



CHALLENGES AND CONSOLIDATED ACTIONS TO BENEFIT THE STATE OF TABASCO



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Overview

Coverage and quality, indissoluble binomial in the provision of a service that is a synonym of the quality of life, health and essential factor in the economic development, which nowadays is an inalienable human right.

The use and enjoyment of this natural resource, which tends to becoming non-renewable for its continuing and unsatisfied demand requires us to manage it with greater responsibility, especially with rationality and sustainability.



Tabasco coastal condition is faced by the consequences of seawater presence, gradually penetrating the ground and polluting the fresh water banks, a condition that requires to obtaining this resource in tributaries away from the coast and in increasingly deeper wells.

Overcoming these challenges has not been difficult thanks to the support of professional and dedicated workers of the SAPAET now CEAS, and despite adversities such as those derived from floods in the past three years, as well as insufficient public resources, we have not ceased to work to increase the coverage and quality of these services for the benefit of the inhabitants of Tabasco.

Tabasco has a more consolidated culture on the **rational use of water**, we conceive water as a strategic resource for the conservation of ecosystems, power generation, food production, boosting tourism, economic competitiveness and social justice.

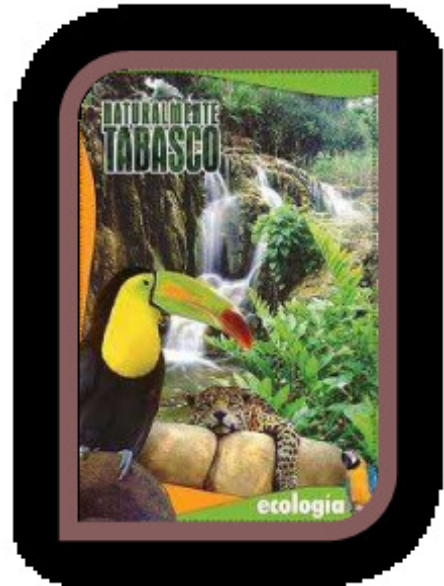
From this perspective and since 2007, **CEAS** has implemented policies aimed at expanding the drinking water and sanitation systems to improve the provision of services and meet the needs of the population of Tabasco.

In the same manner, we have worked in coordination with the CONAGUA and the Town Councils of those municipalities with decentralised services, in order to benefit the population. Thus, CEAS has maintained a **statewide coverage** of 84.04 per cent on drinking water, 47.91 per cent on sewerage and 18.5 per cent on sanitation, circumstantially improving infrastructure in these areas.

TABASCO AND THE NATIONAL SURROUNDINGS

The State of Tabasco is located in the southeast, 17 ° west longitude. Bordered on the north by the Gulf of Mexico, south by the state of Chiapas, on the west by the state of Veracruz, the east by the state of Campeche and Guatemala. It covers an area of 24.661 square kilometres, 1.3% of the country.

The geographical location of Tabasco in the tropics, its **low elevation over sea level** and its proximity to the **Gulf of Mexico** along 200 km of coastline, determine the development of warm, humid climates with high marine influence; the physiographic features are crucial in the proportion, permanence and distribution of water in the territory, giving origin to varied ecosystems of brackish rivers, aquifers, wetlands and inland lakes.



The water and biological wealth of the Southeast of our country, especially the watershed of the Grijalva and Usumacinta rivers, is a **matter of national security**, as **30 per cent** of the available surface water runs off through the territory of Tabasco.

Therefore, the national instrumentation of the **Strategic Programme Water** in the medium and long term, proposed moving forward in areas as the **drinking water** supply with quality and sufficient quantity, aimed toward the human right to clean water, extension of works on **sewerage** and **wastewater** treatment, enhance groundwater recharge and protection against flooding.

CONSOLIDATED ACTIONS

In sum, these efforts have enabled to significant achievements for the benefit of the Tabasco's population, in addition to the 32, 847 jobs that have been generated.

In the **drinking water** field, the storage capacity was increased by 25,800 cubic metres through cisterns and tanks, 48,281 linear metres in supply networks were built, and 6,696 linear meters of maintenance actions were carried out. Also 26 water systems were built and 77 were rehabilitated, maintenance was performed to three water treatment plants and 23 deep and shallow wells were drilled, among others.

