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Regional Training Participants

Regional Training in Monitoring & Evaluation held at CIMAB, 13—17 April 2015

Under the GEF CReW Project, a Regional Training Workshop in Monitoring and Evaluation of Domestic Wastewater was held at the Regional Activity Centre for the Protocol concerning Pollution from Land-based Sources and Activities (LBS Protocol) at the Centre of Engineering and Environmental Management of Coasts and Bays (CIMAB) in Havana, Cuba, from the 13 to 17th April.

This aimed to provide a general overview of monitoring and evaluation of domestic wastewater through general and thematic sessions, field work and laboratory work. Eight technical specialists – two each from the four GEF CReW Spanish-speaking participating countries (Panama, Honduras, Guatemala and Costa Rica) participated in the training.



Participants were exposed to procedures for sampling and were introduced to analytical techniques for the most common indicators for characterization and evaluation of the quality of domestic wastewater.

Field work was undertaken in addition to sessions of laboratory work in the areas of physical indicators - chemical, microbiological and toxic.

There were also three thematic sessions on: quality management systems in an analytical laboratory; the sources of domestic pollution, and the Protocol concerning pollution from Land-based Sources and Activities (the LBS Protocol).

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needed integrated wastewater management. The project implementers quickly realized that raising awareness of the issues surrounding wastewater management in Guyana would be fundamental to progress.

Pilot activities have included:

- A consultancy for the Development of a Policy and Operational Framework for the Guyana Wastewater Revolving Fund (GWRF)
- Targeted Promotional Campaign for First Generation Projects of the GWRF
- Project Financing for the First Generation Projects

In practice

The Guyana Wastewater Revolving Fund (GWRF) was established in 2012 and the Ministry of Housing and Water is responsible for its operation. It offers loans to private businesses for construction and/or rehabilitation of wastewater treatment facilities at a rate below prevailing market interest rates. Private sector enterprises are encouraged to apply to the fund and thereby to benefit from available local and international technical and financial expertise.

However, in the absence of laws and regulations requiring them to treat their wastewater, the private sector has thus far had little incentive to apply to the Guyana Wastewater Revolving Fund (GWRF). The low interest rates offered by the Fund have not been enough to attract them in the absence of a legal requirement. As a result the Guyana pilot project has had difficulty attracting private sector entities to apply to the GWRF. Even when interested, the ability of several entities to meet requirements to access the funding proved difficult.

As is the case in most participating countries, the responsibility for wastewater management has always fallen to the utility which is more often than not, a government entity, in the case of Guyana, Guyana Water Incorporated (GWI).

Guyana also has a scarcity of data and information needed to inform the process of decision-making with regard to wastewater management, a situation which is not unusual in the Wider Caribbean Region.

Some lessons and reflections

Guyana is working to amend the national standards for industrial effluent discharge while at the same time promoting responsible behaviour by industry. Emil McGarrel, the Permanent Secretary, Ministry of Housing and Water, the CReW implementing agency, explained: *“As soon as the regulatory framework is strengthened, it would better allow for the financing mechanism to work.”*

The Ministry recognized early that raising the awareness of wastewater issues amongst decision-makers in government is a fun-

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respond to the water and wastewater challenges in the Wider Caribbean Region.

GEF CReW's Fourth Project Steering Committee will review Project activities and achievements in 2014, and consider the Work Plan and Budget for 2015. Components 2 and 3 of the Project, executed by UNEP's Caribbean Regional Coordination Unit (UNEP CAR/RCU), will complete activities by March 2016. Component 1, which includes the four Pilot Projects and is implemented by the IDB, has been granted an extension until end-2016.

As the project moves towards the completion of most of the regional activities, and as significant progress has been made in the pilot projects, PSC 4 will include two Knowledge Exchanges in which the country experiences and lessons learnt in implementation of the Project will be shared.

According to Alfredo Coello-Vazquez, GEF CReW Project Coordinator, *"It is important to capture and document experiences and tacit-know-how that can contribute to better project implementation in the future, as well as offer valuable insights to other countries in the region as they seek to improve their management of wastewater."*

Project partners agree that a great deal of work remains to be done, even as the Project enters its final stages. The meeting will therefore finally look at a replication strategy as a means of continuing the important work begun under GEF CReW which has helped the participating countries move closer to compliance under the Land-based Sources of Marine Pollution (LBS) Protocol.

