

# CHARTING A NEW COURSE FOR WASTEWATER MANAGEMENT IN THE WIDER CARIBBEAN REGION

GEF CREW'S JOURNEY





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Pigeon Point, Tobago.

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*“Wastewater is the Cinderella of the water sector ...we just treat it ‘any old way’ but if we do not do something it will affect us economically and socially.”*

**Robert Pickersgill**  
**Minister of Water, Land, Environment & Climate Change,**  
**at the GEF CReW Inception meeting**  
**Kingston, Jamaica, 2012**

In the four years since Minister Pickersgill made this statement, implementation of the GEF CReW Project has helped us to understand better the reasons for neglect of wastewater management throughout the Wider Caribbean Region (WCR) and the extent to which this is affecting our health, environment and economies. Fortunately, our understanding of what we need to do to change this has also increased.

The GEF CReW Project is now in its final stages of implementation. Many of the challenges, experiences and lessons learnt thus far are summarized in this publication. GEF CReW’s Implementing Agencies, UNEP and IDB, its Regional Executing Agency, UNEP CAR RCU, the Project Coordination Group and thirteen participating countries, all recognize the value of the learning from its implementation. We also recognize that there is a great deal more work to be done in the WCR if wastewater is to be managed more wisely and sustainably in the future. For this reason, the elements of a new project proposal entitled “CReW+” are also introduced herein.

The GEF CReW Project Team,  
May 2016

## Wastewater Management in the Wider Caribbean Region – the Challenge

Effective management of wastewater in the Wider Caribbean Region (WCR) has long been a significant challenge faced by all of the countries. Governments recognize that land-based sources of pollution from municipal, industrial and agricultural sectors and their negative impacts on marine resources are a threat to the region's economic development and the quality of life of its people. However, solutions have been elusive.

Studies conducted in 2005 showed that untreated sewage was one of the major threats to public health and the Region's rich biodiversity. Rapidly expanding urban populations, poorly planned development, and inadequate or poorly designed and malfunctioning sewage treatment facilities all contributed. It was found that:

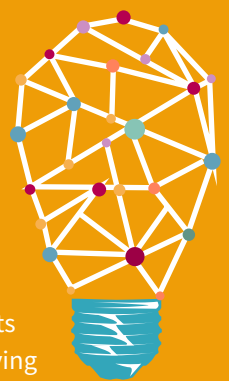
- 85% of wastewater entering the Caribbean Sea remained untreated
- 51.5 % of households lacked sewer connections
- Only 17% of households were connected to acceptable collection and treatment systems.

The proper collection, treatment, and disposal of wastewater is essential to protecting human health as well as to protect the natural environment. The Caribbean Sea Ecosystem Assessment (CARSEA), 2007, also found that sewage was one of the main factors that had caused approximately 80 percent (80%) of living coral in the Caribbean to be lost in the previous twenty years. High rates of pollution also negatively affect the fishing industry and the tourism sectors; both vital to the region's economy. The GEF CReW Project aimed to address the three significant challenges to wastewater management: inadequate policy and legal frameworks, insufficient financing and the low priority placed on waste water treatment.

### BOX I LBS Protocol

In 1999, acknowledging that sewage is the number one point source of marine pollution in the region, Governments of the Wider Caribbean Region signaled their commitment to reduce marine pollution from untreated wastewater by agreeing to the Protocol on the Control of Land Based Sources of Marine Pollution (LBS Protocol). The LBS Protocol forms part of the only legally binding regional agreement for the protection and development of the Caribbean Sea – the Cartagena Convention.

Its entry into force in 2010 committed the Governments which ratified or acceded to making major improvements in wastewater management by introducing innovative and cost effective treatment technologies, improving policy, regulatory and institutional frameworks, and expanding access to affordable financing.



## GEF CReW - Designed to Improve Wastewater Management

Motivation for the Global Environment Facility-funded Caribbean Regional Fund for Wastewater Management (GEF CReW) came from the increasing number of countries in the Wider Caribbean Region (WCR) attributing the poor state of wastewater management to the lack of funding. The GEF CReW Project is intended to support the WCR in addressing the three main challenges. It began in 2011, was originally intended to last four years but has been extended by eighteen months to enable

completion of all components. Funded by the Global Environment Facility (GEF) and implemented by the Inter-American Development Bank (IDB) and the United Nations Environment Programme (UNEP), it is an integrated and innovative approach to reducing the negative environmental and human health impacts of untreated wastewater discharges.

At the regional level, it has catalysed a unique partnership between the Inter-American Development Bank (IDB) and the United Nations Environment Programme's Caribbean Regional Coordination Unit (UNEP CAR RCU), the Secretariat for the Cartagena Convention. Day-to-day management of the CRew project is carried out by the Project Coordination Group (PCG), based in Jamaica, under the oversight of UNEP and IDB. At the country level, project implementation has been further supported by partnerships between wastewater utilities, Ministries of Environment, Finance, Health, Education, and local communities.

**The GEF CRew Project aims to:**

- Provide sustainable financing for the wastewater sector
- Support policy and legislative reforms, and
- Foster regional dialogue and knowledge exchange amongst key stakeholders in the WCR.

