



# INTERNATIONAL WATERS EXPERIENCE NOTES

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## Adapting to Constraints: Strengthening Municipal Governance of Water Concessions in San Antero, Colombia



**Abstract:** The GEF CReW+ Project in Colombia initially planned a wastewater reuse system in San Antero to reduce pollution and safeguard coastal livelihoods. However, the estimated cost of COP 12–13 billion exceeded project resources, and limited timelines prevented mobilizing additional funds. The intervention shifted from infrastructure construction to legal, technical, and institutional advisory support. This adaptive approach clarified the municipality’s concession contract, proposed feasible alternatives such as lagoon optimization and wetlands, and strengthened local capacity for oversight and negotiation. The San Antero case illustrates how adaptive management and governance support can create lasting value when infrastructure proves unfeasible.

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# **Adapting to Constraints: Strengthening Municipal Governance of Water Concessions in San Antero, Colombia.**

Experience of the GEF - sponsored

An integrated approach to water and wastewater management in the Wider Caribbean Region using innovative solutions and sustainable financing mechanisms (GEF CReW+ Project)

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## **PROJECT DESCRIPTION**

The GEF CReW+ project is a partnership project funded by the Global Environment Facility (GEF) that is being co-implemented by the Inter-American Development Bank (IDB) and the United Nations Environment Programme (UNEP) in 18 countries of the Wider Caribbean Region (WCR). This project builds upon its earlier successful phase “The Caribbean Regional Fund for Wastewater Management (CReW)” project (2011-2017). GEF CReW+ is being executed by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, the Organisation of the American States (OAS) and the Secretariat of the Cartagena Convention (CAR/CRU) on behalf of the IDB and UNEP respectively. The GEF CReW+ project provides innovative solutions and mitigation strategies for untreated water to improve public health and ecosystem services.

The main objective of the GEF CReW+ program in Colombia was to promote integrated water and wastewater management by developing community and rural specific financing action plans and business models, with a strong emphasis on reuse. This included supporting innovative treatment and management approaches and piloting solutions that demonstrate both environmental and financial sustainability. In this context, San Antero, a coastal municipality in Córdoba, was selected for the implementation of a wastewater reuse system at its community treatment plant. The intervention was expected to reduce pollution loads, protect fragile marine ecosystems, and secure livelihoods dependent on fishing and tourism. However, once the plant designs were finalized, the estimated costs far exceeded the financial resources available under CReW+, prompting a reassessment of the intervention strategy.

## **THE EXPERIENCE**

### **Issue**

San Antero, a coastal municipality in Córdoba, Colombia, faces persistent wastewater management problems that directly affect marine ecosystems and local livelihoods. The community’s treatment system operates below capacity, with recurrent failures in pumping stations, incomplete sewerage coverage, and untreated effluents discharging into mangrove ecosystems. Within the framework of the GEF CReW+ Project, San Antero was identified as the site for the optimization of the existing wastewater treatment plant to incorporate a reuse system, aimed at reducing pollution loads and promote water reuse.

As the initiative advanced, two interconnected challenges emerged. The first challenge was related to feasibility of the intervention to be financed under the project. Once the detailed designs were completed, the projected cost of the optimization and reuse component far exceeded the resources available through the GEF CReW+ Project. The limited project timeline further constrained options, the Project made several attempts to secure additional financing from national or external sources without success.

The second challenge was institutional. The municipality had limited capacity to manage its concession agreement with the operator, which extends until 2034. This lack of expertise and leverage created uncertainty about the operator’s contractual obligations to expand or improve the existing system. These

constraints not only jeopardized the planned optimization and incorporation of the reuse component but also underscored broader governance weaknesses that needed to be addressed.