Christopher Corbin, Assessment of Marine Pollution Officer at UNEP CAR RCU, stresses the importance of continuing support to the countries of the Wider Caribbean Region: *"When we started CReW, we realized that the investment required to improve wastewater management and enable countries to meet their obligations under the Protocol for Land Based Sources of Marine Pollution was tremendous. This is just the start of the journey and we need to now build upon the successes of CReW, implement innovative solutions, expand our capacity building efforts and ensure that proposed technological solutions are not only most cost-effective but offer opportunities to look at wastewater as a resource and a revenue earner for the region."*

The final meeting of the GEF CReW PSC is being hosted by the Government of Guatemala through the Ministry of Environment.

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damental and necessary aspect of strengthening the enabling environment.

The leadership of the Ministry of Housing and Water has been critical. According to one response: *"With creation of the (new) Ministry of the Environment and Natural Resources, colleague PSs were able to discuss and attempt to do what they could without changing legislation in the short term, thereby making some progress."* The importance of a champion to promote and lead the process, which requires the breaking down of barriers and collaboration cannot be underestimated.



P.S. McGarrel, supporting GEF CReW Exhibit, 2013

In so doing, the Ministry has had to identify and establish links with key national institutions and other key stakeholders. Guyana is one of the countries that set up inter-sectoral committees to work towards the development of water and wastewater master-plans or strategies in order to help improve the legal and regulatory environment.

Advocacy was the main approach employed in Guyana to raise awareness. One novel way in which this was done, was to show the linkages between wastewater management and disaster response and the opportunities that could be derived from addressing wastewater management. Guyana also embarked on the promotion of the GWRF and a series of public information videos including themes such as 'wastewater and health' as well as 'wastewater and disaster preparedness'. Overall this has led to wastewater regaining a place on the national agenda and a consideration of the linkages and opportunities.

When the Bureau of Standards and EPA were redrafting the Industrial Effluent Discharge Standards, the Project Management Unit was invited to be part of that committee, and, again when the Septic Tank Standards were being redrafted, they were invited to join that Committee. This has provided the opportunity to make progress in studies and discussions with regards to improving the enabling environment.

In March, the process of documenting lessons learned in the four CReW Pilot Projects began. This article is based upon interviews conducted with key players in Guyana.



Wastewater Management and Disaster Risk Management in Guyana

Disaster Risk Management was universally endorsed as a development priority through the Hyogo Framework for Action. While some may consider it a relatively new social concern and practice, Disaster Risk Management is a very relevant concern for developmental cooperation and for national governments given that natural disasters have devastated an increasing number of regions, destroyed investments and set back progress in development.

In the Caribbean context, Disaster Risk Management is a critical area in development since most small islands are considered as vulnerable to natural hazards. Guyana is no exception as it is equally vulnerable.

It has been established that the disciplines of environmental management and emergency management share many of the same concepts, issues, processes, and concerns but yet they only rarely come into contact and this is usually a more reactive than proactive engagement. Environmental management also includes risk assessment, hazard identification, spill response, and emergency/contingency planning which are all activities that are central to the practice of emergency management.

Environmental management also addresses issues such as water quality, protection of flora and fauna, and general health of the ecosystem, all of which may be affected by decisions and actions taken in the pursuit of emergency management.

It is important to note that one of the largest disaster risks on the urban horizon that has been identified by many cities in the Resilient Cities Campaign is the lack of improved Water, Sanitation and Hygiene (WASH) provision, and especially urban sanitation.

Untreated wastewater and inadequate sanitation have major health and environmental impacts, contribute to pollution of drinking water and have resulted to a higher risk to health and the environment during periods of a disaster. Risk management in the sanitation sector and more specifically in wastewater management, not only enables disaster prevention but also supports Guyana's sustainable development pursuit or goal.

The link between disaster, environment and development is fully established and evident. A notable manifestation of this was amply demonstrated in Guyana during the 2005 floods in Georgetown and along the East Coast of Demerara. It can be recalled that not only were over 100,000 citizens affected by these floods and but damage was also caused to infrastructure such as water and

wastewater systems, roads and bridges. The magnitude of the environmental, social and economic destruction resulted in hazardous conditions that ultimately led to a disaster.