**It works through three interlinked components:**

1. Investment and Sustainable Financing
2. Reforms for Wastewater Management
3. Communications, Outreach and Training

## BOX II

The thirteen countries participating in CRew are:



## Sustainable Financing for the Wastewater Sector

GEF CReW has sought to provide an innovative approach to obtaining financing for wastewater management through Component 1: Investment and Sustainable Financing. Four individual pilot financing mechanisms (PFMs) are being tested in four participating countries – Belize, Guyana, Jamaica, and Trinidad & Tobago. Through the establishment of revolving funds in Belize, Guyana and Trinidad & Tobago and a Credit Enhancement Facility in Jamaica, the intention was to test and evaluate different financing modalities for wastewater management projects. CReW resources are being used for capitalization of these four PFMs, and for providing technical assistance, such as design services, guidance on wastewater treatment options and sewer design options, to ensure that the projects to be financed satisfy the technical, financial, socio-economic and environmental requirements of the CReW and local governments. The pilot countries have also been able to use project development support funding to avail themselves of expertise in the development of policy and operational frameworks for the revolving funds, to provide strategic operations reviews and other associated needs. Component 1 has been executed by the IDB. Conditions prior have had to be met by all four countries to enable disbursement of the allocated funds. In order for wastewater management projects to qualify for funds from the PFMs, they have had to meet certain criteria: be high priority projects for wastewater service providers; have high impact in terms of significant improvements or prevention from further deterioration in the quality of coastal waters; have potential to stimulate policy reforms; and require innovative financial and advisory assistance to bring project financing costs within ratepayers' ability to pay.

Establishment and implementation of these pilot PFMs has been a learning experience and this is being documented in order that lessons learned can be shared with other countries. The following brief descriptions of the Pilots lessons learned to date have been extracted from the case studies prepared by the IDB's Knowledge Division in July 2015.



### The Belize Pilot

In February 2012, the Government of Belize became eligible to receive the funding for the pilot mechanism, the Belize Wastewater Revolving Fund (BWRF). The fund promotes eligible public and private wastewater treatment projects by providing subsidized interest rate loans. The initial US \$5 million from GEF CReW was supplemented with another US \$5 million from an IDB loan because of the amount of work needed to introduce wastewater treatment to the Placencia Peninsula, the original site for the first generation project to benefit from the BWRF.

The Placencia project, however, encountered several problems. These included project scope and feasibility as well as support from all key stakeholders. By October 2013, a lack of progress in resolving these problems, as well as concern that there were just two years left for implementation of the project and testing of the revolving fund mechanism, led to the search for alternative pilot projects to be financed under the revolving fund. It was reasoned that instead of relying on a single project, a better option to handle the risks of implementation and maintain an active revolving fund would be to have a portfolio of advanced candidate projects that could quickly come on-stream.

The GEF CReW Project Steering Committee (PSC) in January 2014 consequently endorsed the



development of a portfolio of projects, learning also from the Guyana pilot project experience (see below). With a broad field presence, the implementing agency in Belize, Belize Water Services Limited (BWSL), also the utility operator, produced a list of alternative projects in advanced stages. After several consultations, and with the support of the Ministry of Local Government, the water boards (which traditionally had responsibility for local management of water services) were dissolved in June 2014, and BWSL, took over responsibility for wastewater management.



The US \$2.2 million project for the Belmopan Wastewater Treatment Plant and Sewerage Upgrade was selected as the BWRf's first generation project. This consists of consolidating an existing sewerage network and retroactively financing construction of a treatment lagoon in the capital city, Belmopan. Operating since 1970, it serves approximately 7,900 consumers, providing preliminary and secondary treatment and emptying treated effluent into the Belize River via a disposal pipe. The sludge is deposited onto drying beds and later made available for agricultural uses. The IDB provided further technical assistance and a consultant provided advice throughout the design of the project, in particular for the upgrade of the secondary treatment and construction of tertiary treatment.

This project is being implemented by BWSL and is the most advanced of the SFMs being created under GEF CREW. It consists of three phases: Phase I the Retroactive Financing of the Belmopan Sewer Lagoon is well underway. This involves the construction of three facultative lagoons covering an area of approximately five acres at a cost of US\$739,333.33. The Financial Agreement was signed in December, 2013, disbursement was made in December 2013, repayment started in April, 2015, and the repayment period is 2 years. Phase II is the Belmopan Sewer System Expansion - Phase 1: Construction of the sewage transportation system, tertiary treatment system and rehabilitation/retrofitting of primary treatment system at a cost of US\$1,521,300.00. The financial agreement was signed in August 2015 and disbursement followed immediately after. Repayment is scheduled to start in January, 2017 and the repayment period is 5 years. Phase III is the Belmopan Sewer System Expansion-Phase 2: Expansion of the sewerage system (collection only). This includes the installation of approximately 4.8 miles of gravity sewer mains and improvements to the wastewater treatment plant at a cost of US\$2,700,000.00. The Financial Agreement was signed in September 2015 with disbursement taking place immediately after and repayment in 5 years.



