

Observer oecd

Securing tomorrow's water

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Published: March 2006

Every Thursday at noon the *Tribunal de las aguas* (water court) meets outside the cathedral in the city of Valencia along Spain's Mediterranean coast. For more than a thousand years, it is believed, the court has ruled on disputes affecting the irrigation of the arable lands known as huertas, which nourish the lemon trees, the oranges and other crops that give this region its distinctive scents and flavours, and for many, livelihoods as well.

Water is basic to life: it is essential for health, agriculture, industry, and the maintenance of key ecosystems. Today access to and the management of water resources have become global issues, affecting social and political relationships across the world. UN estimates suggest that by 2025 some 1.8 billion people will be struggling to make a living in countries or regions afflicted by "absolute water scarcity".

This means without action, water shortages will worsen and there will simply not be enough water available, particularly in more arid areas, to maintain food production, or to meet household, industrial or environmental needs.

Most countries in the Middle East and North Africa already fall into this category. Rising populations, growing industrial production and consumption in emerging and developing countries look set to lengthen the list of countries experiencing such scarcity, with Pakistan, South Africa and large parts of India and China set to join it by 2025. Climatic variability, particularly in many semi-arid regions, further complicates the situation.

Then, there is also the very pressing issue of health. Take diarrhoea. In a developed country, this disease is easily cured with a little salt in a glass of water. In many developing countries, however, it is the number one killer of children, due mainly to a lack of clean water.

It is against this background that the job of achieving the water targets under the Millennium Development Goals and agreed in 2002 at the World Summit on Sustainable Development must be set: halving the proportion of people without sustainable access to safe drinking water and sanitation by 2015 will be no mean feat.

Uneven access				
% of population served by water supply and sanitation services 2002		World	Developed countries	Developing regions
Water supply	Urban	95	100	92
	Rural	72	94	70
	Total	83	98	79
Sanitation	Urban	81	100	73
	Rural	37	92	31
	Total	58	98	49

Source: OECD (2006, forthcoming), *Futures Project on Global Infrastructure Needs*, Paris

While access to water in poor countries is a very grave concern, the challenge of providing safe water is also a major issue in developed countries. In fact, the OECD Environment Strategy to 2010,* adopted by OECD environment ministers in May 2001, also identifies freshwater as a priority issue for OECD countries, and with good reason. Safe water has been compromised by pollution of our water basins, while water supply and sanitation infrastructures in many urban centres are ageing and in need of repair or replacement. In North America some urban water systems are nearly 200 years old! The financing required to meet these challenges is enormous, and a solution has to be found.

Scarcity is also a problem. Groundwater has reached new lows in many regions, for example in the US and France, largely

reflecting over or inefficient water use in farming, as well as groundwater pollution, salination, and so on. Recently, the BBC reported that because their drinking water reserves have not recharged this winter, the inhabitants of the county of Kent in the UK, which is hardly an arid place, will face severe restriction measures this year. Other OECD countries face similar problems.

The good news is that indefinite water scarcity is by no means a fait accompli. It is true that freshwater is a fragile resource—just over 2% of total water reserves on the planet are freshwater, and most of that is ice. Yet despite this, overall water supplies will probably remain plentiful as long as they are managed properly. Not only must the right policies be put in place, but these then have to be implemented thoroughly and coherently.

As a natural resource, water is obviously influenced by major forces, not least the possible effect of climate change on rainfall. At the same time, water continues to be used inefficiently almost everywhere, while inadequate or poorly maintained infrastructure leads to remarkable levels of leakage. This is not nature's fault, and it is our common responsibility to put it right.

Much of the problem comes down to economics: water is a fragile resource subject to competing demands. As a basic economic principle, it should be treated as a valued resource and charged for in a way that encourages efficiency and prevents needless overuse. At the same time, water is a social good: safe water is a basic need for us all, and so affordable access must be a priority, particularly for the poorest and the vulnerable.

Moreover, water is inherently political: for policy to work, co-operation and agreement are needed at every level, from international operators and industry all the way down to local villages and private users. Popular participation—as illustrated in user associations in many developing countries and public-private partnerships—can help to bring relevant stakeholders together to address water management challenges.

Work carried out in the OECD shows that price-based policies work when user charges are set on a full cost recovery basis, which reflects the actual costs of water abstraction and delivery, including operation, maintenance and capital costs. This approach would provide an incentive for people to use water efficiently, while generating revenues to support necessary investment in infrastructure. Consequently, both efficiency and overall welfare require that all users—households, industry and agriculture—should pay for the water they actually use.

Even policies targeting poor users must provide incentives to be efficient with their water use; no-one can afford to ignore this principle. Water, unlike many other commodities, is a public good. Hence, some will argue for providing cheap water services across-the-board. The trouble with this view is that even where prices are cheap, access is still denied to many, or at an unfair price. There is also the risk that the loudest interest groups will receive more equal treatment than others.

