

Prospects of Quito's Public Water and Sanitation Company's Compliance with the Human Right to Water

By Juan Carlos Romero

Quito: the remarkable capital of Ecuador

Quito is located in an Andean valley that contains both the consolidated part of the city and rural areas. Together, these areas are called the Metropolitan District of Quito, which belongs to province of Pichincha. It has 2.4 million inhabitants and an altitude ranging from 400 to 4,790 metres above sea level.

In hydrographical terms, Quito falls within the territory of the upper Guayllabamba River basin, which drains towards the Pacific Ocean. This basin, in which other territorial jurisdictions (the Rumiñahui and Mejía cantons) are also located, does not have enough water resources to address the human consumption. Therefore, raw water has to be caught from the upper Quijos River basin, which drains into the Atlantic Ocean (Amazon basin). Even though the water diverted from the Quijos Basin accounts for 90% of Quito's human water supply, its volume is not considered to be high, due to the high availability of surface water in the zone.

The local water and sanitation company: EPMAPS

The Public Metropolitan Drinking Water and Sanitation Company (Empresa Pública Metropolitana de Agua Potable y Saneamiento, or EPMAPS for its acronym in Spanish) is responsible for the provision of drinking water and sanitation services in the metropolitan area. Founded 53 years ago, EPMAPS currently has more than 2,000 employees and an annual budget of around US\$ 200 million. Its hydraulic infrastructure consists of 24 drinking water treatment plants. EPMAPS manages more than 400,000 drinking water connections in urban and rural areas. This number includes both domestic and commercial/industrial connections.

A demanding legal framework

Since 2008, Ecuador has a new constitution. In it, the rights of nature and the human right to water have been enshrined. The constitutional framework reflects the doctrine of neo-constitutionalism, and the idea of *Sumak Kawsay* or living well, by which society as a whole must seek harmony and balance. Human beings are at the centre of the economy.

According to the Organic Code on Territorial Organization, Autonomy and Decentralization (Código Orgánico de Ordenamiento Territorial, Autonomía y

Descentralización, COOTAD), providing drinking water and sanitation services is a task of local governments. The Code does not establish, however, binding norms on the quality, quantity and continuity (24/7) of the service.

The current water law and the Constitution establish an order of priority for the use of water. They give priority to human consumption and to uses that guarantee food sovereignty and natural processes.

In regards to quality, the INEN 1108 Norm specifies values for 64 physical, chemical and biological parameters that water must meet to be suitable for human consumption (drinking water). There are also national standards that define minimum values for another 16 parameters on the quality of "raw water" (i.e. water that will be treated to be used as drinking water) at the source. These standards can be found in the Unified Text of Secondary Environmental Legislation (Texto Unificado de Normativa Ambiental Secundaria, TULAS).

That is the legal framework that applies directly to the provision of drinking water and sanitation services. There are other regulations that affect the administration of the public enterprise, like the ones on: health and safety, environmental management, company risk management (which includes natural risks), office of the ombudsman, internal control, territoriality, audit and accountability, among others.

This legal framework also establishes that EPMAPS is directly responsible for the territory of the Metropolitan District of Quito (Distrito Metropolitano de Quito, or DMQ for its acronym in Spanish). However the company has the possibility to offer operations along national territory.

The current state of drinking water coverage and management in Quito

"In its 53 years of operation in the DMQ, EPMAPS has steadily increased the level of coverage, which is now the highest in the country and one of the highest in Latin America. In 2013, drinking water coverage exceeded 99.8% of DMQ.

One should note that in certain sectors of the DMQ, it is not EPMAPS that is in charge of the provision of drinking, but rather 118 community water councils (juntas administradoras de agua potable, JAAP), seven of which are located in urban areas. This makes drinking water coverage 98.4% in city and 94.86% in rural area in the entire DMQ.

The indicators of water quality and service continuity are high; in both cases, they exceed 99%. Quality is measured by the number of samples in compliance with quality parameters (for raw and drinking water). Continuity is measured by the length of time the service is delivered without interruption.

Regulating pressure in distribution networks and controlling leakages (technical and commercial losses) are also part of the technical management of water quality. Leakages are measured by the unaccounted-for water rate, which is less than 27% in the DMQ.

Quality and continuity are essential to ensuring the quality of drinking water services, as are other elements like customer service and satisfaction.¹

Accessibility and sustainability of drinking water services

Drinking water services in Quito are available to anyone who needs them. Providing water for human consumption in the city is always given priority over requests for commercial use. Requests must be within a plausible technical, legal and financial framework. This includes providing services to legal settlements - using criteria to ensure that many families have access to service - that are preferably located below the technical limit on altitude². If the settlements are legalized, water will be pumped up to them without any additional charge, even if they are settled above the said limit.

