

## **CARISBAN : Cooperation between Caribbean islands for wastewater treatment by plant filters**

Gaelle Hielard<sup>1</sup>, Mathilde Edmond-Mariette<sup>2</sup>

<sup>1</sup>Martinique Water Office, Fort-de-France, Martinique. <sup>2</sup>Martinique Water Office, Fort-de-France, France

### **Abstract**

The issue of the impact of sanitation is of great concern to the Caribbean islands. Almost 35% of wastewater is discharged into the environment without treatment (*source: Caribbean Development Bank*). The treatment systems are mostly septic tanks or infiltration wells, which has a strong environmental impact on an area where 70% of species are endemic (the Caribbean is one of the world's 34 biodiversity hotspots).

This lack of sanitation is a shared problem in the Caribbean basin; This leads to health risks, environmental degradation and sometimes freshwater resources. The economic impact (especially tourism) is also a significant issue. In addition, the high exposure of these islands to natural hazards (volcanic risk, seismic, accelerated coastal erosion, etc.) increases their vulnerability to climate change.

This shared observation led to a regional cooperation between Caribbean islands. The driving force which impelled the Caribsan project has been to share and adapt a technical, reliable, efficient and economically sustainable solution has been the driving force behind the CARIBSAN project.

CARIBSAN is an INTERREG Caribbean project started in 2021, led by the Martinique Water Office and co-financed by AFD. It is the result of a consortium of French research actors (INRAE), cooperation (IOWater & CAWASA), and Caribbean water actors (WASCO in St Lucia, DOWASCO in Dominica, INRH in Cuba, Guadeloupe Water Office).

CARIBSAN aims to promote wastewater treatment through plant-based filter technology in the Caribbean islands. This ecological and climate-resilient technique has been adapted to the tropical context (a local innovation). Stemming from successful experiments carried out in the French islands of Martinique and Guadeloupe, the project aims to promote the gradual implementation of this Nature-Based Solution in the Caribbean islands. pilots or trials sites of wastewater treatment plants with Tropical Plant Planted Filters are expected to be built in Cuba by 2025, Saint Lucia and Dominica. The preliminary drafts are currently being delivered. CARIBSAN has also made it possible to develop a multi-criteria analysis method to guide decision-makers in the definition of their remediation project.

CARIBSAN is also based on an important awareness-raising component, workshops are to come on the social acceptability of this type of treatment at several levels (from the beneficiary service user to the political leaders). This is a key to the success of the resort's sustainability. A technical training program for water stakeholders has also been deployed. Finally, the organization of key events such as the June 2023 regional conference held in Martinique, which brought together water stakeholders from 15 Caribbean islands around this project. This major inter-island meeting was a place for exchanges, sharing of knowledge and expertise and the first feedback from the project.

CARIBSAN highlights that cooperation around the themes of water and the preservation of aquatic environments is a real tool for international cooperation and adaptation to climate change.

**Choose Category**

Special Session Proposals