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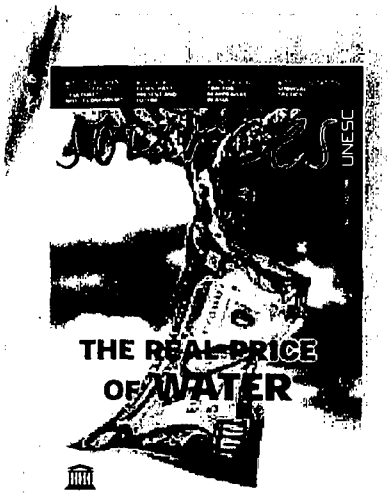
THE REAL PRICE OF WATER



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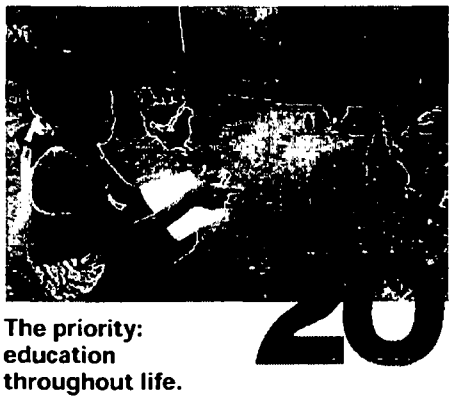

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ENVIRONMENT

THE REAL PRICE OF WATER

Serious water shortages are predicted in 20-30 years. Avoiding this and ensuring a fair share of quality water for all will not come cheaply. But water is not an economic commodity like any other.

"Free water for individuals is never free water for society"

Water is everywhere. In our bodies, in the air we breathe, in the food we eat and in the countryside around us. It's part of our history and our religions. It may be free when it's flowing in a river or splashing against rocks, but it isn't as soon as people start using it. It costs money to make good quality water available from taps and then return it to the environment after being treated. And the consumer doesn't always pay for it directly when local authorities or the government are responsible for supply.

"Free water for individuals is never free water for society," says Lionel Robaux of the International Office of Water (IOW), especially since the cost of water has spiralled over the past few decades. Prices obviously differ from rich countries to poor. The kind of widespread water supply infrastructure found in rich countries is only available to a tiny rich minority in poor nations. The poorest people have to get water from commercial carriers at 10 to 20 times the price elsewhere," explains John Rodda, President of the International Association of Hydrological Science (IAHS).

"This is absurd," adds Andras Szollosi-Nagy of UNESCO's International Hydrological Programme, "when you think of the meagre resources of such people." The social and economic data about water is alarming. "Half the world's population still don't have sanitation systems and a quarter don't even have access to clean water," French President Jacques Chirac told the opening session of the International Conference on Water and Sustainable Development held at UNESCO headquarters in Paris from March 19-21. With a serious world water shortage predicted in 20-30 years, firm action is needed.

To end what Szollosi-Nagy calls the ridiculously unequal access to water, it has been suggested that major distributors of "blue gold" be encouraged to invest in the poorest parts of the world so as to develop their infrastructure. But how

BIOS/BERTRAND PATRICK

can these companies be persuaded when there is no money in it? One answer is to make water an economic commodity.

Give it a price, in fact. The saying goes that it is better to tax the poor because there are very many more of them. This means their needs are going to increase as their standard of living improves while richer people's needs have reached a ceiling. Daily water consumption in the United States averages 600 litres per person, compared with 200 in Europe and just 30 in Africa. So the water companies will get their future profits by supplying the poorest people.

Industry, and especially farmers – who consume 70% of all available water, mainly through irrigation – will have to cut back their usage.

The countries of the South are thus becoming a prospective market for the big water companies. Taxes have been lowered and laws passed to lure them to the remotest corners of the world. To the question of "if there's no profit, who's going to pay?", Sekou Toure, of the Côte d'Ivoire's High Commission for Water, replies that "making the state and private sector into partners will encourage businessmen to make the necessary investment. Then, if the customers in a town or neighbourhood can't pay for their water, the state will have to intervene and come up with the extra funding."

Economic realities

Another idea is to introduce two-tier pricing. Water for basic needs like drinking and washing would cost less than water for non-essentials such as swimming pools or washing cars. This way, investment in infrastructure to supply clean water would give the prospect of some return.