Across-the-board cheap water supplies are both inefficient and subsidise wasteful water use by rich and poor alike. However, pricing must clearly be bolstered by measures to ensure equitable access to water services by the poor. To achieve this, many countries have developed specific targeted measures to support affordable access to essential water services by the poor, while still providing incentives for efficient water use. Such targeted measures include various types of income support, including through general increases in social welfare support, like those in Chile, or tariff-based systems designed to reduce charges specifically for low-income households, such as those operated in Greece, and some Asian countries, like Indonesia. Rallying stakeholders can also pay off; in France, in addition to legislation and a charter on water solidarity, a national convention from 2000 stipulates that no water disconnection should occur when a baby or an elderly dependent person is part of the household, whatever its financial situation.

In most countries, including the OECD area, industrial or household users pay over a hundred times more for their water than farmers. Yet, agriculture is by far the biggest single user of water. Is that fair? True, the quality needed for irrigation may be lower and the delivery systems less sophisticated than for households, but water usage is still effectively cross-subsidised by other, sometimes poorer, users. Paradoxically, in cases where water restrictions are in operation, farmers may be exempt.

In general, if water usage reflected the true price of water, farmers would face a choice: either to get tough on their water consumption or shift into producing something less water-intensive. Some arid countries are already doing this, and are even ceasing cultivation of some crops that generate less added-value.

Raising prices or reducing subsidies is not easy politically or socially, particularly in farming, where strong historical, cultural and political factors come into play. There may also be concerns to maintain national food security, though there are probably more efficient ways of addressing those concerns than subsidising water. Ultimately, the need to manage water resources sustainably gives us little choice but to activate reforms; at the very least, the status quo cannot be allowed to continue.

There are of course places where available water supply is below the minimum recharge levels or has become polluted, affecting reliable supplies. Sometimes piping or shipping water in from neighbouring regions is a solution. Technology might also help, such as for desalination.

Whatever the solution to the water challenges, political will and economic instruments are no good without financing. Financing needs to be mobilised to create new water projects and upgrade infrastructure. For most countries a combination of locally raised finance and private investment supported by strategic public investment is the answer. Developing countries will also look to aid. While taxation may have a role to play in some cases, for sustainable water security, a robust financing system should rely primarily on water charges, with provisions for affordable access by the poor.

However, in all but the very poorest places, Official Development Assistance (ODA) for water has been squeezed in relation to other sectors of aid in recent years and has become concentrated on a handful of countries. Water supply and sanitation accounted for only 6% of total sector-allocable aid of OECD DAC countries in 2004, down from 9% in 1999-2000. Sub-Saharan Africa has not benefited much from any new water aid. Foreign direct investment into water and sanitation has had to compete intensely with sectors offering higher returns, such as energy. Extra political effort will be needed to mobilise resources and boost ODA for water, and policymakers could do more to improve the framework conditions for investment.

The international dimension of water lends all of these challenges extra urgency. Transborder water basins and sources, from rivers and lakes to groundwater and ice caps, cover some 40% of the world's population and 60% of the earth's freshwater volume. Water is both strategically vital, as well as geopolitically sensitive. Countries and regions that share water sources will need to ensure together that proper management practices are in place, particularly if water is scarce or vulnerable to pollution, or vital for trade.

The only way to achieve this is for concerned parties to talk, and the earlier the better. As an organisation created to bring once-conflicting countries together, the OECD understands this more than most. Negotiations can deliver agreements on the likes of information and notification, water abstraction levels and common emission standards for water pollution.

Cross-border agreements can help improve joint management of whole water basins, and are now in place for many transboundary water resources. Financial compensation can also be used to support such agreements. For example, compensation is used between Mexico and the US in the case of the Tijuana waste water treatment plant, and there are agreements in place to oversee waste water discharges into the Baltic Sea and pollution loads in the Rhine and Danube. Also, UN bodies have contributed to an initiative on water and security in Central Asia, a zone of potential water-related conflict. Forums for dialogue and comanagement can help prevent disputes over water from spreading or spinning out of control.

Water is set to become a more important issue in all our lives. In this global village, we must work together to secure the future of this basic resource for everyone. Valencia's ancient *Tribunal de las aguas* holds timeless lessons for us all.

References

OECD (2003), *Financing Strategies for Water and Environmental Infrastructure*, Paris.

OECD (2003), *Social Issues in the Provision and Pricing of Water Services*, Paris.

OECD (2003), *Improving Water Management: Recent OECD Experience*, Paris.

OECD (2001), *Assessing Microbial Safety of Drinking Waters: Perspectives for Improved Approaches and Methods*, Paris.

*Note: The OECD Environment Strategy points to the need to manage the use of freshwater resources and associated watersheds in a way that maintains an adequate supply of freshwater of suitable quality for human use, while still supporting aquatic and other ecosystem needs. In adopting this strategy, OECD countries pledged to undertake national actions aimed at meeting this challenge, and adopted three broad indicators for measuring progress: reduced intensity of water resource use; improved ambient water quality; and a larger share of the population connected to secondary and tertiary wastewater treatment systems. For more information, visit www.oecd.org/env.

©OECD Observer No. 254, March 2006

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- Akasaka, Kiyoo and Agrawala, Shardul (2004), "Climate change: A development challenge", in *OECD Observer* No. 246-247, December.
- 4th World Water Forum - The OECD's Contribution
- IV Foro Mundial del Agua – La contribución de la OCDE

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