Further, this relationship has been firmly established in the Rio+20 document which demanded coordination between disaster risk reduction and development planning and suggested mainstreaming climate change and resilience in sustainable development strategies.

The Intergovernmental Open Working Group on Sustainable Development Goals (SDGs) has set some targets related to risks and water. Target 11.5 states that, "by 2030 significantly reduce the number of deaths and the number of affected people and decrease the percentage of the economic losses relative to Gross Domestic Product caused by disasters, including water-related disasters, with the focus on protecting the poor and people in vulnerable situations'.

Target 6.a states that, "by 2030, expand international cooperation and capacity-building support to developing countries in water and sanitation related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies." While target 6.b states, 'to support and strengthen the participation of local communities for improving water and sanitation'.

One of the tools identified for implementing these targets, is increased and improved financing. More specifically, it has been recognized that there is a need for improved financing and that many countries lack access to financial resources for sanitation and disaster risk management.

Therefore the Guyana Wastewater Revolving Fund (GWRF) was established as a financing facility to provide financing of a variety of wastewater management solutions through both public and private channels enables the realization of these targets. The availability of this fund in Guyana, allows for a more strategic approach to policy and strategy development and implementation of programmes and initiatives which targets the mainstreaming of wastewater management into Disaster Risk Management.

Wastewater management is also a particular area of concern when dealing with water-related disasters. One of the requirements of Governments at the national level is to include Disaster Risk Management and in particular risk assessments, as an integral component of development plans and poverty eradication programmes.

This approach needs to incorporate development mechanisms such as national public investment planning systems, social protection, and national and local infrastructure investments to reduce risks and strengthen resilience and investments in risk mitigation and preparedness. Hence, the GWRF as a financing mechanism, is critical to Guyana is meeting these requirements.

Thus, the Guyana Wastewater Revolving Fund (GWRF) was established to address three key issues: Inadequate policy and legal framework, insufficient financing, and the low priority placed on wastewater treatment and creating greater awareness in order to change perceptions and behavior to wastewater management at the institutional level and among users.

Another very important dimension is that Public Private Partnerships (PPPs) have emerged as one way to stimulate private parties to invest their resources in public infrastructure projects. In Guyana and the wider Caribbean, there was a need for strategic innovation to improve private sector involvement in areas such as wastewater management and disaster risk management.

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Flooding, Georgetown, Guyana in 2005—from the archives of the IFRC.



Guyana Power and Light Incorporated on Middle Street, Georgetown, during flooding in June 2015.

In the GWRF project, focus is also on Public Private Partnerships (PPPs) as a way to address wastewater management and Disaster Risk Reduction. It is well established that the private sector is profit-driven or at least operates on a cost recovery basis, and therefore needed to be stimulated to invest in wastewater management, hence the GWRF provides a low cost funding opportunity for private and public sector agencies to invest in wastewater management solutions.

In the context of wastewater management and disaster risk management, the GWRF directly supports priority one and three of the Sendai Framework for Disaster Risk Reduction 2015-2030 that was developed at the March, 2015 Third United Nations World Conference on Disaster Risk Reduction. The four priority areas identified at the conference for action are: understanding disaster risk, strengthening disaster governance to manage disaster risk, investing in disaster risk reduction for resilience, and enhancing disaster preparedness for effective response, and to 'Build Back Better' in recovery, rehabilitation and reconstruction.

The Project Management Unit invites and reviews proposals from any private sector institutions or organizations in Guyana that are interested in accessing low-interest loans provided under this financial facility.

Article written by Audreyanna Thomas and provided by the Guyana Project Executing Agency.

Do you dare to dream about Wastewater?

Waste water should be duly valued as an important resource.

- Jodykay Maxwell, Programme Intern, AMEP

I have a dream that one day sewage will be properly treated in areas along the coast before being emptied into the sea thereby improving air and water quality in these areas.

-- Chrishane Williams, Team Assistant AMEP/CETA

I want wastewater to become a resource rather than a burden, a world where the perception of wastewater has changed 180 degrees toward the good. A world where wastewater is not called wastewater anymore because it has become a source of incomes for the community rather than a focus of diseases.