But the real question remains: will making water a commodity with a price tag have adverse effects? The fans of "monetarising water" say the price of water is a response to the economic reality posed by the need to create and maintain a supply network, including treatment of the water. They also say that if something has no clear value, it becomes devalued, and that putting a price on water will make people start valuing it and so waste less.

Robaux states that "industry and especially farmers," who consume 70% of all available water, mainly through irrigation, "will have to cut back their usage." Water shortages can be avoided by fighting waste and leakage and by protecting the environment. Waste of water is very common. John Rodda claims that in Britain, 20-30% is lost in London's modern supply network. In poor countries, the figure can reach 70%. The UN Food and Agriculture Organization (FAO) reckons that 10-20% of "blue gold" can be recuperated by improving irrigation techniques.

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In many poor countries, water bears 80% of all diseases.

Shortages are "not caused by excessive consumption," says Szollosi-Nagy. The geographical distribution of water is also skewed: ten countries have approximately 65% of all water resources, while those nations with less and less of it are those with the fast-growing populations. The problem, he says, is that "over the past 25 years, the amount of water available has fallen from 12,500 to 7,500 cubic metres per person per year, while consumption has doubled."

But only half of this increased consumption is due to population growth. This is apart from the fact that in many poor countries, water is often poisonous, bearing 80% of all diseases. In Africa, water contains a lot of fluoride, which can have serious effects on a child's physical growth. In Bangladesh, small amounts of arsenic in the water supply can lead to a slow death.

Infrastructure costs

The water is there, but it is badly managed, spoiled by pollution and hampered by lack of infrastructure. If nothing is done, by 2020 one and a half billion people will have no access to clean water. For this reason, says the World Bank, governments need to invest about $600 billion over the next decade to support an infrastructure ►►

WATER FACTS AND FIGURES:

RESOURCES - Water covers 71% of the planet's surface, representing a volume of 1,400 million km^3.
97.5% is too salty to be consumed or used for industrial or agricultural purposes.
Fresh water represents 2.5% of the water total.
DISTRIBUTION - Ten countries share 65% of the world's annual water resources.
1.5 billion people are without clean water.
50% of the world's population lives without adequate water purification systems.
SHORTAGE - It is estimated that the threshold of water stress is reached when rations are estimated at $1000m^3$ per person per year.
200 million people live below this level.
POLLUTION - According to the World Health Organisation, 30 million people a year die from epidemics and contagious diseases carried by polluted water.
CONSUMPTION - Users pay $366 billion a year, representing 1% of the global GDP, for water consumption and purification.
World water consumption has multiplied sevenfold since the beginning of the century. It has doubled over the last 20 years.
Agriculture (notably through irrigation) consumes 70% of fresh water resources. The industrial and energy sectors consume 22%, cooking and human hygiene 8%.

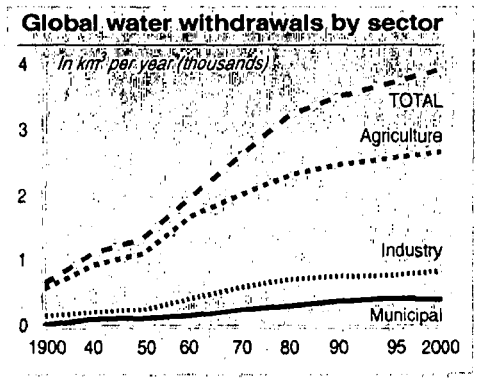
►► which can supply clean water to everyone.

Opponents of commercializing water point out that its price does not take into account those who cannot pay even a minimal amount for it.

"Water isn't just a commodity, it also has great social significance," says Szollosi-Nagy. This is why UNESCO Director-General Federico Mayor appealed at the World Water Forum in Marrakesh last year for a new "ethics of water which shows awareness of the need for distribution, partnership and ultimately sharing." Water is not free, but access to it is a human right essential for life itself.

In some countries, water cannot be bought and sold because religion or the national constitution forbids it. "But this is not incompatible with water being a commodity," says Robaux, "because it isn't the water which costs the money but the handling of it - the distribution, transport and storage." There is no point in thinking of water as free or unprofitable because this would greatly limit investment in distribution in many poor countries where water is only available for an hour each day.

There is no point either in going to the other extreme and regarding it as a normal commodity. "Water cannot be reduced to just a matter of business," says Szollosi-Nagy. People die if they have no water or if what they have is dirty.