The consolidation of the **Water Treatment Plant El Mango** is noteworthy. With this achievement, coverage in the area was expanded from two to four municipalities and the population served increased from 126,028 to 207,364 inhabitants. Moreover, CEAS has promoted projects to improve the quality of life of indigenous inhabitants of the Sierra area of the state; therefore, completion of the **Integrated Water System was accomplished in several Indigenous communities of Oxolotan, Tacotalpa, Tabasco**, and benefiting 7087 inhabitants in 9 locations.

In **sewerage**, the wastewater and storm water conducting network was expanded 6,488 linear metres; maintenance was performed to 20, 332 linear metres; 26 sewerage and drainage systems were built and maintenance performed to 146 existing.

On **sanitation**, the present administration built five wastewater treatment plants, as well as 10,150 sewerage linear metres and maintenance was carried out to 10,803 metres. Among these is the **Inter-municipal Wastewater treatment system through constructed wetlands with 80 lps serving 24,000 inhabitants**.

Regarding the capital city, **2 Mega -Plants were built**, which were named after their location **Northeast and Southeast**, the first with conventional **hybrid and natural treatment of 1050 lps capacity**, benefiting **336,671 inhabitants** as well as the **SOUTHEAST integrated system based on aerated lagoons with a capacity of 600 lps benefiting 232,000 inhabitants** (see Annexes). With the construction of both works 100% of the wastewater discharges from the capital of the state of Tabasco, helping to reduce the pollutant load that will be captured, which has been discharged into the Grijalva and Carrizal rivers.

Results of the UN development programme

Works are been carried out in the states of Chiapas, Tabasco and Veracruz, in poor and vulnerable areas facing hydrometeorological events, based on human development, ethnicity and health criteria, it was determined that Tabasco will apply it in the municipalities of **Tacotalpa Cunduacan and Jonuta**.

As a result of the Programme, it is expected to achieve a substantial improvement at the different levels of action in the following fields:

- *Knowledge of Water, i.e. to have and access to information on water and sanitation, and vulnerability to hydrometeorological events;*
- *Management and protection of water and sanitation services considering the risks of hydrometeorological phenomena, and*
- *Stewardship and effective participation, i.e. to strengthen governance and civic responsibility in formulating, implementing and monitoring of water and sanitation policies within a framework of equity and transparency.*

State Management on water and sanitation

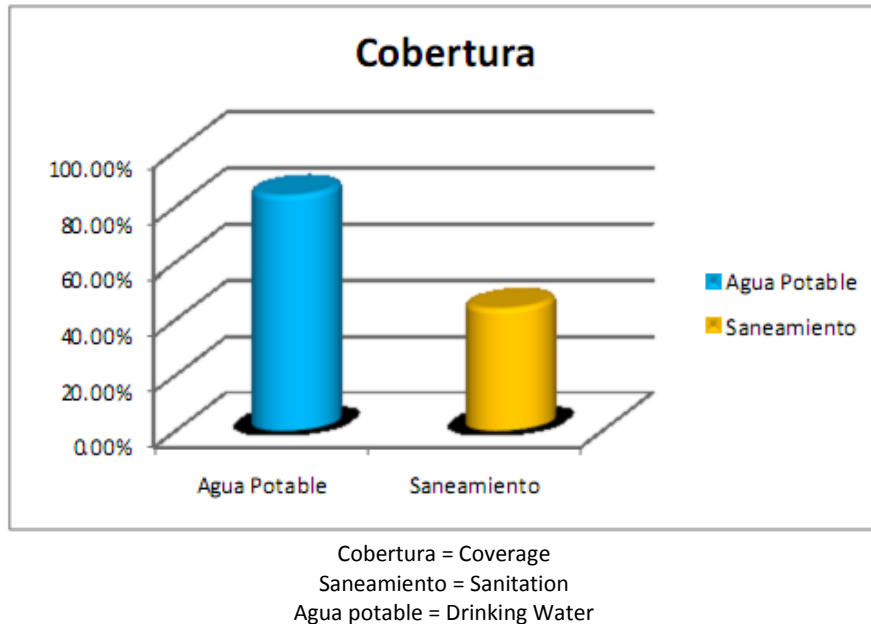
For the operation of services, the strategy has been establishing links with other levels of participation in public works derived from the necessary actions for the infrastructure operation and maintenance through the use of various federal, state, and emergency programmes and coordination arrangements.

