the same time an essential resource, a common asset, an economic factor and a basic human need... Every decision that concerns its management and use needs to be considered from these different points of view. For this reason, overall management of water must remain in the hands of elected people and of those in charge of public decisions. In this way, water becomes a formidable instrument to enhance democracy, public participation and the expanding role of 'local stakeholders'. These basic rules are simple in principle, but if they are forgotten and if politicians disregard their role in the water issue, water is put at risk".
In short, we are facing a problem which is becoming increasingly important, for reasons of population, economy and climate, but which also concerns everyone and therefore requires complex management strategies. Strategies that must be capable of attracting the substantial financial resources required for large operations, but which also emphasise the value of smaller, local activities; they must bring together local enterprises and communities, national and international organisations, peoples as nations and as neighbourhoods. It's a huge challenge, but it may also be an opportunity for the world to learn how to manage the future.