## The Guyana Pilot

The US\$3 million Guyana Wastewater Revolving Fund (GWRF) was established to support the efforts of the Government of Guyana in improving wastewater management, with specific focus on public-private partnerships. This was seen as the best approach in Guyana because the private sector is home to large commercial and industrial wastewater generators. Early in the CReW project preparation process, the Government of Guyana identified a first-generation project with Banks-D'Aguilar Industries and Holdings (DIH), one of the country's largest breweries.

The project was to have consisted of a wastewater treatment plant to ensure that discharges from beer production into rivers would conform to the Guyana Environment Protection Agency (EPA) standards. However, this pilot project did not materialize. Banks DIH, holds the franchise for Coca Cola in Guyana and in 2006 Coca Cola set a worldwide goal of ensuring that wastewater discharged from its manufacturing processes meets or exceeds local regulations, making Banks DIH an ideal candidate. However the four-year gestation period (2008 – 2012) of the GEF CReW Project proved too long and Banks DIH withdrew from the program, finding other financing to comply with the wastewater discharge standards.

The GWRF was established following the signing of the Financing Agreement with IDB in July 2011. From then on project activities focused on seeking first generation projects that would allow for the design and construction of a wastewater treatment facility, and for the commencement of at least one repayment into the account of the revolving fund within the 5 year project horizon of GEF CReW. GEF CReW and the GWRF were re-launched at a high profile event in May 2012, by the then Ministry of Housing and Water. As still no private sector expression of interest was forthcoming, the project management unit then initiated a strategy to identify alternative new projects, using a targeted approach of consultations with firms in the manufacturing and tourism sectors. This strategy, along with stakeholder consultations and an initial public information campaign, led to the identification of a short list of potential private sector projects but the process was time-consuming and slow.



Madewini Development on the Demerara River, Guyana, 2015.

In September 2015, the GWRP finally signed its first project with a resort development company, Ashmins Fun Park and Resorts. This was for construction of a wastewater treatment plant capable of handling 139,000 litres of wastewater daily. This US\$300,000 investment will enable Ashmins to bring all wastewater from their facilities at Splashmins and Madewini Villas, a 163 acre resort development located on the Demerara River, up to acceptable regional standards before it is discharged into the environment. The signing of this first project renewed interest in the GWRP amongst private sector companies and there have since been several expressions of interest in the fund by both private sector companies and public entities.

The difficulty encountered in securing a first generation borrower has been seen in Guyana as being directly related to the state of the enabling environment, specifically the weaknesses in the regulatory framework that do not encourage or provide an incentive to private sector involvement. Strengthening the enabling environment through policy and institutional reform has therefore become a priority.

It was also realized that there is a broader need to raise the awareness of the issues surrounding wastewater management in Guyana, hence a public education programme was started amongst the wider public as well as targeted at decision makers. In addition, the GWRP itself lacked visibility and needed to be marketed. More information has been made available to the private sector and the wider public on the project, its objectives and the medium- to long-term benefits of investing in the Fund. Increasing visibility of the GWRP and education of the private sector in concert with strengthening of the enabling environment are both necessary for change.



### **The Jamaica Pilot**

The Jamaica Credit Enhancement Facility (JCEF) is a reserve account used as collateral for local banks interested in acquiring financing to carry out wastewater projects. The initial project proposal foresaw CReW funds leveraging US \$7 million for the National Water Commission (NWC), the national water and wastewater utility in Jamaica, to execute 11 small projects. Since 2008, the Office of Utility Regulation (OUR) has authorized the NWC to collect a monthly wastewater utility surcharge called the K-factor, which capitalizes a special account for priority water and wastewater investment projects. The K-factor, together with the reserve guarantee from CReW, contributed to the NWC securing its first commercial loan without a sovereign guarantee, for a total amount of US \$12 million.

Jamaica's success in establishing a source of funding for wastewater projects via collection of customer fees is considered a best practice example. While due to the political will of the government which ensured funding through the establishment of the K factor tariff component used to cover the NWC's financial charges for new investments in 2008, and a corresponding X factor component representing the efficiency gains and credited to customers' bills simultaneously, it was also facilitated by the statutory obligation for developers to connect new developments to the wastewater systems of the NWC.

The National Environmental Protection Agency (NEPA) identified 44 plants to be upgraded in order to meet new national effluent standards. From these, the CReW project originally selected 13 wastewater treatment plants to be rehabilitated or replaced. The tendering processes were structured



Official contract signing for the Boscobel and Elletson Flats Sewerage Projects, October 2015.

in four packages. The first one included wastewater plants that had to be replaced, the second group included pond-technology type wastewater plants, the third included plants for decommissioning and installation of new conveyance systems and the last package envisioned installation of mechanical plants.

Formalization of the agreement with the commercial bank, the National Commercial Bank (NCB), even though the letter of commitment had been signed since late 2012 and the IDB had disbursed the US\$3 million CReW contribution into the special NCB guarantee account in January 2013, was delayed until August 2015. In August 2015, the JCEF progressed when the NWC and the NCB finally signed a US \$12 million loan agreement.