Source: Nature & Resources Vol. 34, No. 1.
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No substitute

Some fear that commercializing water will lead to a nightmare situation where different quality water will be distributed to rich and poor people. "We have to see that doesn't happen," says Robaux, "by setting up checks and balances which can monitor its socially-acceptable use."

The problem is that infrastructure is more readily put in place than a democracy. But the international community is coming to realize this situation cannot last: in less than 20 years, infrastructure which should have lasted for 50 or 100 years has already collapsed. "Almost everything needs to be rebuilt," notes Robaux.

There's no substitute for water. Whether in short supply, polluted, unfairly distributed, wasted, inaccessible or argued over, it could lead to a serious crisis. Unless pricing leads to the recognition of water's international socioeconomic value and, as a shared resource, to its central role in co-operation between states.

Cristina L'Homme

Water and wars: the **price** of peace

Water was at the source of the greatest civilizations which flourished in the valleys of the Nile (Egypt), the Tigris and the Euphrates (Mesopotamia), the Ganges (India), the Titicaca (Tiahuanaco), the Texcoco (Aztec) and the Huatanay (Inca).

Water has also caused many wars: when a river runs through several countries and the ones upstream do not care about the quality of the water which flows into those downstream, or when a catchment area or water table straddles several countries.

There are many examples, French President Jacques Chirac told the International Conference on Water and Sustainable Development, noting that "the United Nations has identified 70 trouble spots linked with water, from the Middle East to the Sahel, from the arid zones of Latin America to the Indian sub-continent." River basins straddle national borders in 300 places around the world. "Things are a lot easier when a river forms a national frontier, like the Rhine does between France and Germany, because "each party lives on their own side of the river and they need to cooperate," says Lionel Robaux, of the IOW.

But some conflicts over water are latent. Turkey, for example, has built 22 dams on the Tigris and the Euphrates (the

Last Resort Solutions:

The demand for water is driving research into ways of obtaining it from the oceans, but desalination remains an expensive option. In Spain's Canary Islands, distilled water costs about $1 a cubic meter. Reverse osmosis (where pressure applied to a membrane containing salty water forces water out, leaving the salt behind) should remain a last resort solution, says *The Economist* (April 4) even though costs are going down. The installed desalination capacity worldwide in 1980 was about 7.5 million cubic meters per day. At the end of 1995, capacity was 21 million cubic meters per day. In California, an engineering consortium has come up with a 120-meter high desalination plant that saves on land costs and uses cheaper building materials, producing water for 50 cents a cubic metre.

Grand Anatolian Project, GAP), and is clearly in a dominant position when it comes to deciding how the water can be shared.

The scheme is expected to cut the flow of water into Iraq by at least a third. Iraq's economy depends heavily on these two rivers – for 95% of its industry and farming and 80% of its household needs. Water is also at the heart of Arab-Israeli negotiations: two-thirds of Israel's water comes from beyond the country's 1967 borders. Libya is pumping from non-renewable underground water supplies in the Sahara, causing concern to Egypt, Chad, Niger and Sudan.

The United Nations has identified 70 trouble spots linked with water, from the Middle East to the Sahel, from the arid zones of Latin America to the Indian sub-continent.

