

Water means business in the Canaries

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Water markets, although well represented in the arid west of the US, Australia and Chile, are almost absent in Europe, with one exception, the Canary Islands, where a system for managing water privately has been in place since the nineteenth century. Consultant Sophie Tremolet explains the specific circumstances that led to the emergence of this system and discusses its impact on the economy of the islands

Don't tell Canarios that it is their right to get water for free or that it is a gift from God. These EU citizens living off the coast of Africa think of water as any other tradable commodity, although they would say that it is the most precious and indispensable. Water belongs to whoever extracts it and can be bought and sold freely on a market. The emergence of such a unique market (at least in Europe, where water is generally in the public domain) was due to a combination of geographical and historical factors.

The seven islands that compose the Canary archipelago, despite being called the "Fortunate Islands", are far from being well-endowed in water resources. On average, they have 301m³ available per inhabitant per year, whereas continental Spain has 1,113m³ per inhabitant per year, being poorly endowed by comparison with other European countries. More importantly, the vast majority of these resources are underground, and very difficult to extract.

Digging for blue gold

To reach groundwater resources, the Canarios deployed ingenuity and hard work. In the 19th century, landowners and farmers started digging wells and horizontal galleries (similar to gold or diamond mines) to mine water. They initially dug near the sea but, as the more accessible water was extracted, were forced further and deeper to meet the rapidly rising demand. The aquifer dwindled as a result: whereas a 100-metre long gallery was sufficient in 1900 to find water, the average length is now between 3.5 and 4.5km and some galleries can be up to 6km long.

Such infrastructure required very large investments: given that, today, it costs around US\$520 (Pta100,000) to dig one metre, the current cost of accumulated investment in galleries in Tenerife alone (which has 1,700km of galleries) can be estimated at US\$884m, to which must be added the cost of around 1000 wells.

The public sector was not interested in this development and gave private investors a free hand. The latter created water communities (Comunidades de Agua), a specific form of limited company with share capital commonly divided in 360 shares (the number of hours over a 15-day irrigation period). Share ownership gives rights to a percentage of the water flow but also makes the owner responsible for financing part of the costs associated with developing the gallery. About 1000 water communities are now in existence in the main island (Tenerife) and some are also active on the island of La Palma, rich in groundwater resources. Gran Canaria still primarily relies on wells for water, but these are run by standard private companies instead of communities.

As for any private good, allocation is carried out through markets. Water can either be sold on an annual basis or on a temporary basis (particularly in times of drought). The price on the temporary market can fetch up to 75 times more than on the annual market, depending on weather conditions. It is also possible to transfer shares in water communities.

Buyers are either farmers needing to complement their own allocation, hotel owners or municipal water companies. The latter have very few resources of their own, and need to purchase water from up to 50 different suppliers through bi-annual tendering processes. Some (especially privatised municipal companies) buy shares in water communities to increase their security of supply.

Lottery ticket

Shares in water communities have attracted interest from investors throughout society, leading to the development of an early form of popular capitalism. Once all the risks are incorporated, profitability is not great, and certainly not high enough for any commercial bank or large company to get involved. But for the small local investor, acquiring a share in a water community largely amounts to buying a lottery ticket. If the gallery generates a large flow, the share price will rise rapidly, but of course, the gallery can also remain completely dry, even after 3 or 4km of digging. Today, market insiders claim that shares for existing galleries or wells provide a return above that of savings accounts in most commercial banks (between 6 and 10%).

Share traders

Water and shares are sold by specialised intermediaries, who gather in a square in Santa Cruz, the capital of Tenerife. Owners of the main transportation networks charge a fee for carrying water between parties and hold a very strong position on the market. Beyond this main network, however, there are many small parallel networks: each farmer has his own pipe to avoid mixing his waters with others due to large differences in quality, especially in salinity and sulphur content. Water pipes can be seen everywhere criss-crossing the terrain, often piled up in what looks like complete chaos.

In the mid 1980s, alarmed by the dwindling aquifer (reflected by steady price increases), the government decided to intervene and improve regulation of the markets. Following the passing of the 1985 water law in continental Spain, the socialist government tried to bring private waters into the public domain following a transition period of 15 years. But the Canarios were so attached to private water management that this threat of nationalisation led to the largest social unrest ever experienced in the archipelago and contributed to the fall of the government.

The 1990 water law brought back relative calm by maintaining a private status for all existing infrastructure for another 75 years. All new waters (extracted through new galleries or wells) were to be regulated via a concession system, ensuring tighter governmental control of the environmental and third-party effects of this new infrastructure.

Sound regulation

The 1990 water law introduced a series of significant changes for the regulation of the sector. Supervising agencies were created at island level (Consejo Insular de Aguas) and almost all of them have now completed their island-level water management plan. Although secondary legislation has been slow to emerge, public powers are now well equipped to contain over-exploitation through a complex system of authorisations. Jose-Fernandez Bethencourt, the manager of the Tenerife Water Council, believes that the aquifer in Tenerife has now stabilised after ten years of conservation efforts.

The public sector has also started to invest massively in the water sector to find alternative sources of supply, as they do not believe that groundwater resources, even if managed in a sustainable fashion, will be sufficient to meet increases in demand.

Desalination

In Tenerife, a public company (Balten) is building a network of reservoirs and a publicly-run transportation network. The majority of public funds go to building large desalination plants and grey water re-use for irrigation purposes.

Ten years after the law, an appropriate equilibrium between private and public initiative still remains to be found. Private investment in water has basically made the economic development of the islands possible. Water markets have allowed a smooth transfer of water resources from the agricultural sector to the tourism sector (the islands currently receive 12 million tourists a year for a population of 1.5 million) and triggered massive efficiency gains in agriculture. For example, farmers used drip irrigation much earlier than in the rest of Spain and they have experimented to find drought tolerant crops.

Losing confidence

However, since the mid 1980s, private investors have gradually lost confidence in the market. The number of requests for authorisation to build new infrastructure has gone down substantially. Private investors see publicly-run transportation networks as unfair competition, although some small farmers clearly welcome these initiatives. They also feel excluded from the market for desalination, as building small desalination plants is only allowed for self-consumption (by hotels, for example) but not for selling water.

Without ways to modernise its activities, the private sector might face extinction. However, if the private sector could be encouraged to find appropriate ways of moving forward, these water markets could become a useful model for budding water markets around Europe, and especially in the UK.

Spain berated over poor bathing waters

The European Commission on 23 May called on the EU Justice Tribunal to impose daily fines of Euro45,600 on Spain for failing to implement quality measures on bathing areas in rivers and dams which were ordered in 1976. Spain had been warned in 1998 that it was infringing the 1976 directive, but although the EC acknowledges some improvements since then, it says they are insufficient. So far, only Greece has been fined for not cleaning polluted inland waters.

"Citizens have a right to enjoy clean bathing water in any part of Europe, and that includes Spain," said EC environment commissioner Margot Wallstrom in a 23 May statement. "I trust that [Spain] will act swiftly to guarantee the fulfilment of this directive as soon as possible."

Spain's environment ministry will appeal any fine adopted by the Justice Tribunal, the director general of hydraulic works, Jose Maria Pinero, said on 23 May. He added that Spain had agreed to invest Euro66m by 2003 to improve the quality of water in rivers and dams for bathing. Spain argues that it has to inspect a much higher number of bathing areas than other countries - 202 for the new report - and that frequent droughts in Spain increase pollution problems and put Spain at a disadvantage. **(See EU Bathing Waters report below)**