The credit enhancement facility will be used to provide all the required works and services

necessary to implement a total of eight projects. Wastewater treatment plants in Boscobel, St. Mary; and Elletson Flats in St. Andrew will be rebuilt, while facilities at Arcadia, Bay Farm Villas and Hughsenden in St. Andrew, will be decommissioned and connected into the central sewer system. In addition wastewater systems in De la Vega City, St. Catherine; Blackwood Gardens, Kingston; and Lionel Town, Clarendon, will be rehabilitated. The project will facilitate improved wastewater treatment and will allow the NWC to expand its sewer network, especially in Kingston.

### The Trinidad and Tobago Pilot

In June 2013, Trinidad and Tobago became the last of the four demonstration countries to sign an agreement to establish a PFM. The US \$2 million Trinidad and Tobago Revolving Wastewater Fund (TTWRF) was conceptualized to improve coverage and performance in the wastewater sector. It was decided that the first pilot project would rehabilitate the 15-year old Scarborough sewerage network and wastewater treatment plant in southwestern Tobago, as well as expand the number of property connections to bring more customers onto the network. Once completed, the project would bring Scarborough and environs into compliance with the Land-Based Sources of Marine Pollution (LBS) Protocol, part of the Cartagena Convention which was ratified by the Government in 2003.

The signing of the GEF CREW agreement and subsequent establishment of the TTWRF however began slowly. A combination of factors contributed to the early delays. The pilot's main purpose, to establish a sustainable financial revolving fund mechanism, was not clearly understood by all stakeholders. Some stakeholders thought that the CReW was about the implementation of a wastewater project per se. It was for this reason that the Water and Sewerage Authority (WASA) was initially selected as

the executing agency and planned the rehabilitation of the Scarborough wastewater treatment plant as well as the connection of 200 households to expand use beyond the 10% of potential customers served. However, after further discussion, the government considered that the Ministry of Finance (MoF) should become the executing agency of the revolving fund, with WASA retaining its role as implementer. This request for change of the executing agency was submitted to the Cabinet for approval, a process which led to significant delays in implementation. The multiplicity of parties involved also contributed to delays. These included the MoF as the new executor, the Ministry of Planning as signatory of the loan agreement, and the Ministry of Environment and Water Resources which is in charge of both WASA and the regulatory agency, the Environmental Management Authority (EMA).

Fulfillment of the nine conditions required prior to disbursement of the funding by the IDB also proved to be a significant challenge for Trinidad & Tobago. These were: evidence of establishment of the national revolving fund; establishment of a Board to oversee the activities of the fund; appointment of a fund manager; approval by the Board of the operations manual; a legal opinion from the government; identification of the agreement's signatories; an inception project report; demonstrated sufficient resources for at least one year of operation; and finally, an adequate financial system and internal control structure for any purpose of the agreement. The establishment of the Board, the completion of the operating manual and the demonstration of existence of the adequate financial information system in the MoF took the longest time to complete.

In November 2014, the conditions prior to enable disbursement of the US \$2 million were finally fulfilled and IDB disbursed the project funds to the Ministry of Finance in December 2014. However funds have not yet been released to WASA because conditions for repayment to the revolving fund are still being established. The expectation is that upon definition of the repayment terms, the funds will be released to WASA, enabling work to begin by the selected contractor. In addition, the high estimated cost of making the property connections proved to be prohibitive so that work is focussing entirely upon upgrade of the Scarborough Wastewater Treatment facility.

## Addressing the Enabling Environment: Reforms for Wastewater Management

GEF CREW's Component 2 focuses upon reforms for Wastewater Management and is being executed by UNEP CAR/RCU. It aims to address key capacity constraints within legal, institutional and policy frameworks by:

- Improving skills and knowledge at the national and local level needed for policy formulation, planning and financing in water, sanitation and wastewater management.
- Developing tools to improve and strengthen the legislative framework for wastewater management, including improving compliance with obligations of the Cartagena Convention and its Protocol on Land-Based Sources of Pollution, with the support of the Convention's Secretariat, the Caribbean Regional Coordinating Unit (CAR/RCU).
- Developing education and awareness programmes about wastewater and sanitation, targeting local and national governments, the media, the formal education system, community members and the general public, including training for decision-makers on the choice of appropriate and cost-effective technologies for wastewater management.



Partnership Forum, Barbados, 2015.

## Motivating and Supporting Decision-Makers and Stakeholders

GEF CReW's Component 3: Communications, Outreach and Training, is also the responsibility of UNEP CAR/RCU. It has focused upon the dissemination of information to counterpart agencies, implementing partners and related programmes; the documentation and dissemination of lessons learned and best practice; support for training developed by the project; and the development and dissemination of educational and public awareness materials for a range of target audiences.

## Capacity Building and Enabling Activities under GEF CReW

All 13 GEF CReW participating countries benefit from Components 2 and 3. The capacity building activities that are a large part of these two components are therefore very significant. Activities in these two components reinforce one another as well as provide a broader context and/or support for the pilot projects in Component 1. These have been determined in consultation with key stakeholders in each country, with input coordinated by the respective CReW National Focal Points. Activities are diverse and have included:

- Baseline assessments examining the existing levels of wastewater treatment, national capacity, surveillance and enforcement capacity in all participating countries to identify needs.
- Developing tools to improve and strengthen the legislative framework for wastewater management, including assessment of the status of ratification and compliance with obligations of the Cartagena Convention and its Protocol on Land-Based Sources of Pollution (the LBS Protocol), which some countries signed signifying their commitment to improving their wastewater services.
- Capacity building activities in each participating country, determined in consultation with key stakeholders.
- Development of a toolkit (practical reference guide) to assist wastewater managers, chief technocrats and senior policy officers to improve capacity in developing and implementing wastewater management policies.
- Working with countries to develop and implement national capacity development plans for wastewater reform.