Military force

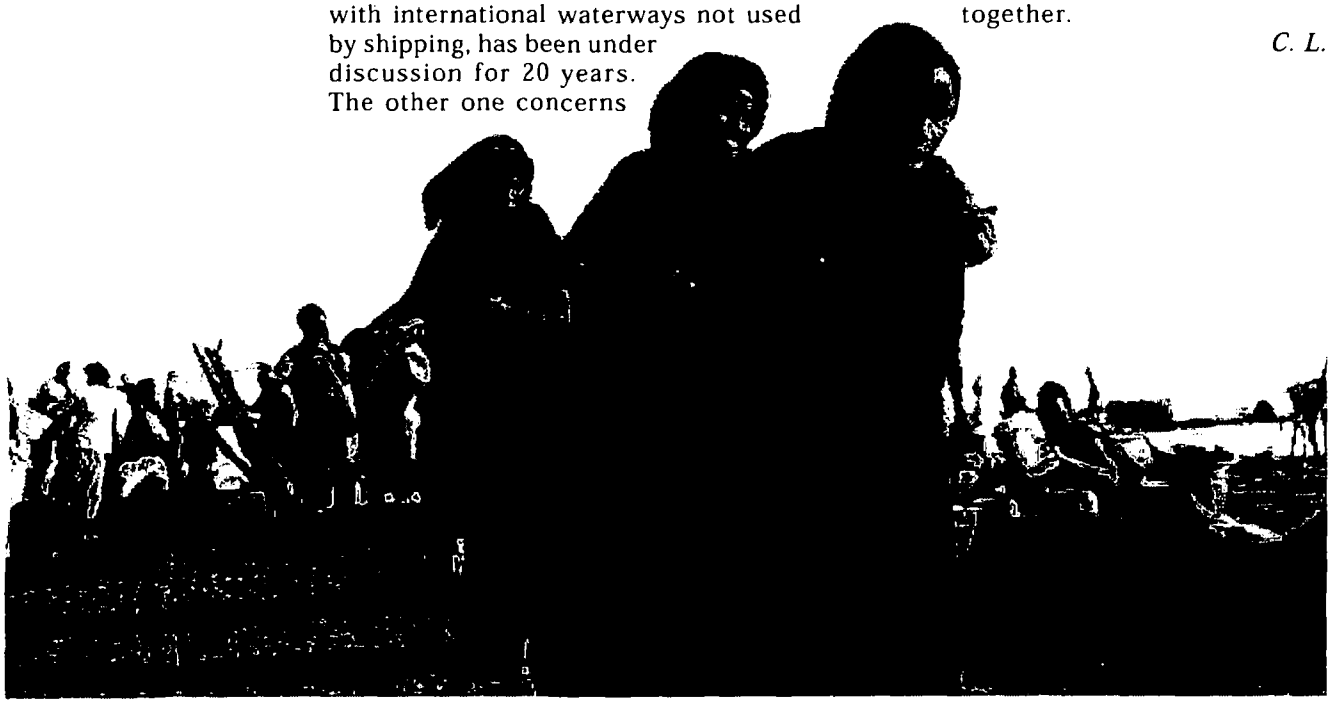
How to resolve these quarrels over water? Once upon a time they would be settled quickly by the dispatch of a few hundred troops. "This is what the Nile inhabitants (the Kingdoms of Upper and Lower Egypt) did 5,000 years ago to assure control of the river, from its two sources to the delta," says Robaux. "Last century, Egypt 'negotiated' an arrangement for sharing the water with Sudan which has never been revised, and today sees any new international agreement as a potential threat."

Failing military force, countries dependent on a single river have tried to sort things out by drafting international regulations and creating mediation facilities, with the aim of dividing up water fairly and so preserving world peace, as Jacques Sironneau notes in his book *L'eau, nouvel enjeu stratégique mondial* ("Water: the world's new strategic commodity").

Two treaties are being worked on at the United Nations. One, which deals with international waterways not used by shipping, has been under discussion for 20 years. The other one concerns underground water. Perhaps we should look to the past for the key to the future of water. Four thousand years ago in Babylon, a conflict over water pitted the towns of Umma and Lagash, says Andras Szollogi-Nagy, of UNESCO's International Hydrological Programme. "The two sides signed a treaty which said that if one side violated the water rights of the other, the wronged party would be compensated with goods or slaves."

The commercialization of water in this instance enabled settlement of a political problem which could have led to war. The two towns did what people still have not managed to do 40 centuries later – treat water as an object of cooperation instead of conflict and use its unifying quality to bring nations together.

C. L.



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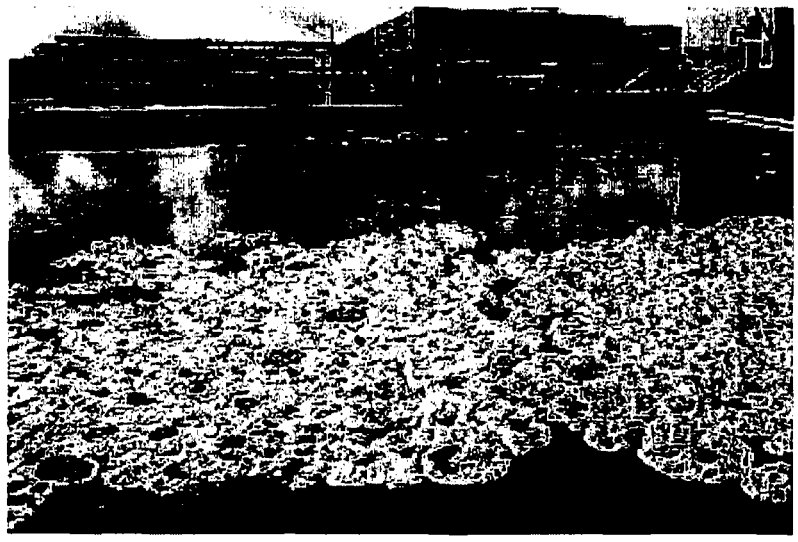

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From purification to distribution...

