

## From external supervision to autonomy

**Sacramento was one of the 99 municipal sanitation services created in Brazil by the Water Supply for Small Communities Programme, which was initiated in 1966 through a contract signed by the Brazilian government with the Inter-American Development Bank (IDB). The objective of the Programme was to install water supply systems in municipalities with populations between 5,000 and 40,000. The IDB loan was used for the installation of water supply services in various states of Brazil, 22 of them in Minas Gerais.**

*Almost 30 years after the foundation of SAAE-Sacramento, through international financing, the Autonomous Service is a regional reference for other municipal services and even municipalities wanting to call off their concession agreements with the State Company of Sanitation. SAAE has won respect and popular support; and sustains its path to financial autonomy by using tariffs as the main source for works and investments.*

### Foundation administered SAAE

The Water and Sewage Autonomous Service (SAAE) was created by Municipal order n° 51 in November 1967. According to the contract with IDB, the Foundation of Public Health Services (FSESP) negotiated and executed the Water Supply for Small Communities Programme. This way the administration of SAAE, through the Foundation, was guaranteed until the US\$ 51,000 loan was paid off by using tariff resources during a 20 years period.

After paying off the loan in 1987, FSESP administered the Autonomous Service until 1991, when the administration was transferred to the National Health Foundation (FUNASA), which had already incorporated FSESP's patrimony. By the end of 1998, the administration contract was cancelled unilaterally by FUNASA, as part of the federal government's strategy regarding the Foundation. As Wilmondes Alves de Mello, director of SAAE notes, "fortunately, even by calling off the administration agreement, SAAE did not stop collaborating with FUNASA. The Foundation is participating with us in various areas, such as combating Dengue fever and Chagas disease, sanitation in rural communities, residential improvements, technical cooperation and in the urban project of solid residues management and health services administration.

The director of SAAE further notes that with the end of FUNASA's administration, the misunderstandings between city hall and SAAE came to an end. The municipality assumed a bigger responsibility regarding fund raising for works, which was previously considered a duty of the federal government.

Another characteristic of the period following the conclusion of the agreement between FUNASA and SAAE, according to its director, was the attempt by the State Company of Sanitation of Minas General (COPASA) and a private company to take over the sanitation services in the municipality. Wilmondes points out that "these efforts did not succeed because of SAAE's importance to Sacramento. The population defends the Autonomous Service as the best and most important public heritage of the municipality".

### Sacramento, Minas Gerais

Population estimate, 2005: 21,915 / Urban population 18,790 / Index of urban water assistance: 100% / Index of urban sewage assistance: 100% / Number of water connections: 6,983 / Number of sewage connections: 6,739 (Urban area) / Coliforms outside the limit: 29.47% in untreated water / Total cost of the service per m<sup>3</sup> invoiced: R\$ 0.70 / Average tariff charged: R\$ 0.50 per m<sup>3</sup> / Invoice revenue loss index: 21.872% / Productivity Index: 3.6 workers per thousand water and sewer connections / Gross annual operational revenue (direct and indirect): R\$ 1,448,213.98 / Annual utilisation cost: 1,184,565.22 / Infant mortality rate: 26.6 per thousand live births / Human development index (HDI): 0.797 / Source: SNIS 2003, IBGE 2000 / SAAE Sacramento

That perception was formed because of an administration style characterised by punctuality, programming, respect to the financial balance and due to the integration of the environmental sanitation policy with other policies for the urban area. SAAE achieved both diversity regarding its projects and specific focus where needed, and prioritised investments in areas of high vulnerability.

The result of this policy is the credit and approval by the users, who are important contributors to the definition of the investment direction of the Autonomous Service. The social control process starts with the annual budget which, after being discussed by the management of the Autonomous Service, it is adjusted with city hall's budget, published and submitted to public hearings.

## **Tariffs finance investments**

Tariffs provide the necessary resources for expenses, counterpart fundings and the repayment of financings of completed projects. Tariffs are really important for the Autonomous Service. The financial sustainability is one of the pillars of SAAE's success in Sacramento.

