



INTERNATIONAL WATERS EXPERIENCE NOTES

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Empowering Water Reuse for Sustainable Development in the Dominican Republic



Abstract: The objective of the GEF CReW+ is to support the Dominican Republic in its regulatory institutional development. This experience note highlights the approach of the GEF CReW+ Project in developing regulations for the reuse of wastewater in the Dominican Republic, aiming to contribute to the achievement of three targets outlined in Sustainable Development Goal 6 (SDG 6) "Clean Water and Sanitation." Through a comprehensive approach, the project seeks to address challenges related to water quality improvement, efficient water resource management, and integrated water resources management. By aligning with the priorities outlined in the Proposal Document of the Water Pact 2021-2036 of the Dominican Government. The project aims to reduce pollution, increase water-use efficiency, and implement integrated water resources management practices. Key strategies include stakeholder engagement, participatory processes, and alignment with regional and global best practices. The project's ultimate goal is to establish a robust regulatory framework for wastewater reuse, ensuring sustainability, and contributing to the broader goals of water security and environmental protection in the Dominican Republic.

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Empowering Water Reuse for Sustainable Development in the Dominican Republic

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)

GEF-ID: 9601

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 objective of GEF CReW+ is to support the Dominican Republic in its regulatory institutional development and management capacities to address the challenges of the water and sanitation sector, particularly in the application of financial sustainability mechanisms (including appropriate tariff structures) in the services provided by INAPA. Additionally, technological and management innovation pilots will be developed for the handling of wastewater in smaller population centers, thus contributing to closing the gap in service provision and raising the quality of services provided by INAPA.

This experience note highlights the approach of the GEF CReW+ Project towards Strengthening the governance of the drinking water and sanitation sector through the Update of the Wastewater Discharge Control Regulation, an important activity included as part of Component I of the project which focuses on Institutional, legislative, regulatory, and policy reforms for integrated water resources and wastewater management.

THE EXPERIENCE

Issue

The legal and institutional framework for water management in the Dominican Republic is intricate, with multiple agencies having overlapping competencies. However, concerning environmental water quality standards and wastewater discharge, the legislation is clear, granting the Ministry of Environment and Natural Resources all necessary authority. Explicitly stated in Law 64 of the year 2000, pertaining to the environment and natural resources, is the provision that wastewater can be reused provided it is treated in compliance with regulations issued by the Dominican Republic's Ministry of Environment and Natural Resources.

In the country, wastewater reuse occurs in agricultural, tourism, and industrial sectors. However, much of this reuse is unplanned and unregulated, thus violating the country's environmental laws. Particularly in the agricultural sector, which is the largest water user in terms of demand volume, the reuse of treated or

untreated municipal wastewater happens informally, without proper monitoring by authorities. This poses health risks to field workers and consumers of agricultural products.

Some reuse is legally conducted, especially in the tourism and industrial sectors, based on specific permits issued by the Ministry. However, to develop a comprehensive policy regarding wastewater reuse, the Dominican Republic's Ministry of Environment and Natural Resources must first establish minimum requirements in terms of water quality parameters for reuse. It's essential to ensure that wastewater reuse aligns with the country's freshwater and coastal water quality objectives and that institutional actors agree on the basic parameters to be monitored and met. Achieving this necessitates a participatory process involving various competent institutions.

Addressing the Issue

The GEF CReW+ project embarked on a dynamic two-phase strategy to tackle the issue of wastewater reuse. In the initial phase, which commenced in June 2021, the GEF CReW+ project commissioned a comprehensive study titled "Analysis of the Legal and Regulatory Framework Related to Water Resources Management and Water and Sanitation in the Dominican Republic for the Update of the Regulation for the Control of Wastewater Discharges." This in-depth study delved into existing regulations surrounding wastewater discharge in the country, as well as the pertinent legal framework, aiming to assess the need for updates, identify areas requiring attention, and propose specific provisions for wastewater reuse within the regulatory framework.

Employing a participatory approach, the study conducted interviews with key stakeholders from major government institutions involved in the water and sanitation sector, complemented by two interactive workshops. Insights gleaned from interviews and consultations underscored the imperative to revise regulations to address critical gaps, including provisions for sludge management and requirements for wastewater reuse.

Stakeholders identified economic and population growth, coupled with the impact of climate change due to global warming, as compelling reasons to prioritize wastewater reuse in the Dominican Republic. Recognizing the potential of wastewater reuse as a pivotal tool for comprehensive and sustainable water resource management, stakeholders emphasized the need for strategic action.

These engagements aimed to foster awareness about the importance of wastewater reuse and advocated for the integration of parameters for safe reuse into water quality standards. Additionally, a thorough review of national and international literature was conducted, coupled with a comparative analysis of regulations in the Central American region.

Following the meticulous analysis of Dominican Republic regulations and their regional counterparts, the study recommended that the Ministry of Environment and Natural Resources prioritize the revision and updating of the country's wastewater discharge control regulations in the short term.

Presently, the majority of wastewater reuse in the Dominican Republic occurs informally for agricultural purposes, lacking proper planning and monitoring mechanisms, thus posing risks to health and the environment. While some planned reuse exists in the industrial and tourism sectors, it lacks comprehensive monitoring beyond Environmental Compliance Reports (ECRs), highlighting the need for robust mechanisms to integrate this practice into water resource management policies.