REVENUES

Revenues from consumption and water and sewerage services were within an expected range, being 19 million pesos in 2007, 27 million in 2008 and 26 million pesos in 2009. This represents less than 7.5% of the 2007 annual investment, considering that the investment on drinking water and sewerage services for that year was 252 million pesos; less than 5.3% in 2008 with an investment of 509 million, and less than 3% in 2009, with an extraordinary investment of 891 million pesos.

Also, the development of **seven tariff studies** were started for the setting of public fair charges and generate resources to modernise and streamline the drinking water infrastructure in the municipalities of Cárdenas, Comalcalco Cunduacan, Jalpa de Mendez, Nacajuca, Tacotalpa and Tenosique.

COVERAGE



The **drinking water coverage** is 84.04 percent on drinking water and 43.91 percent for **wastewater treatment**.

In this regard, **the drinking water and sanitation coverage increased**, and were promoted development and dissemination of more effective and efficient technologies for water treatment, water use and treatment, as well as promoting and supporting **research, development and technology transfer**, in the field of adaptation to **climate change**.

In this coverage, it is important the diversification of sanitation systems designed and built in Tabasco, where 10 Imhoff Tank system cover 37 percent and 9 systems comprise the remaining 63 percent, and 4 percent of constructed wetlands.

WATER CULTURE

The approach here is to achieve a positive and proactive change in the individual and social participation on the sustainable use of water, to avoid affecting future generations, participating in the communication processes through which society is informed in the formal, non formal (family, media, training) and social participation spaces.

CEAS Tabasco, started with this administration an **awareness** process with the population, which allows to collect not only the supply needs but also on how to take care of the resource, guidelines that in short aim to provide quality drinking water to more families across the Tabasco territory.

The **Water Culture Programme** implemented throughout the **State** considers activities with children in their education, teenagers, as well as bringing information to parents and citizens in order to generate environmental awareness in the benefit of future generations.

At the national level, annual agreements are signed with the governments of the federal entities, which designate executing agencies for the program, being generally the state water, health or environmental commissions. Under this framework, activities are carried out such as:



Opening and Strengthening Water Culture Spaces
 Educational, Academic and Cultural Dissemination Events,
 Design or Adaptation and Distribution, of recreational, educational or informative material
 Workshops or courses for capacity building or strengthening on water culture

Work is currently carried out for the **integration of a National Registry of Water Culture spaces**, so that society can clearly identify and request support from the water culture promoters who operate them.

Educational materials

There is an involvement in the development of teaching materials in the Working Group with the Ministry of Environment and Natural Resources (SEMARNAT) and the Ministry of Health (SS) as well as with the rest of the environmental sector agencies, the Federal Commission of electricity.

CEAS: NEW CHALLENGES

During this period, actions and work have been carried out to comply with the vision and mission posed at the beginning of this administration, considering strategies and mechanisms to expand drinking water coverage, such as **water desalination** in coastal communities, in order to provide an on-going basis water service for human consumption as well as in the field of sewerage and sanitation aimed at the use of sustainable technologies such as the option of implementing and combining Wetlands with conventional systems.

Included in the Vision are the challenges to obtain greater collection for the **provision of the service**; the strengthening of the water committees in rural communities known as **Sustainable Development Unit of Water (UDESA)** through social promoters that support these units in the administrative and social aspects. Position in the citizenship the **water culture** programme, in order to bring the population towards a rational water use and fair payment culture.

Given this scenario, **CEAS** undertakes new challenges to strengthen to further transform the pattern of **water use in Tabasco**, in clear direction towards the **sustainable use of the resource**.