In 1997, the tariffs system of SAAE was reformed. The current system is based on real user consumption. There is a tariff escalation system, starting with a fixed price for the first cubic metre consumed, which increases proportionally according to consumption.

A Municipal order allows SAAE to reduce the tariff for public enterprises, social assistance entities, schools, and families lacking the necessary resources or those socially excluded. The legislation set criteria to fight cronyism and regulate the selection system for the recipients that benefit.

In order to be a beneficiary of the reduced tariff policy, several conditions must be met. The Municipal Secretary of Social Assistance and Employment selects the families that are subsequently evaluated by a commission responsible for the approval of the tariff reduction. The beneficiaries of the discount cannot exceed 2% of the total connections registered by the Autonomous Service.

The tariff readjustments aim to keep the balance between the projected revenues and fixed costs, already with a projection of approximately 8%, for investments in works and equipments. The tariff readjustments are decided each year by consensus between the management of the Autonomous Service and the Mayor of the Municipality.

According to the direction of the Autonomous Service, the index of failure to pay off bills, has been at acceptable levels and does not compromise the financial soundness of SAAE. Cutting off the supply due to unpaid bills has been practised with moderation. The Autonomous Service negotiates special arrangements with the debtors and periods for debt repayment.

## **SAAE prepares to assume solid waste management**

The works completed in 2000 (new water collection station, rude water transfer system and the Water Treatment Plant, working with ascending direct filtration) were carried out with resources from various sources such as the Length of Service Guarantee Fund (FGTS), or reimbursable resources from the Federal Savings Bank Caixa (CEF). The Autonomous Service also had access to non-reimbursable resources of the Union's General Budget (OGU), obtained through the National Health Foundation (FUNASA).

For the installation of the sewage treatment system in 2002, the resources came from OGU through the Pro-Sanitation Programme of the Federal Government, administered by CEF, with matching funds from the municipality and the Autonomous Service.

FUNASA has been supporting the municipality in securing resources from OGU by providing technical orientation, supervision of the process and the health education projects. By combining resources from SAAE and the municipality, FUNASA has secured the implementation of residential improvement projects, rural sanitation, improvement of the residential

sewage collection system in urban areas, sanitation workshops, supply units, construction of a garbage selection and compost plant and a sanitary embankment. Beginning early 2007, the Autonomous Service will implement the policy of integrated management of solid residues in the urban area.

## Universalising the service

Sacramento's SAAE achieved universal provision of treated water in the urban area in September 2000, when a new Water Treatment Plant (ETA) was inaugurated. At that time, 100% of the residences were already connected to the public supply system, but there was a rotation system of water supply in some neighbourhoods. Today, apart from the urban area, seven other residential complexes are supplied by SAAE.

SAAE follows the rules and patterns defined by the Order n° 518/2004 regarding potable water. Physical, chemical and bacteriological analyses are carried out directly by SAAE and by subcontracted laboratories. The results are forwarded monthly to the Municipal Secretary of Health. The Autonomous Service is also analysing the water consumed by the rural populations.

In 2002, the city started to collect and treat 100% of the sanitary sewage, with the inauguration of the Sewage Treatment Plant (ETE) which uses the facultative ponds system. Currently, three other urban residential complexes count, with ETES, using septic tank technology with anaerobic filters and infiltration systems. By the end of 2006, all sewage collection and treatment services supplying the urban population should be completed.

The sanitary conditions in the municipality are reflected by high health indicators. In 2004, according to the Municipal Secretary of Health, the infant mortality rate was 26.6 per thousand live births. According to technical studies of the Secretary, the deaths were related to perinatal problems and health assistance, not to sanitation.

## Confluence of the rivers

Sacramento has the privilege of being located in an area with suitable soil for various types of culture. The large amount of available water is due to the geographical location of the municipality in the confluence of the hydrographical basins of the Araguari, Grande and San Francisco Rivers.

In the 1990s, the quality of raw water fell due to the increase of the soy farming in the hydrographical basins. The physicochemical analyses and the sanitation specialists' observations documented the increase of turbidity and nutrients load, such as potassium and nitrogen.

