

Planning Growth

Located in the wealthy area Triangle of Minas Gerais, Uberlândia has just put in operation a sewage treatment plant that was built with its own resources. All the efforts of the Municipal Autonomous Service are aimed at guarantying sanitation services for the population, which is projected to reach one million by 2035. DMAE has its own electricity production system that partially covers the needs of its pumping stations and was the pioneer in using steel tubes in sanitation projects. In the 80s, the state government of Minas Gerais tried to take over the sanitation services through COPASA, but the population rejected the offer.

Uberlândia is preparing for a new intense growth period similar to the one in the 90s, when the urban population practically doubled. Various big wholesale companies, as well as agriculture and livestock enterprises, are located in the municipality that is known as the entrance to the Brazilian Cerrado biome. In order to prepare for the forthcoming rapid population growth, Uberlândia adopted a Strategic Management Master Plan in order to prepare adequate sanitation infrastructure for the projected one million inhabitants by 2035.

The measures proposed by the Plan for the improvement of the sanitation infrastructure are: creation of a network registry; reduction of water loss; introduction of automated and telemetry systems; service certification; capacity building and improvement of employee productivity.

The first project of the Autonomous Service was in the Sucupira Waterfall, after which the first water system of the city was named.

The main challenge of the Plan is the restructuring of the whole water supply system. There are actions planned for the water reception, treatment, storage and distribution units. The city aims to define distribution sectors, combat the system's losses and complete the water transfer network between the two production stations in Sucupira and Bom Jardim by adapting the hydraulic network encircling the city. There are also plans for improvements in the Water Treatment Plant and the introduction of automation and telemetry systems.

It is not a small challenge to modernise the water supply system constructed almost four decades ago by the Municipal Department of Water and Sewage of Uberlândia (DMAE). DMAE was created by a municipal order in 1967 given by the then mayor Renato de Freitas to meet the demands of increasing industrialisation and population growth throughout the municipality.

The water supply system had state of the art characteristics for its time.

Uberlândia, Minas Gerais

Population estimate, 2005: 585,262 / Index of urban water assistance: 98.4% / Index of urban sewage assistance: 97.5% / Index of sewage treatment: 100% of the collected sewage / Coliforms outside the limit: 0.1% / Total cost of the service per m³ invoiced: R\$ 0.25 / Average tariff charged: R\$ 0.25 per m³ / Invoice revenue loss index: 27.84% / Productivity Index: 2.52 workers per thousand water and sewage connections / Gross annual operational revenue (direct and indirect): R\$ 32,734,710.99 / Gross annual expenses with the service: R\$ 21,446,572.96 / Annual utilisation cost: R\$ 21,003,482.35 /

Source: SNIS 2003, IBGE 2000 / DMAE Uberlândia

The first projects of the Autonomous Service were carried out in the Sucupira Waterfalls, after which, the first water supply system of the city was named. The project took advantage of the potential of the waterfalls to produce electricity.

During the rainy season, the energy generated by the river is used for the operation of the Water Treatment Plant pumps, resulting in big electricity savings. Similar logic was later adopted for water distribution, by using gravity to bring water from the reservoirs to the lower lying neighbourhoods.

The two Water Treatment Plants of Uberlândia have a joint treatment capacity of 8.6 million litres per hour.

The installed capacity of the original water supply system surpasses the current needs of the city. The technology is considered state of the art regarding sanitary installations of its time, mainly in terms of water collection through two well preserved serial stabilisation dams.

This system of pumps, working with hydraulic turbines, diesel and electric motors, was the first of its kind in Brazil. The pumping and the storage systems provided operational flexibility, allowing the operation of one or the other system at any time.

Water availability for public provision is guaranteed for the following years. DMAE has license to collect 4 m³ of water per second. A possible transposition will increase the volume of water collected to 6 m³ per second.

The Autonomous Service has joined the relevant environmental bodies to secure public priority regarding water supply and to prevent conflicts on the use of water between farmers, clay producers and cattle farmers.

The municipality says no to concessions

Uberlândia is one of the biggest cities in the state of Minas Gerais and has proven that a municipality can execute sanitation projects with its own resources.

Tariffs guarantee the investment capacity of the Autonomous Service. Tariffs are readjusted every year according to relevant indexes of the investment plan. Moderation in the tariff policy guarantees the ability of the population to pay off the bills; therefore, the index of customer failure to pay off DMAE bills is one of the lowest in the country, averaging 6.5%.

In the 80s, the state government tried to take over the water and sewage services in Uberlândia. Such an action led to the mobilisation of the public that demanded the permanence of the services under the municipality's control, which always provided high quality services and at lower cost than the state.