Privatization: not **foolproof**

It was not a dry year, yet in 1995 in Yorkshire, United Kingdom, there was a serious water shortage. Tank loads had to be brought in to the region. Yorkshire Water, the privately owned operator was duly sanctioned by the industry regulator, the Office of Water Services (Ofwat). The company had to meet all costs involved and its prices were frozen for a year.

The "famous Yorkshire drought", as an Ofwat spokesman calls it, remains an embarassment during a decade of tug-of-war between consumer and business interests. The government set up Ofwat with privatization in 1989 as a non-ministerial government department to protect the consumer, ensure good quality service and to set price limits. "We believe Ofwat has not gone far enough to protect consumer's interests," says Linda Lennard, from the National Consumer Council. The NCC points to price increases claiming that since privatization to 1997/98, the average water bill has doubled, while in the privatized energy and telecom sectors, prices have been held down.

"Water quality has improved," defends Ofwat's Director-General, Ian Byatt, "and the providers have invested in infrastructure to make up for years of neglect. The new EC regulations are driving the spending which will continue on the sewage side to meet the bathing water and urban waste water directives."

Ten water and sewage companies (including three "multi-utilities" whereby the parent group owns energy and telecom suppliers as well as water) service 75% of Britain. Eighteen smaller, water-only companies handle the rest. Combined, they invest over £3bn ($5bn) a year in infrastructure, double the amount spent before privatization.

The NCC argues too much of those costs are falling on present-day consumers. "We believe the companies should raise more money by loans to spread the cost over generations and that more of the burden should fall on shareholders," states Linda Lennard.

"We need to introduce water meters that reflect supply and demand," comments Byatt. "Most people still pay water bills based on the rateable value of their property. This means that if your property is valuable and you use very little water, you end up with a very high bill and if you have a low-value property and use a lot of water then your bill will be low. Only metering can really make sure that people pay for what they use."

One company has supplied 30% of its customers with meters and introduced special tariffs for poorer households so they are not penalized by the system. Taking safeguards even further, the Deputy Prime Minister John Prescott recently told parliament that water suppliers should be stripped of their power to disconnect customers who haven't paid their bills.

The NCC is concerned that meters might encourage people to use less water than they acutally need and warns that as the number of households opting for metering grows, less money will flow into the companies, coffers – which could encourage them to charge more to households still on unmeasured supplies.

Consumers are effectively hostage to their suppliers hence concerns over suppliers' profits. A recent report by the Centre for the Study of Regulated Industries says that the internal rate of return to shareholders has been over 24% in real terms (excluding inflation) compared to 13% for the *Financial Times* All Share Index. "This is inappropriate for a low-risk monopoly industry," stresses Linda Lennard.

Ofwat points out that companies are obliged under the terms of their licences to show how the dividends are obtained. "But the problem," says Lennard, "is that the regulators have neither the power nor the resources they need to effectively control the industry. The companies have money and they control the information."

In a March consultation paper, the British Department of Trade and Industry recognized that regulators need to have the resources it takes to do their job properly. It noted Ofwat was asking for standardized accounts from water companies to allow comparison within the sector – something consumer groups have also been calling for. The report said the regulatory process should be more open so that assumptions about the operators can be challenged and decisions explained. Wider public confidence would result. ●

Ann-Louise Martin
with Paul Lashmar in London

Transnational ownership

The private French company Générale des Eaux (from May 1998 "Vivendi") is a world leader in water distribution, supplying about 25 million people in France (over 40% of the population) and some 40 million in other parts of the world. The group has expanded rapidly in Europe over recent years. In the UK, the company wholly owns two water suppliers. It is a majority shareholder in three and owns minority interests in three others. Générale des Eaux also wholly owns water distributors in Hungary, the Czech Republic and Australia. 1997 net sales: FF42,402m ($7.067m), with FF8,798m ($1.466m) generated outside France.