The second phase of the project entailed revising discharge regulations to incorporate parameters for wastewater reuse and provisions for sludge and treated wastewater management. Through a participatory methodology, a Technical Committee comprising representatives from key institutions involved in water resource management and water and sanitation in the country was convened.

The Technical Committee delineated essential parameters to regulate safe reuse for specific purposes and detailed parameters for various applications, such as urban reuse, restricted access irrigation,

agricultural reuse, recreational reuse, and others. Despite unresolved discussions on the agricultural production of raw food items using wastewater, the participatory approach facilitated robust dialogue.

RESULTS AND LEARNING

The GEF CReW+ project's approach has empowered the Dominican Republic to establish normative parameters for safe and proper wastewater reuse incorporated into discharge standards for the first time, a significant milestone. The participatory nature of the process has fostered technical and institutional dialogue, promoting awareness about the need for a comprehensive policy that integrates reuse into strategies for sustainable water resource use in the country.

Furthermore, promoting participation and fostering dialogue among institutions and private stakeholders proved instrumental in our journey. Acknowledging the significant economic implications of wastewater reuse for the private sector, their active involvement in the regulatory process facilitated smoother implementation and acceptance of regulations.

Engaging key informants and having a clear understanding of the country's legal and institutional framework also emerged as crucial success factors. By identifying and collaborating with key actors and leveraging a comprehensive understanding of the regulatory landscape, we were able to navigate complexities and ensure alignment with local realities.

This experience has yielded valuable insights that can inform future endeavors in similar contexts. One crucial lesson is to never underestimate the time required for developing a participatory process. In a landscape characterized by fragmented institutional and legal frameworks, integrating diverse stakeholders demands patience and ample time allocation. Building trust among stakeholders and fostering consensus necessitates a deliberate investment in dialogue and collaboration.

Furthermore, it is essential not to presume the availability of readily accessible data. In our experience, assumptions about data availability during the diagnostic phase often proved unfounded. Flexibility is key, necessitating the willingness to gather information through diverse channels, including interviews, workshops, and secondary sources.

A critical pitfall to avoid is proposing regulations that cannot be feasibly enforced under local conditions. Striving for regulatory perfection akin to more advanced countries may lead to impractical standards and enforcement challenges. Instead, broad participatory processes involving various stakeholders and institutions are imperative for developing regulations that are both effective and enforceable.

Conversely, aligning project support with the priorities of local counterparts is paramount for success. Projects that fail to incorporate local perspectives risk delivering outcomes that do not address genuine needs or priorities. By responding to the country's specific challenges and objectives, enthusiasm and stakeholder engagement can be maximized, ensuring greater sustainability beyond project completion.

Lastly, benchmarking with regional or comparable regulations provided valuable insights into achievable standards and competitive implications. Understanding the regional context not only informed regulatory decision-making but also provided a benchmark for assessing the feasibility and impact of proposed measures within the local context.

In conclusion, this experience underscores the importance of patience, flexibility, stakeholder engagement, and contextual understanding in navigating complex regulatory landscapes and achieving sustainable outcomes in wastewater management. These lessons learned serve as valuable guideposts for future endeavors in similar contexts, facilitating informed decision-making and maximizing impact.

REPLICATION

The approach of the GEF CReW+ project presents an opportunity for broader regional and global applications. One key aspect contributing to replicability is the emphasis on participatory processes and stakeholder engagement. By prioritizing inclusivity and dialogue, a robust framework that can be adapted and implemented in diverse contexts facing similar challenges in wastewater management was developed. The flexible approach to data gathering, accommodating the absence of readily available data through interviews, workshops, and secondary sources, ensures scalability and applicability in regions with varying data accessibility.

Moreover, the success in aligning project support with the priorities of local counterparts underscores the importance of tailoring interventions to suit specific contexts. This approach fosters ownership and buy-in from local stakeholders, enhancing the sustainability and replicability of project outcomes. By responding to the unique needs and challenges of each context, future initiatives can build upon this experience to drive meaningful change in wastewater management practices globally. The lessons learned from GEF CReW+ project in the Dominican Republic serve as a blueprint for designing effective and adaptable interventions that prioritize stakeholder engagement, flexibility, and context sensitivity, paving the way for successful replication and scalability in diverse settings.

SIGNIFICANCE

Developing regulations for the reuse of wastewater in the Dominican Republic is the first step towards a comprehensive wastewater reuse policy that will contribute to achieving three of the targets of SDG 6 "Clean Water and Sanitation." These targets have been included in the Proposal Document of the Water Pact 2021-2036 of the Dominican Republic Government, namely:

- By 2030, improve water quality by reducing pollution, eliminating discharge, and minimizing the release of hazardous materials and chemicals, halving the percentage of untreated wastewater, and substantially increasing safe recycling and reuse globally.
- By 2030, substantially increase water-use efficiency across all sectors and ensure the sustainability of freshwater withdrawals and supply to address water scarcity and substantially reduce the number of people suffering from water scarcity.
- By 2030, implement integrated water resources management at all levels, including through transboundary cooperation, as appropriate.

REFERENCES

www.gefcrew.org

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KEYWORDS

What 2-5 keywords could be used to help others search and find this experience note? Please provide at least one of each of the following:

- ◆ Water Reuse Standards
- ◆ Participatory approach
- ◆ Water resources management

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