According to Rubens de Freitas Filho, Director of the Autonomous Service, “for the last years, DMAE has been investing in projects with its own resources derived from tariffs. If the service was not municipal, perhaps we would not have achieved universal coverage of the population”.

Demonstrating the strong interconnection between the municipal public policies, DMAE is also providing infrastructure assistance for the housing projects in the municipality.

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The Federal Government gave funding to the Municipality

Also during the 80s, Uberlândia's DMAE led the municipal movement to receive resources from the National Housing Bank (BNH). At that time, the Municipal City Hall did not receive any type of financing for sanitation projects. All the resources were directed to state companies. Luiz Ricardo Goulart, Director of DMAE at the time, met with the directors of the Development Company of Uberaba (CODAU) and the Autonomous Service of Water and Sewage of Araguari (SAAE) to create a national association of water and sewage municipal services in order to better represent the interests of the sector when negotiating with the federal government.

In the 80s, DMAE led the Municipalities' movement so that they could receive resources from BNH

The idea of the association was to organise the municipalities and put an end to such discrimination.

The director of DMAE knew that without public financing, sanitation services would be incomplete. Therefore he proposed that the capital should be generated and the adoption of a vision that services have to be delivered, whether financed through loans or with non-reimbursable funds.

Through that initiative, DMAE's president became the founder and first president of the National Association of Municipal Sanitation Services (ASSEMAE).

The first victory of ASSEMAE came in 1985, when BNH, through Resolution 51/85 released funds for the municipal sanitation services, deprived of these funds for 13 years, since the launching of the National Sanitation Plan (PLANASA).

The School Water Citizen Programme educates on rational use of water

DMAE discovered the lack of adequate information regarding treatment procedures, conservation and preservation of water in teaching institutions; and, therefore created the Programme School Water Citizen, aimed at supporting the development of activities that will increase the population's awareness on the importance of rational use of water resources. The idea was to make schools a reference place for the proper use of water.

The School Water Citizen Programme is involved in the recuperation of green areas around water springs and the ciliary flora of the banks of Uberlândia's urban watercourses. DMAE, through the Project Water Forests, constructed fences and pavements and planted trees along the Oleo, Liso and Bons Olhos Streams.

The Programme saw students and supervisors identifying, systematising and disseminating information on water resource misuse, inside and outside the school environment, and implementing actions to preserve these resources.

The objectives of the programme, among others, are to educate on the rational use of water outside the classroom and organise seminars and workshops in conservation units, companies and non-governmental entities.

Sewage Treatment Plant of Uberlândia is approved by the population

Construction on the Sewage Treatment Plant (ETE) Uberabinha started in August 1999 on 28 hectares along the confluence of the Uberabinha River and the Salto Stream. The plant serves around 475,000 people. The projection is that the Sewage Treatment Plant will be able to serve 910,000 people by 2017.

A R\$ 40 million project, the Sewage Treatment Plant, consists of a preliminary treatment unit, reactors and flotation channel. Since the Sewage Treatment Plant began operation, 690 tons of organic material and around 180 cubic meters of waste and sand ceased being discharged every month in the Uberabinha River. The initiative was very popular with the people who are constantly campaigning for the improvement of the conditions of their main source of water.

Factory

DMAE's tube factory provides technological support and industrial materials for the services, guaranteeing the low cost and functionality of the projects. DMAE plans, manufactures and constructs networks, connections, reservoirs and water and sewage treatment plants by itself.

The Autonomous Service constructed the first, in Latin America, potable water network with steel tubes that protect against corrosion with Epoxy paint. Since then, Brazilian steel has been the prime material in all projects of DMAE. The SAC- 41 steel type is used specifically in sanitation projects since it contains copper and chromium, which protect against corrosion.

Uberlândia's rural area is composed of four districts: Tapuirama, Martinesia, Cruzeiro dos Peixotos and Miraponga. They all have potable water and sewage collection networks, with 100% of the sewage being treated.

PROSEGE

Uberlândia was one of the 253 Brazilian Municipalities that, in 1994, carried out projects with non-reimbursable funds from the Federal Government's Social Sanitation Programme (PROSEGE), which is mainly intended for low income populations and is financed by IDB. The Programme, formally instituted by Federal Decree in June 1992, was implemented by the Sanitation Secretary of the Ministry of Social Welfare. Uberlândia received US\$ 5.95 million for the construction of sewage emission systems in the Lagoinha, Buritizinho, Oleo, Ipanema, Dom Almir and Sao Jorge Streams.