It should be noted that in Quito - and, in fact, in the entire country - water tariffs are subsidized mostly for disadvantaged groups (inhabitants of rural areas, the poor, disabled and the elderly). Commercial and industrial users must pay the full rate, without subsidies.³

Water is currently produced at a rate of 7.2 m³/s - an amount that exceeds demand. However, the Master Plan on Drinking Water and Sewage predicts that demand will increase to 10.9 m³/s by 2020 and 13 m³/s by 2040. This implies that there will be a need to increase the production of drinking water, which, in turn, means increasing raw water supplies and reducing consumption and unaccounted-for water rates, fundamentally through the use of technical approaches. This may also mean restricting subsidies to only the poorest sectors of the population.

It will also require incorporating new water sources and conserving existing ones. These last two elements are critical to sustainability and have been addressed by the company. In regards to defining new sources, the company has the master plan mentioned earlier, as well as a large project that has already identified sources and the technical requirements needed to guarantee supply until 2040. These new sources have the virtue of being located within the Cayambe Coca National Park and the Antisana Ecological Reserve - two of the largest protected areas in

1 These indicators are from the company, and unfortunately do not include information from the JAAP.

2 It is difficult to provide services to settlements located above 2,800 metres of altitude, as they are above the maximum height for service provision - that is, they are at a higher altitude than the drinking water plants.

3 The subsidy is linked to the operation, but not to the amortisation of investments in hydraulic infrastructure.

Ecuador's mountain range, whose high-altitude ecosystems (known as "páramos") are well conserved. Furthermore, EPMAPS acquired 14,000 hectares of paramos⁴ outside of these areas, in order to recuperate and conserve those ecosystems that are so fundamental for the production of high quality raw water.

Therefore, the company has undertaken actions to restore, protect and conserve these and other supply basins. It has also promoted reducing consumption by adopting technical and educational measures, thereby avoiding the need to impose rationing. All of these initiatives are aimed at guaranteeing the environmental sustainability of water services.

As for the social dimensions of sustainability, EPMAPS engages in several lines of action to ensure that social considerations are present in all company actions. For example, new projects are always socialised first in order to avoid or mitigate the social impacts infrastructure works may generate. Furthermore, social considerations are taken into account when defining how subsidies are to be distributed and regulating lower water tariffs for the elderly and disabled persons.

Another action related to the social dimension of sustainability was the establishment of good relations with communities settled in areas of interest. Here, the company began by "managing environmental liabilities". It did so in territories where the majority of the raw water supply comes from, including those found outside of the DMQ, since transfers are needed to satisfy EPMAPS' demand for drinking water. The company has succeeded in maintaining horizontal and collaborative relations with local parish (Papallacta and Oyacachi) and municipal (El Chaco y Quijos) governments, which are all in the province of Napo.

The service's sustainability is directly related to the sustainability of the company itself. As a public enterprise, it is obliged to take into consideration financial aspects and the management of risks in its administration. To do so, internal control models (based on an internal audit approach) and a company risk management model are being implemented. In the latter, there is an emphasis on the management of natural hazards, which provides information for making decisions on insurance, strengthening infrastructure and elaborating contingency plans. This is complemented by probabilistic seismic and volcanic hazard analyses.

With regards to the social responsibility approach, the company offers social support and incentives to its employees. What is more, it works hard on issues of occupational health and safety, provides special discounts to disabled and elderly people, and promotes equality in the company's labour relations.

The right that begins with a connection

4 This land was acquired from large landowners at a fair price established by the parties involved, in accordance with the law.

The high level of drinking water coverage, quality and continuity is the result of decades of dedicated work and planning. Hydraulic works have been financed by several national governments, the municipality, the company's own resources and external (Andean Development Corporation, CAF and the Inter-American Development Bank, IADB) and internal (Ecuadorian Development Bank, or Banco Ecuatoriano de Desarrollo, BEDE) debt. None of these investments, however, have been passed on to consumers via tariffs. The company used its own revenue to honour its loans.

Small-scale works, such as connections and repairs, and administrative costs are funded by the company's own revenue (from tariffs) and subsidies from the federal government. This is part of an ongoing policy to upscale the provision and quality of the service, which has outlasted several national and local governments.

