



Facing the Challenge of Water Scarcity: The Need for a New Vision in Public/Private Partnerships



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The Two Big Challenges Facing Water Companies in the Next Millennium

While for many the provision of water resources has been seen as the preserve of the public sector, attitudes are changing fast.

The Suez Lyonnaise des Eaux Group (the "Group") has, over the past decade, contributed to promulgating the role of the private sector in bringing financing and professionalism to the management of urban water and sanitation utilities. This is demonstrated by the rapid growth in the number of people that the Group provides services to around the world. This year it passed the 100 million mark.

With only 5% to 6% of the world's population benefitting from private sector services, there is still much to be done. This is clearly an area that must continue to be pursued vigorously. One of the two main challenges for our profession in the coming decade will be to open up private sector services to poor urban communities and rural areas.

Many countries, and emerging countries in particular, must face up to an additional challenge: the growing pressure on water resources resulting from pollution and increasing and competing demand. These issues are, of course, in the domain of the public authorities responsible for administering and developing resources but we feel that they are also a matter of concern for our own business as well.

The aim of this article is twofold:

- to explain why a global service provider such as the Group has decided to tackle the issue of water resources management head on, side-by-side with the various institutions; and

- to illustrate by means of examples the contribution the Group can make and ideas on ways to implement their proposals.

How will Water Resource Issues Influence our Business?

Water scarcity will inevitably have repercussions for our core business. The prospects are familiar to all. Demographic trends will mean that, by 2025, 53 countries inhabited by 40% of the world's population will no longer have sufficient natural renewable resources to ensure food self-sufficiency. Agriculture is the main cause of pressure on water. In the southern nations, it accounts for more than 80% of the amount of water abstracted. It must not be concluded, however, that urban operators will be spared this phenomenon:

- The idea of integrated water resources management is beginning to take root everywhere. Agricultural, industrial and domestic uses will become increasingly interdependent. In California, Chile and Australia, farmers are improving the efficiency of their irrigation systems, freeing up water that municipalities are ready to pay for. At the same time, farmers and industries can make good use of reclaimed urban wastewater.
- In some cases, particularly in the megacities of developing countries, it will not be possible to generate adequate resources through the mechanisms of redistribution and efficiency alone. Where local resources are exploited to the full, there will be a need for resource-sharing on a larger scale through transfers from surplus areas located either within the country concerned or in neighbouring countries. Johannesburg, Mexico City, Amman, Algiers and even Barcelona are examples. Implementing these projects requires a comprehensive approach, bringing into play economic, socio-political,

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hydrological and environmental factors that extend far beyond the normal considerations of the municipal utilities.

- The climate change is a phenomenon that is today practically undisputed by the scientific community. Even though the consequences for water systems may be difficult to predict, the impact of extreme climatic events, such as prolonged drought or floods, is likely to be more dramatic in the tropical and Mediterranean regions than in any other period in recent times. Improving the security of water systems and anticipating and managing crisis events is becoming a key component in our business.
- Finally, there is increasing public sensitivity to water issues and a growing awareness of water as a shared, scarce and vulnerable commodity. To us as professionals, public fears and behaviour may sometimes seem irrational. The media contributes by exaggerating the tensions that exist over the sharing of water across geographical borders. Such reactions must be partly attributed to the symbolic, cultural and even religious importance attached to water. The big service providers must be fully aware of the politically sensitive nature of our activity and the implicit expectations of a public that perceives the water cycle as a whole. This bestows on us a *de facto* responsibility with regard to resource management that our image must be able to accommodate.

The Response of Suez Lyonnaise des Eaux

The growing scarcity, and hence increasing cost, of decent quality water, the greater interdependency between the different uses, the growing needs of megacities, the climatic changes and a more demanding public are solidly entrenched tendencies that the profession must accommodate in determining its strategy.

No longer can the scope of action be restricted to the efficient management of municipal utilities – upstream aspects of water management must now be focused on as well.

Suez Lyonnaise des Eaux, for its part, has decided to adopt an aggressive policy with regards to water resources, considering this area as a challenge that could open up new opportunities.

New needs are emerging that the various public institutions will have difficulty in meeting without

private sector involvement. Ten years on, the situation is, in some ways, similar to the trend towards private sector delegation of downstream services in the 1990s.

Services that can be Provided to Water Resource Managers

In response to the water resources challenge, many governments have undertaken necessary and far-reaching institutional reforms to foster a co-ordinated and comprehensive approach to the management of resources within the natural boundaries of the river basin or the aquifer. It is felt that there is room for private sector involvement in these institutions and that the Group can contribute to making them more effective.