- Operational Assessments of selected water and wastewater utilities aimed at improving performances in this sector.
- Training and facilitation in wastewater technologies, as well as in establishing and managing Revolving Funds.
- Developing partnerships and technical exchanges with regional universities and centres of excellence to establish professional development training courses.
- Preparation of briefing materials for decision-makers.
- Assessments of the availability of, access to, and uptake of funding for wastewater improvements in participating countries.
- Support for professional development through participation in various fora, such as the Caribbean Water and Wastewater Association (CWWA) Annual Conference and Exhibition.
- Conduct of Knowledge, Attitudes and Practices Surveys (KAPS) with water and wastewater professionals and with the media; public education, sensitization and outreach for targeted groups, including decision-makers, the media, teachers and students.
- Development of a Communications Strategy (both internal and external) to support Project activities and change the way people see and treat wastewater and wastewater issues.
- Documentation of experiences, lessons learned and best practices via experience notes and case studies (ongoing)
- Creation of a website ([www.gefcrew.org](http://www.gefcrew.org)) to promote the project, disseminate information on activities and outputs and for further development into a CHM or database to support better wastewater management in the WCR.
- Public education and outreach for targeted groups, including decision-makers, the media, teachers and students.
- The development and application of a resource valuation methodology for use in wastewater management, and the sharing of results at a regional meeting.



Participants in Wastewater Sensitization Workshop, Panama, 2014.



Participants, Economic Resource Valuation Workshop, Miami, August 2015.

## BOX III

### Antigua & Barbuda under GEF CReW (Components 2 and 3)

Antigua & Barbuda is a Contracting Party to the LBS Protocol. Its Environment Division, which is responsible for the coordinated implementation of activities under international environmental agreements that the country has signed, was able to bundle the activities of the CReW with other project activities in order to maximize resources. The funds provided by GEF CReW under Component 2 were pooled with those provided by other projects and initiatives to undertake a number of activities relevant to Component 2:

- Development of draft regulations for the Environment Management and Protection Bill and Physical Planning Act
- Harmonization of legislation and regulations for wastewater
- Training/consultations in the legislation for staff of the Environment Division and officers in other agencies
- Consultation regarding the Environmental Fund Section of the legislation and its implications
- Training of a junior lawyer to work on the legislation

The communities of Cashew Hill and York's Village were selected for consultations on the legislation and wastewater strategy. In these communities, poor land use planning and development as well as poor management of liquid waste, has led to, among other things, mosquito breeding and new mosquito-borne diseases. These consultations were held along with those related to the United Nations Framework Convention on Climate Change (UNFCCC) National Communication process in order to maximize available resources. The process took just over 9 months and was jointly funded by the GEF CReW Project, the Nature Conservancy and the Climate Change Adaptation/Special Climate Change Fund.

The Environment Division which along with the Ministry of Health, is responsible for wastewater management, also included wastewater management in a comprehensive communication strategy conducted in 2014 and 2015.



## GEF CReW – Promoting and Utilizing Partnerships to do more

A range of organizations have been involved in the implementation of GEF CReW. The main “actors” in CReW have been the ministries with responsibility for water and wastewater and the water and wastewater utilities in the respective countries. In most, if not all, countries, more than one ministry has some responsibility for water and sanitation. Activities have included the involvement of other government ministries and agencies, academia, the private sector and non-governmental organizations.



“Appropriate Technologies” Training, Costa Rica, 2013.

Partnerships with regional organizations and centres of excellence, such as the Water Center (Centro del Agua) in Monterrey, in Monterrey Mexico, have enabled the Project to provide valuable training, as seen below:

- September – October 2012, Nassau, The Bahamas: Appropriate Wastewater Treatment Technologies Workshop for representatives of English-speaking countries
- November 2013, San Jose, Costa Rica: Appropriate Wastewater Treatment Technologies for representatives of Spanish-speaking countries.
- June - November 2014 – a series of online and blended courses in various aspects of wastewater management: Strategic Management for Water Utilities; Energy and Water Efficiency for Water Utilities, Wastewater Treatment Fundamentals; Commercial Management of Water Utilities.