It is worth noting that since 2008, with the enactment of the new Constitution and its enshrinement of the right to water, COOTAD and the Law on Public Enterprises (Ley de Empresas Públicas, LOEP), the legal and institutional framework of the drinking water and sanitation sector has drastically changed. This created challenges for transforming the administration system, which led to the modernisation of the company.

Guaranteeing the human right to water entails much more than simply offering the service, it is not just a question of hydraulics. Instead, it requires mainstreaming the different dimensions of sustainability (environmental, social, financial and also political) into all of the company's activities, and the cost of that is high.

For EPMAPS, the right to water is not simply having access to a connection. It also means respecting users' rights to be treated well and to quality service, which includes high quality drinking water and customer satisfaction. This has high costs too.

To guarantee the quality of drinking water, the parameters of the INEN 1108 norms and the TULAS must constantly be monitored. In order to accomplish it, a fair sized group of technicians is needed to collect and analyse water samples at the source, where water enters and exits the plants, and in the primary distribution networks. It also entails having laboratories in each plant and a central, accredited quality control laboratory, with trained personnel and high-tech equipment.

User satisfaction is obtained by reducing response time to customer complaints or connection applications, and training employees to serve customers directly, in person or by phone. Also, in order to respect users' rights, and according with the constitutional frameworks on rights, the company created the office of the ombudsman, which is responsible for following up on complaints and facilitating all claim procedures.

Again, these initiatives to guarantee rights generate costs that must be covered by adopting financial systems that do not affect tariffs. The efforts made led to improvements in the company's administration to reduce expenditures with the goal of maximizing cost-effectiveness. To lower costs, important steps were taken, including reducing the number of employees through voluntary retirement and withdrawal programs (without resorting to massive layoffs or illegitimately paying workers to quit), optimising the use of vehicles, making smart expenditures and improving financial management.

Yet, resistance to change has been the biggest difficulty that the company has had to face internally. Changes to procedures, new ways of managing assets, greater control over expenses and the reduction in staff, in particular, caused great discomfort among employees. However, this malaise was resolved through transparent and effective communication, managing change while adjustments to procedures were being made, and primarily by implementing an enterprise resource planning (ERP) system with a powerful IT platform. This helped to optimise time and resources, thereby improving the cost-effectiveness of the company's operations.

In addition to the legal and political context (both national and local) being favourable to these changes, one must add management's decision to adopt and uphold changes aimed at modernising the company - not only its administrative aspects, but also strategic and political ones, and its focus on rights and respect for its surroundings. Indeed, the company's new mission and vision reflect management's intentions: to act responsibly.

Lessons learned

- Guaranteeing the human right to water, the rights of nature and users' rights requires financial resources. Fundamentally, however, decisions, policies and management practices that encourage and monitor compliance are needed.
- Reaching high levels of coverage, quality and continuity in water services requires sustained actions and policies that outlast government officials currently on duty. It also requires a certain continuity in company management.
- The service's sustainability is directly linked to the sustainability of the operator as an organisation, which means thinking of its management in administrative, financial and management terms. Therefore, conventional approaches to business management -- cost-effectiveness, customer relations, and social responsibility -- are important for ensuring the sustainability of the service.
- Respect for the community and employees is what makes high quality drinking water services possible; having such a service requires some to be vigilant, and demands commitment from others.

- Compliance with the human right to water must be achieved by adopting an integral approach that takes into account the entire water cycle, the conservation of water basins and horizontal relations with all actors involved, both in and outside of the company. Everything generates costs that must be covered while taking into consideration social, technical and business-related aspects.

Final remarks and prospects for the future within a public model

It is important to dedicate some space here to reflecting on subsidised drinking water tariffs. Subsidies are one element that helps to guarantee compliance with the human right to water. With targeted and intelligent subsidies and public management of drinking water supplies, the human right to water can legitimately be demanded and the chances of obtaining this right become real. This is because public enterprises are fundamentally governed by national laws and policies, whereas private corporations are regulated by their respective contracts with regulators, in which profit usually comes before complying with a right. Guaranteeing this right surely does not involve profitability.

In the case of Quito – and of Ecuador in general – subsidies for drinking water, a stable economy and an advanced constitution facilitate complying with this right. However, it is up to operators and their administrators to keep up the entire system, since, as we pointed out earlier, the right to water – and its "drinking" connotation – involves a lot more than offering a simple connection to services.

One advantage that Ecuador has is that the legislation prohibits the provision of drinking water by private actors. However, this does not eliminate the possibility of making compliance with this right invisible by hiding behind the obligation to 'simply' supply it. Both premises have similar objectives, but their intentions, approaches and, above all, ideologies are different.

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