### Addressing the Issue

Faced with these obstacles, the GEF CReW+ team adopted an adaptive management approach that shifted the focus from infrastructure construction to institutional and governance strengthening. In agreement with the Ministry of Environment and Sustainable Development (MinAmbiente), the Organization of American States (OAS, the executing agency), and the Municipality of San Antero, the project shifted from infrastructure construction to targeted advisory and institutional and governance strengthening. The response package included:

- Legal Advisory:
  - Comprehensive review of the operator concession contract.
  - Identification of legal alternatives: incorporation of works into the operator annual or quinquennial investment plans, direct municipal contracting, or contract modification mechanisms.
- Technical Advisory:
  - Evaluation of the current wastewater treatment plant system (lagoon-based biological treatment).
  - Analysis of low-cost alternatives, including optimization works, constructed wetlands, and ecosystem-based solutions
- Institutional Strengthening:
  - Direct support to the municipal government to clarify roles, negotiate with the operator, and align with the regional environmental authority (CVS).
  - Consolidation of a portfolio of feasible alternatives for short-term and medium-term investments, including ecological pathways and mangrove ecosystem management.

## RESULTS AND LEARNING

Although the optimization of the wastewater treatment plant for reuse was not done, the intervention generated important outcomes.

The legal review confirmed that the operator was not contractually obliged to build the reuse component, but it did identify that options exist for negotiated inclusion in future investment plans. This clarity empowered the municipality to become a more informed and proactive actor in overseeing the wastewater system and to pursue financing for incremental improvements.

Technical assessments also offered a roadmap of alternative solutions. A set of feasible alternatives was documented, including optimization of existing lagoons, constructed wetlands, and phased wastewater treatment plant improvements. Cost estimates, environmental implications, and governance needs were identified. Additionally, complementary projects were conceptualized, such as mangrove conservation, ecological trails, and sustainable use of biodiversity, broadening the focus from wastewater alone to integrated coastal management.

Maintaining stakeholder trust throughout the process was very important. Through joint missions and consultations with MinAmbiente, CVS, the operator, and the municipal government, expectations were openly discussed, financial constraints were acknowledged, and priorities were redefined collectively. This participatory approach prevented the intervention from being seen as a failure and instead reframed it as a strategic change that still left behind valuable tools, knowledge, and institutional strengthening.

From these outcomes, several lessons emerged. The San Antero experience demonstrated that flexibility is essential when working in small municipalities with limited budgets and complex institutional arrangements. It showed that strengthening governance and institutional capacity can be as impactful as constructing new infrastructure, particularly when legal clarity and negotiation skills enable local

governments to secure improvements from concessionaires. The case also underscored the importance of dialogue, by engaging stakeholders throughout the process, adaptation became a shared solution rather than a unilateral decision, ensuring stronger ownership and sustainability.

## REPLICATION

The lessons from San Antero are highly relevant to other municipalities across the Wider Caribbean that face similar challenges of underperforming wastewater systems, constrained budgets, and complex concession arrangements. Many of these local governments lack the technical expertise and bargaining power to effectively manage private operators, leaving them vulnerable to service gaps. The adaptive approach applied in San Antero, shifting from costly infrastructure to governance support and incremental, ecosystem-based solutions, offers a practical model for ensuring that GEF projects remain relevant even when initial plans change. By replicating this approach, other communities can strengthen their institutional capacity, build trust among stakeholders, and gradually advance toward more sustainable and resilient wastewater management systems.

## SIGNIFICANCE

The San Antero experience is significant because it illustrates how a project originally conceived around infrastructure delivery can evolve into a governance-focused intervention with enduring benefits. By redirecting efforts to municipal strengthening and ecosystem-based alternatives, the GEF CReW+ Project safeguarded relevance and built foundations for sustainable wastewater management. The case highlights adaptive management as a powerful tool in international cooperation and underscores the importance of empowering municipalities to manage concessions effectively, ensuring service improvements that protect both livelihoods and ecosystems.

## REFERENCES

[www.gefcrew.org](http://www.gefcrew.org)

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## KEYWORDS

- ◆ Adaptive project management
- ◆ Institutional strengthening municipalities
- ◆ San Antero wastewater management

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