### Other project partners include:

- Caribbean Development Bank
- Caribbean Water and Wastewater Association (CWWA)
- Caribbean Water and Sewerage Association (CAWASA)
- Global Water Partnership-Caribbean (GWP-C) Global Water Partnership-Central America (GWP-Central America)
- Judicial Education Institute of the Eastern Caribbean Supreme Court (ECSC)
- Caribbean Regional Public Health Agency (CARPHA)
- Global Programme of Action (GPA)
- Global Partnership on Nutrient Management (GPNP) Caribbean Platform
- Centro de Ingeniería y Manejo Ambiental de Bahías y Costas (CIMAB)

- Institute of Marine Affairs, Trinidad & Tobago (IMA)
- Pan-American Health Organization (PAHO) / World Health Organization (WHO)
- Global Water Leaders Group
- World Resources Institute (WRI)
- The Nature Conservancy (TNC)

## BOX IV

### Guyana: Putting Wastewater on the National Agenda

The GEF CReW Project officially started in Guyana in July, 2011 with the signing of a Financing Agreement with IDB for the establishment of a Revolving Fund for financing wastewater projects: the Guyana Wastewater Revolving Fund (GWRF). Project activities initially focused upon seeking first generation projects to design and construct wastewater treatment facilities, to enable repayments into the account of the revolving fund to begin within GEF CReW's 4 year project horizon. This was a priority because one of the aims of the Project was to test pilot financing mechanisms.

The implementation of wastewater projects through the pilot project was also an opportunity to advance Guyana's efforts to meet its obligations under the Land-Based Sources (LBS) Protocol to which it acceded in 2010.

Several lessons are being learned as a result of the effort to implement the sustainable financing mechanism (SFM). On one hand, the fact that more affordable financing is being made available for wastewater management projects is seen as a sign that wastewater management is a national priority. On the other hand, existing weaknesses in the enabling environment (lack of policies, legislation and regulations) mean that there has been little incentive for the private sector to put systems in place to treat or properly dispose of the wastewater that they were generating, or in some cases, collecting.

The Project Management Unit therefore identified a broader need to raise public awareness of issues surrounding wastewater management in Guyana, even while steps were being taken to strengthen regulations as well as institutions. The establishment of the GWRF provided an opportunity to turn the spotlight on wastewater issues, particularly for decision-makers. Increasing visibility of the GWRF and education of the private sector in concert with strengthening of the enabling environment were both seen as necessary for change in order to improve the quality of effluent produced by their processes.

#### Best Practice

The Project Implementing Agency in Guyana, the then Ministry of Housing and Water (now part of the Ministry of Communities), led an advocacy campaign in 2014 and 2015, designed to increase awareness of wastewater issues and show linkages with other areas. It was opportunistic about raising the issue of wastewater management, promoting its linkages with health, disaster risk (particularly as Guyana is a low-lying country), and, the development of a low carbon strategy. This was done through national workshops, scheduled presentations to both private and public sector stakeholders, meetings when possible, a series of media articles, short video documentaries and media interviews. Even though both coverage and promotion was eventually less than originally planned, significant progress was made.

Awareness of wastewater issues and the GEF CReW Project increased, and stakeholder consultation progressed due to project advocacy and public awareness efforts by the Ministry. So much so that when the Bureau of Standards and the Environmental Protection Agency were redrafting the Industrial Effluent Discharge Standards, the Project Management Unit was invited to be part of that committee, and, when the Septic Tank Standards were being redrafted, they were also invited to join that Committee. This has provided the opportunity to make progress in studies and discussions with regards to improving the enabling environment. The issue of wastewater was thus effectively promoted higher up the national agenda.

#### The main lessons and reflections

- There must be political will in the country to bring wastewater to the forefront of the national agenda.
- The link between wastewater and human health must be promoted; it is fundamental to attracting attention.
- Changing the message to focus more on effluent quality as well as pending changes in regulations is needed to encourage greater investment by the private sector in particular.
- The media is a useful ally and can be engaged by conducting study tours (e.g. to various waste water management sites as well as sites where wastewater can be seen to have detrimental effects). It can help to increase awareness of linkages with other sectors as well as of the pervasiveness of negative effects of poor wastewater management.
- Consultation is necessary for meaningful and appropriate intervention. It can also lead to future initiatives and more sustained benefits.



