INTERNATIONAL WATERS EXPERIENCE NOTES

Barriers to Establishing Financial Mechanisms for Integrated Wastewater Management

Abstract: The GEF CReW+ in Barbados aimed to develop a sustainable financing mechanism to mobilize public and private resources for improved wastewater infrastructure and services. Despite a strong policy push, challenges related to institutional readiness, stakeholder buy-in, and regulatory enforcement have hindered progress. The project proposed the Barbados Wastewater Fund (BWWF) as a long-term solution and outlined a roadmap. The experience underlines the importance of political will, detailed financial planning, and stakeholder engagement to realize environmental financing mechanisms. It offers useful insights for consideration in moving forward with financial mechanisms in the Caribbean Region.

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Barriers to Establishing Financial Mechanisms for Integrated Wastewater Management

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 previous 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 CReW+ in Barbados is to support the implementation of innovative technical small-scale solutions in wastewater systems and greater public awareness and support of the importance of improving water and wastewater management. In order to achieve this, the project aimed to develop a sustainable financing mechanism to mobilize public and private resources for improved wastewater infrastructure and services.

THE EXPERIENCE

Issue

Barbados has achieved nearly universal access to safely managed sanitation services (SDG 6.2.1: 99%), however, the country's wastewater infrastructure is underdeveloped. According to the 2010 census, only 4% of households were connected to centralized sewer systems, while 87% used flush toilets not connected to sewers, and 9% had no flush toilets, with nearly 40% of the latter located in Bridgetown.

Most wastewater is managed via septic tanks, soakaways, or pit latrines. Two central sewage treatment plants exist but both face chronic operational issues. Waste from these plants is ultimately sent to landfill or disposed of in coastal environments. Although Barbados has enacted groundwater protection measures as early as 1963, the impact of poorly treated wastewater on coastal waters has become increasingly evident. Studies have found elevated nutrient levels (nitrogen and phosphorus) in groundwater discharges impacting coral reefs, especially along the west coast. Climate change and land-use pressures have exacerbated contamination risks, with over 80% of limestone aquifers categorized as highly or very highly vulnerable.

New regulatory instruments, such as the Marine Pollution Control Act (1998) and the 2020 Water Protection and Land Use Zoning Policy, aim to reduce pollution. Despite these efforts, enforcement remains weak, and regulatory capacity is limited. Training in regulation, monitoring, enforcement, and proposal assessment is urgently needed. Regulatory and enforcement efforts will see the need for additional investments in the sector to achieve compliance. In this line, improving institutional and financial mechanisms, including sustainable funding strategies, remains a critical challenge. The project sought to address this by creating a sustainable financial mechanism that supports decentralized wastewater solutions.

Addressing the Issue

The project undertook a structured multi-step approach. First, it reviewed the legal and regulatory framework and confirmed that recent updates (e.g., Planning and Development Acts, Water Reuse Act) provided a foundation for enforcement. Second, a feasibility study evaluated demand for financial support and proposed the Barbados Wastewater Fund (BWWF), incorporating a Revolving Fund, Credit Enhancement Fund, and Special Savings Accounts.

Stakeholder engagement was central. Two workshops and a targeted survey revealed widespread support for a public-private model, provided governance was transparent and technically sound. Simultaneously, the project outlined required technical updates to sewerage and pollution control regulations and the need for capacity building in regulatory agencies.

Financial modelling indicated a need for capitalization between USD 20 million and 70 million, depending on loan terms and scope. Economic incentives like tax credits, user fee reductions, and partial rebates on the Garbage and Sewage Contribution (GSC) were proposed to encourage private sector compliance. A roadmap was drafted to guide the government toward operationalizing the BWWF, including legal drafting, fund manager recruitment, and long-term monitoring.

RESULTS AND LEARNING

The project successfully articulated the technical, financial, and legal components necessary to establish a sustainable wastewater financing mechanism. It fostered dialogue between government, private sector, and civil society, and produced key deliverables, including a full feasibility report and draft regulations.

However, actual establishment of the BWWF remains pending. The main challenges were political inertia, insufficient inter-agency coordination, and hesitation from financial institutions lacking clear risk-sharing instruments.

An important lesson from this experience is that even a technically robust mechanism needs sustained political endorsement, clear regulatory drivers, and institutional champions in order to be realized and implemented. Without enforcement and clear incentives, financial mechanisms may remain theoretical.

Another key lesson relates to the scale and structure of the proposed financing mechanism. While the feasibility study thoroughly assessed funding needs and modeled various scenarios, the broad capitalization range of USD 20 to 70 million may have inadvertently deterred initial uptake, especially in a context of fiscal constraint and institutional hesitation. Future proposals could consider phasing approaches that allow for incremental implementation, thereby reducing upfront funding requirements.

REPLICATION

Replication of this approach in other small island developing states (SIDS) or countries with decentralized wastewater issues is feasible. However, key enabling conditions must be met:

- Regulatory frameworks must clearly mandate wastewater treatment in new and existing developments.
- Institutional coordination (e.g., between planning, environment, and finance ministries) must be formalized.
- Stakeholder trust must be nurtured through transparency and engagement.
- Financial institutions require guarantees or blended finance to reduce perceived risks.

SIGNIFICANCE

This is one of the first initiatives in Barbados that sought to develop a tailored-maid, blended-finance mechanism targeting small-scale, decentralized wastewater systems. The experience can provide a

replicable roadmap and highlights the critical role of governance and policy coherence in environmental financing. The Barbados case offers a reality check for similar efforts in other contexts and stresses that without enforcement and institutional readiness, even the best financial mechanisms may not come to reality.

REFERENCES

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KEYWORDS

- Financial mechanisms
- IWWM
- BArbados