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## Laying the Foundations for Safe Sanitation: The Paramaribo Fecal Sludge Management Experience



**Abstract:** The GEF CReW+ Project supported the development of Suriname's first structured approach to fecal sludge management (FSM) in Paramaribo, where most households rely on septic tanks and sludge is often discharged untreated into rivers. A preliminary concept for an FSM facility in Ornamibo was prepared, including diagnostics, technical options, cost estimates, and stakeholder engagement. Although construction has not yet taken place, the process elevated FSM on the national agenda, clarified institutional roles, and provided a roadmap for future investments. The Paramaribo case demonstrates how concept design can catalyze policy change and strengthen governance for sustainable sanitation.

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# Laying the Foundations for Safe Sanitation: The Paramaribo Faecal Sludge Management Experience

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.

In Suriname, the GEF CReW+ project supported a portfolio of interventions that combined institutional diagnostics, financial governance assessments, and pilot projects. Among these, the development of a preliminary concept for a faecal sludge management (FSM) system in Paramaribo. This initiative was designed to address one of the country’s most pressing sanitation challenges: the lack of organized collection, treatment, and safe disposal of faecal sludge.

## THE EXPERIENCE

### Issue

Suriname’s sanitation system is dominated by on-site solutions. In Paramaribo, most households rely on septic tanks or pit latrines. Over time, these systems fill with sludge that must be removed. In the absence of regulated disposal facilities, private contractors routinely discharge sludge directly into rivers, canals, or open land. This practice threatens public health, contaminates groundwater, and undermines ecosystems.

The public health risks are severe. Untreated sludge contaminates drinking water sources and creates exposure to pathogens. The environmental impacts are equally critical, nutrient loading and organic pollution degrade the Suriname River, which supports biodiversity, fisheries, and tourism. These risks are exacerbated by Paramaribo’s high-water table and flood-prone conditions.

The problem is not purely technical. Institutional fragmentation has long hampered coordinated sanitation action. Responsibilities are spread across multiple ministries and agencies, with no clear mandate for FSM. Tariff systems do not exist, and sludge management has not been integrated into municipal or national planning. The result is a cycle of ad hoc practices that fail to ensure safe service delivery.

### Addressing the Issue

As a response to these challenges, the CReW+ project supported the preparation of a preliminary concept for a faecal sludge management facility in Ornamibo, on the outskirts of Paramaribo. The initiative

was executed by GIZ in partnership with BORDA, an international NGO with FSM expertise, and ILACO, a Suriname-based engineering consulting firm.

The response unfolded in several steps. First, the team conducted a diagnostic study to establish a baseline of sanitation conditions in Paramaribo. This included estimates of sludge generation, analysis of household sanitation types, review of emptying practices, and projections of future demand. These diagnostics highlighted the magnitude of the problem, tens of thousands of cubic meters of sludge generated annually with no safe treatment pathway.

Second, the team developed technical options for treatment. Technologies were assessed for feasibility, cost, land requirements, and environmental performance. Options such as drying beds, constructed wetlands, and modular treatment units were considered, with attention to the specific conditions of Paramaribo, including its hydrology and land availability.

Third, a site was identified in Ornamibo, and a preliminary design for a Phase I facility was prepared, complete with cost estimates, phasing, and potential for future expansion. The design emphasized a pragmatic, phased approach that would allow gradual scaling as resources and institutional capacity grew.

Finally, the project invested in stakeholder engagement. Workshops and consultations were held with the Ministry of Spatial Planning and Environment (MSPE), municipal representatives, private contractors, and other stakeholders. These sessions validated findings, created awareness, and sought to build political and social support for FSM as a national priority. Despite high staff turnover in counterpart institutions, the project maintained momentum through adaptive management and close communication with Surinamese partners.

## **RESULTS AND LEARNING**

Although the FSM facility has not yet been constructed, the project generated substantial results that extend beyond the concept design itself. The preparation of a detailed baseline and preliminary design provided Suriname with its first structured roadmap for FSM. The concept note created a reference point that can guide future investments, whether through government resources, development partners, or private-sector participation.

The process also shifted the policy narrative. FSM, previously a neglected topic, is now recognized as a strategic element of national sanitation planning. Ministries and stakeholders began to see that sanitation cannot be equated solely with sewerage expansion but must include safe management of on-site systems.

Several lessons emerged from this experience. The project demonstrated the need to combine international expertise with local technical input to ensure relevance and ownership. Additionally, institutional dynamics are key for the successful implementation of a project. Frequent staff turnover and fragmented responsibilities slowed progress, underlining the importance of capacity building and clear mandates. Lastly, securing land tenure for treatment facilities and clarifying roles among agencies are as important as technical design.

Perhaps the most important lesson is that even when construction is not immediately possible, a well-prepared concept can create momentum. By framing FSM as both a technical and governance issue, the GEF CReW+ project elevated the discussion and provided the tools for Suriname to take next steps.

## **REPLICATION**

Replication is particularly relevant in small island and coastal states, where untreated sludge often ends up in sensitive ecosystems such as mangroves, lagoons, or reefs. By adopting a phased design, municipalities can align FSM with available resources while laying the groundwork for future expansion.

The approach also shows how external technical assistance, when combined with local participation, can catalyse policy shifts and position governments to access financing.

## SIGNIFICANCE

The FSM initiative in Paramaribo is significant because it represents the first structured effort to tackle fecal sludge management in Suriname. By producing a concept design and baseline study, the project provided not only technical outputs but also a strategic entry point for policy reform and institutional strengthening.

This experience highlights the value of adaptive management in international cooperation projects. Even without construction, the GEF CReW+ project safeguarded relevance by redirecting efforts toward concept development, capacity building, and stakeholder engagement. This demonstrates that meaningful progress can be achieved through incremental steps that prepare the ground for larger investments.

## REFERENCES

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

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## KEYWORDS

- ◆ Faecal Sludge Management
- ◆ Paramaribo, Suriname
- ◆ Conceptual Designs

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