Permanent Secretary, Emil McGarrell  
CReW champion

## CRew Achievements

- Pilot Financing Mechanisms (PFMs) for wastewater management were established in three countries (Belize, Guyana and Jamaica). All three are already providing funding for first generation projects, with the most advanced, the Belize Wastewater Revolving Fund, having begun to receive repayments in April 2015.
- Jamaica's K-factor wastewater utility surcharge, established in 2008, is being used to repay funds to their PFM, a Credit Enhancement Facility (CEF), which was established with a reserve guarantee of US\$3 million provided by CRew; this is an example of best practice in the application of tariffs.
- Public-Private sector partnerships are evident in Jamaica where a commercial bank signed a loan agreement which makes US\$9 million, in addition to the original US\$3 million reserve guarantee, available through the CRew, and in Guyana, where a private resort developer is the first beneficiary of the Guyana Wastewater Revolving Fund.
- Fifty percent of participating countries have initiated national wastewater planning activities. National Action Plans have so far been developed and approved in three countries.
- National Inter-Ministerial Committees have so far been established in three countries to provide guidance and coordination. Model policy and wastewater planning templates were developed by CRew. Progress was made in national and local policy, legislative and institutional reforms in several countries; notably in Antigua & Barbuda which harmonized regulations and legislation, in Barbados which developed wastewater treatment and reuse legislative instruments for review by Cabinet, and in Jamaica where new Wastewater and Sludge Regulations were introduced.
- Jamaica became the fifth CRew country to ratify the Land Based Sources of Pollution Protocol in November 2015 and several CRew countries have initiated national discussions on LBS Protocol ratification using Wastewater as the main Pollution area of concern.
- Operational assessments conducted for two national utilities with responsibility for wastewater management are resulting in greater efficiencies.
- Customized training programmes, designed and implemented with partners such as CDB, UNITAR, World Bank and the Water Center, have been delivered both in person and online to more than 600 persons, helping to improve capacity to select appropriate wastewater treatment technology, to monitor wastewater effluent, increasing the skills of wastewater treatment plant operators, improving understanding of revolving fund operation, and introducing facilitation skills and methods.
- In Jamaica, operator training has been institutionalized with regular certified courses being offered by the University of Technology.
- Training in facilitation provided early has been utilized at every level of the project, including in participating countries to improve participation and outcomes in decision-making.
- A methodology for Economic Resource Valuation for use in wastewater management was developed and applied at three pilot sites in two countries and was shared with participating countries which then applied it in national action planning exercises.
- Media sensitization conducted through workshops in both English- and Spanish-speaking countries, and through the development of a toolkit, has resulted in significantly more coverage of wastewater and related issues at both regional and national levels.
- A wide range of awareness building activities and products disseminated at regional, national

and local levels, and aimed particularly at decision makers, has resulted in better understanding of the need for good wastewater management, with several countries reporting that wastewater is more present on the national agenda than before. This has been reflected in Decisions of Ministers responsible for Water in the Caribbean, outlining the need for more investment and support for Wastewater Management.

## CRew Lessons Learned

### Sustainable Financing for Better Wastewater Management

Sustainability of financing for the wastewater sector depends predominantly on the commitment of governments, the adequacy of national policies, laws and regulations, the level of enforcement of existing laws and regulations and sufficient, ongoing funding for upgrading, operating and maintenance costs of sewage systems and wastewater treatment plants.

Since public-private investment partnerships for wastewater management are a relatively new and unique option for local development financing, agencies that coordinate and manage these types of investment partnerships need access to targeted training in order to develop the necessary technical and operating skills to effectively manage these partnerships.

The Jamaica experience has demonstrated how setting up a guarantee account with the revolving fund mechanism (the new Credit Enhancement Facility), led to the National Water Corporation acquiring its first private sector loan, without a sovereign guarantee, that quadrupled the pool of investment resources.

The Belize experience has highlighted the importance of involving local stakeholders early on in the process to address local concerns which in turn helped avoid delays in project implementation; The Guyana experience underscored the importance of identifying champions early on and focusing on public outreach to build awareness and demand from the private sector.

### The Enabling Environment and Advocacy

Feedback from the participating countries on experience with the project, concerns and lessons learned, fell into four main categories. These were reviewed and reflected upon at a Knowledge-Sharing session during the Fourth and last Project Steering Committee Meeting in July 2015.

### Bridging the gap between country expectations and project realities... and between country realities and project expectations

Early consultation with key stakeholders and decision-makers in countries is necessary when planning projects. Understanding of, and agreement upon objectives, targets, outputs and outcomes are all prerequisites. In planning and discussions with participating countries, the role of the National Focal Points (NFPs) should be considered as well as the type of support they would need to be able to handle project requests and act as project champions effectively. The formation of small committees, whether formal or informal, may help the NFPs or relevant agency to get things done. Institutions and agencies executing project initiated activities should ideally internalize these in their work plans and budgets.

## **The importance of an enabling environment (Policy, Legislative and Institutional readiness)**

Raising the awareness of wastewater issues amongst decision-makers in government is a fundamental and necessary aspect of strengthening the enabling environment and needs to be given early attention.

In countries that do not already have some efforts ongoing to develop or strengthen existing wastewater management institutions, policy and laws, additional efforts are needed at country level to raise the awareness among both technocrats and policy makers. Inter-sectoral committees, or similar mechanisms, can help to provide oversight to the water and wastewater sector. Consistent or coherent identification of what is needed in terms of policies, strategies, action plans and/or training is sometimes lacking. Feedback from the Utilities, Regulatory Agencies, and Ministries of Environment/Health differed. Completion of a national policy for wastewater management or a strategic plan is a first step; the country must then ensure adoption of the plan and support it with regulations.

Getting the enabling environment right includes strengthening institutions to improve data collection and analysis for decision-making as well as enforcement, and also communicating information to violators in a way that demonstrates the impact their actions are having. In some countries, data and information collection to inform decision-making is minimal, is outdated and often not used in national planning processes. Therefore, while operational assessments were useful at the utility level - systems for using data compiled even from the baseline assessments seemed lacking. The value of baseline assessments or any kind of data compilation is increased if we need to think through what national decision-making, reporting or awareness raising efforts and processes this data/information will contribute to.

Increasing awareness of the economic value of resources and improving understanding of the high cost of poor wastewater management can help to persuade the private sector in particular to invest in efficient systems.

The regional agencies, including CARICOM, CAWASA, CWWA, CDB, IDB, and UNEP, can assist in setting the enabling environment.