Since 1998, the Autonomous Service has developed a permanent programme for the protection of the spring, which was detailed through field visits and interviews with land owners and residents. This process led to the assessment of the basin's problems and the design of an action plan to deal with those problems. The plan was implemented starting with topographic assessment, terracing and creation of reservoirs. Such interventions are aimed at the containment of pluvial waters, the direction

### Spring of Sao Francisco

The municipality of Sacramento is located in the Alto Paranaiba region. It is about 440 kilometres from Belo Horizonte and covers an area of 3,036km<sup>2</sup>, with an altitude ranging from 582m, at the dam of Jaguara, to 1,371m, in the plains of Zagaia. These plains include the Park Serra do Canastra where the Sao Francisco River originates.

Farming activities, dairy products, shoes and timber industries, are the main drivers of the municipality's economy. Trade is also strong. These diverse activities determine, to a large extent, the purchasing power of the population.

The average per capita income of the municipality increased in the last decade, while the Gini Index, which measures inequality, decreased over the same period. The Human Development Index (HDI) of the municipality was 0.797 in 2000. The HDI level was ranked by the United Nations Development Program (UNPD) as an indicator of medium human development, although it was very close to high development, which starts at an HDI of 0.80.

of the superficial drainage, as well as the retention of organic matter and dissolved inorganic molecules, thus reducing water turbidity and flood intensity and allowing the recharging of the aquifers.

The programme also included the construction of septic tanks in all rural area residences and the collection of animal excrements, thus improving the quality of raw water.

In partnership with rural producers in the hydrographical basin, SAAE encourages the recuperation of ciliary forests and supplies native tree seedlings. Through seminars SAAE instructs farmers on how to use pesticides sensibly, to return pesticide containers to the supplier and to collect any garbage produced from their activities.

The results have been quick and obvious, with positive impacts as much in the quality of raw water, as in the amount of available water during the drought period, since the flow in various springs became continuous with the implementation of these actions.

The hydrographical basin of the main water collection point is only 24 km. However the estimated consumption for other uses is considered insignificant, smaller than 0.5L/s. SAAE has permission to collect 45L/s from that spring which, added to the supply from other sources including deep wells, guarantees water supply until 2020.

SAAE is a substitute member of the State Committee of the Araguari River Basin and the Committee of the Tributary Rivers from Minas Gerais to the Lower Grande River. SAAE also took over as executive secretary of the Committee and the Technical Chamber of Grants for the administrative period 2005-2007.

### **The partnership with FUNASA for residential improvements**

Together with FUNASA, which has been financing the project, SAAE has been implementing a specific programme for residential building improvements and actions related to residential sanitation. SAAE also gives technical assistance, mainly to poor families, regarding the cleaning of private water reservoirs.

With resources from the Ministry of Health, the municipality built its own Workshop of Sanitation and has trained an employee to assist in residential sanitation. During the workshop covers for residential reservoirs are manufactured, thus contributing to the fight against Dengue fever. The municipality aims, in the future, to take action against other endemic diseases related to the lack or inadequacy of sanitation, under the supervision of the Epidemic Surveillance Service of Sacramento.

Besides serving the residents in the hydrographical basin of the spring, SAAE also serves the rural population, providing technical support for erosion control and protection of springs.

The Autonomous Service distributes tap filters for domestic use to the residents of the rural area, develops and assists in the construction of septic tanks and argues for the appropriate disposal of solid waste.

### **Priority to environmental education**

Environmental education programmes are developed by SAAE in partnership with the Municipal Council of Environmental Development (CODEMA), Environmental Police and the Environmental Secretary. At fixed dates, various actions and events take place, such as the Environment Week, Forest Week, World Water Day and Tree Day.

Radio programmes, newspapers, magazines, pamphlets, brochures, posters and seminars are some of the instruments used to pass on the message of environmental preservation, rational use of water resources and the importance of sanitation for man's health. The actions are focused on the school community, the residents of rural communities and associations.