Some examples follow.

1. The Spanish government has commissioned a Suez Lyonnaise des Eaux affiliate to set up and operate a monitoring and data dissemination network to keep track of water quality in rivers across 40% of the territory of Spain.
2. Our English branch, Northumbrian Water, runs a regional storage and distribution system for raw water resources in the north-east of England, including the largest man-made lake in northern Europe. The operation involves developing the recreational and environmental dimensions of the site.
3. In India, we are collaborating with the state of Gujarat on a programme to introduce low-cost methods of increasing dam capacity and safety using a system patented by one of the Group's companies.
4. In central Asia, an environmental consultancy affiliated to the Group is currently investigating ways to mitigate the impact of a shrinking Aral Sea.
5. In Bolivia, we have financed and participated, alongside the EU, in a research programme on the long-term effects of receding glaciers in the Andes, a possible consequence of climatic change.
6. In South East Asia, we are working with local universities to develop a network of research centres investigating, notably, means to prevent eutrophication (degradation of water quality), which affects lakes in areas subject to non-point sources of agricultural pollution.

Large Water Projects

Many emerging countries are confronted with huge investment requirements, whether for building new infrastructure, such as multipurpose schemes including hydropower and pipeline projects, or for modernising low-efficiency irrigation systems. Such needs stretch public finances beyond their limits, as in the case of Turkey in the early 1990s, when water infrastructure projects claimed 30% to 40% of the state's total investment capacity.

Given other government priorities, including education, health and transport, such trends are not sustainable. We all know examples of interminable infrastructure works, permanently hampered by budgetary constraints and indefinitely tying up millions of dollars of precious investment capital. In these circumstances, it is only natural that the governments concerned seek to draw on the financing and project management capabilities offered by the private sector.

The Group is a pioneer in the business of investing in large water projects. Our activities in this field go back to the 19th century and it is not without pride that we lay claim to Ferdinand de Lesseps and the Suez Canal. Other examples show that we have kept this tradition alive, including the Oum er Rbia – Casablanca pipeline of the 1950s and the creation in 1999 of a project company for the construction of a 42-kilometre pipeline to supply the region of Noumea, the capital of New Caledonia. Moreover, we have gained valuable experience from the sophisticated project finance mechanisms developed in recent years by the Construction Branch of our Group. Such mechanisms have been used for infrastructure schemes involving similar risks and constraints as water projects, such as large toll bridge projects like the Prince Edward Island bridge in Canada and the bridge spanning the Gulf of Corinth in Greece.

Other Areas of Exploration

In certain places, such as the western states of North America, Chile, Australia and, in the near future, Spain, governments have instituted the phenomenon of water markets, in which the owners of water rights have free scope to trade these rights with potential buyers or borrowers.

It is widely thought that market mechanisms will allow a greater volume of resources to be reallocated to municipal uses, thereby fostering the social usefulness of water. Naturally, these markets must be properly regulated to ensure against

repercussions on the environment, third-party users and society in general.

In such situations, which can only develop in a specific set of legal, cultural and hydrological conditions, the water market shares certain similarities with the deregulated electricity industries in those countries where these exist.

A group such as ours can act as a facilitator in this type of market: systems such as water banks and anti-drought insurance merit consideration, though we must not overlook the fact that water resources are a complex issue and that water, though an economic good, can never be reduced to the status of a commercial good.

Public/Private Partnership – A Flexible Option with Multiple Benefits

To conclude, the key to the development upstream of our traditional business is the quality that public/private partnership can offer:

- water resources are, above all, the preserve of government and the private sector can only make headway in this field by understanding and accepting the principle of subsidiarity;
- the investment risks specific to the industry – including the complexity of administrative procedures, lengthy construction periods, underuse of new facilities in their early years and low solvency of certain categories of user – must be shared equitably between the public and private sectors; and
- the indirect economic and social benefits derived from water projects often warrant government funding, in addition to private financing.

Successfully facing up to the water resources challenge means:

- understanding the different water uses and giving due consideration to each area of water use;
- demonstrating pragmatism and flexibility and rejecting dogmatic principles in adjusting to local institutional conditions;
- having a sense of responsibility with regards to social and environmental factors, which precludes, notably, all forms of speculation on water resources; and
- nurturing a big ambition – to be among those who make things happen. ■