### **Putting wastewater on the national agenda**

There must be political will in the country to bring wastewater to the forefront of the national agenda. It must be considered as part of the broader integrated coastal and freshwater resource management framework at national and regional levels and The link between wastewater and human health must be promoted as it is fundamental to attracting attention. Changing the message to focus more on effluent quality as well as pending changes in regulations is needed to encourage greater investment by the private sector in particular. Consultation is necessary for meaningful and appropriate intervention. It can also lead to future initiatives and more sustained benefits.



GEF CRew poster series, CWWA Exhibit, 2015.

## Capacity building – prioritizing in the face of many needs and making it sustainable

Some of the capacity building was not for formal training but rather exposure to issues relating to the LBS Protocol and the work of the Caribbean Environment Programme. This was particularly useful for some countries while others did not participate fully in these opportunities. Likewise some countries benefited more than others in activities developed through our regional partners like CDB, CAWASA, depending on expressed interest. The blended online and face to face sessions received very positive feedback, as did the laboratory training done by CIMAB. Opportunities for exchange of experience and knowledge in the form of meetings, exchanges, and workshops are greatly valued by the countries. The long wish-list of subjects related to wastewater management for future training, given by the participating countries tells us how great the capacity building needs are. Projects like GEF CRew must work with the countries to agree the most efficient and effective ways to provide the requested support. At the same time however, the support and opportunities for capacity building offered by Projects like CRew need to be supported by countries if they are to be effective and sustainable. As such integration of project activities into existing programmes as far as possible is vital.

The Project Coordination Group, the implementing Agencies (IDB and UNEP), and the participating countries agree that many lessons are being learned in this innovative project. The countries of the WCR are now more aware of the issue of poor wastewater management and its consequences and of the need to address this. They have learned much about how to address the problem more effectively and about the potential of wastewater as a resource.

## Looking Ahead – CReW +

The CReW has however only begun to tackle the issues involved in meeting the increasing demand for cost-effective, appropriate solutions to wastewater management at regional as well as national levels. Hence, a follow-on project to GEF CReW is being proposed – ‘CReW+’.

Development of CReW+ is taking into account lessons learnt in the GEF CReW Project as well as the concerns and needs expressed by all countries which have participated in it. In addition, the synergy between the implementing agencies, UNEP and IDB, has grown during implementation of the CReW. CReW+ is meant to continue and build upon the work done by the GEF CReW, informed by the lessons learnt and using a more multi-focal approach and including more countries. This would move beyond the testing of pilots to finding more context-specific solutions which address the challenges of wastewater management in a more holistic manner using integrated approaches and aiming to create value out of “reclaimed water”, and based on the protection of water sources through wastewater treatment.

Wider participation from WCR countries is being sought for this new project as well as the expansion of core partnerships. Involvement of the Caribbean Development Bank (CDB) from planning stages is meant to enable provision of financing modalities for those countries that are not borrowing members of the IDB.

Early consultation with countries will be held to broaden the range of alternative financing sources and solutions. For example, where countries are not borrowing members of e.g. the IDB, mechanisms will be established through the Caribbean Development Bank or other partners. There will be broader and deeper engagement with a wider range of stakeholders. The ambition and scope of the proposed CReW+ project will be significantly expanded through:

1. Expanding geographical scope in particular for national pilots. Increase from 4 pilots to projects in all countries.
2. Cost of wastewater investments at national level would be required to produce meaningful benefit to environment and human health.
3. Regional components with national level activities enabling environment resources to capacity building, policy, training required more money.
4. Testing a broader range of innovative financing mechanisms.
5. Significant allocations for education and communication to promote sustainability at both national and regional levels.
6. Longer time frame – an additional year in recognition of the key lessons learned in the first phase on the up-take of loans etc..
7. Complexity , multisectorial nature and number of stakeholders already involved and those impacted by the sector.
8. Greater recognition of emerging risk associated with vector borne diseases and emerging contaminants.
9. More specific country /local waste water solutions ( dependent on size, culture, capacity ).

## CREW+: Proposed Components

**Component 1:** Reforming and consolidating the institutional, policy, legislative and regulatory frameworks for the improvement of Integrated Water and Wastewater Management and in support of SDG-6 on water and sanitation.

**Component 2:** Evaluating, Expanding and Developing practical options for sustainable financing of Integrated Water and Wastewater Management at local and national levels.

**Component 3:** National and Community Based Integrated and Innovative Water and Wastewater Solutions in support of SDG-6 on water and sanitation.

**Component 4:** Knowledge Management and Advocacy, including the importance of water and wastewater to achieve the Sustainable Development Goals (Human Right to Water, Water Security and Gender issues).

**More information on the GEF CReW Project is available at [www.gefcrew.org](http://www.gefcrew.org)**

## Credits

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### Layout and Graphic Design:

Pierluigi Rauco





## Caribbean Regional Fund for Wastewater Management (CRew)

Project Coordination Group

6th Floor, Dyll Building

Inter-American development Bank

40 – 46 Knutsford Boulevard

Kingston 5, Jamaica

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

Facebook: [www.facebook.com/GEFCReW](https://www.facebook.com/GEFCReW)