- Alfredo Coello Vazquez, GEF CREW Project Coordinator

UPCOMING PROJECT EVENTS

DATE	EVENT	PLACE
7—9 July	Fourth Project Steering Committee Meeting	Antigua, Guatemala
23—24 August	GEF CReW Resource Valuation Workshop	Miami, USA
24—28 August	24 th Annual CWWA Conference & Exhibition	
27—28 August	11th High Level Forum	
January 2016 (exact dates TBC)	Regional Policy and Enforcement Workshop	Trinidad and Tobago (Tentative)

GEF CReW's Replication Workshop



In early-May 2015, the Project convened a small Replication Workshop in Kingston, Jamaica to provide initial input to the development of the Project Identification Form (PIF), the first step in seeking support from the Global Environment Facility for a follow-on project.

Participants included staff of the IDB, UNEP, UNEP CEP, CDB, the CReW PCG and representatives of the Governments of Antigua & Barbuda, and Costa Rica (by video).

The following conclusions were reached:

- The follow-on project must be more flexible when estab-

lishing financing mechanisms.

- Wastewater should be looked at in its entirety – technical, social and financial aspects should be considered together in a more integrated, modular approach, with interventions taking place at different levels (local, national, sub-regional and regional).
- Countries' inputs into the development of the mechanism, approaches etc. must be done at country, and not regional, level.
- The status of readiness of each country must be assessed and criteria/conditions to access pilot funds must be agreed at country level.
- Public Awareness activities should begin in advance of other activities to increase effectiveness of the project.

Recommendations of the Workshop will be considered at the Fourth Project Steering Committee Meeting (PSC4), due to take place 7—9 July 2015 in Guatemala.



Most of the Workshop Participants



World Environment Day 2015
**Seven Billion Dreams.
One Planet.
Consume with Care.**
June 5

Not Dreaming about “Wastewater = New Water” Yet?

This year's World Environment Day theme is “Seven Billion Dreams. One Planet. Consume with Care.”

The United Nations Environment Programme (UNEP) invites us to share our dream for a better world. Among UNEP Goodwill Ambassadors who have formed a Dream Team are Leonardo DiCaprio and Yaya Touré. They have been asked to encourage the global community to share our dreams for a healthier planet and make pledges in support of the environmental-related Sustainable Development goals focusing on the main things we consume and waste – including water.

The hope is that by sharing our dreams and pledges we would inspire others to do the same. We are reminded that “Dreaming is the first step towards actualizing a Future We Want.”

Do you dream about Wastewater?

Not for the first time, I found myself dreaming about creating a wonderfully inspiring message for World Environment Day about wastewater management... hmmm.

The thing is, I dream of a world where everyone understands that all water is from the same source; a world in which we realize that the same water that falls as rain, soaking the soil, nourishing plants and animals, replenishing rivers and the sea, is the water we use everyday to do so many things. When we flush it into the environment it is returning to its source; the water cycle is being completed. Water is recycled by nature over and over again and we use it over and over again. Clean water, grey water, black water, contaminated water - It's all ‘OneWater’.

Dreaming about 'One Water' or 'New Water'?

The amount of water on the Earth doesn't become more or less; it stays the same. Good wastewater management means ‘cleaning’ the water we use by treating it so that it is returned to the environment free of contamination. Increasingly, we also view wastewater as a resource – a resource that can save money or offer new job opportunities.

When we use water in our homes, for agriculture and in industry, it becomes contaminated. These “contaminants” can however be valuable resources for other uses, e.g. as fertilizers. Linking water management, sanitation and agriculture can therefore provide needed water and nutrients in a way that is sustainable and less costly.

Reuse eases the demand on limited fresh water supplies

and improves the quality of rivers and coastal waters by reducing discharged effluent. Wastewater is thus transformed into a resource while at the same time protecting the environment.

Wastewater can be a source of **New Water**– recycled or reclaimed to satisfy most water demands, depending upon the level of treatment. It can be reclaimed and reused for crop and landscape irrigation, groundwater aquifer discharge or recreational purposes. It can also be reused for non-potable purposes such as toilet-flushing. If treated to its highest quality, it can even be an additional source of safe drinking water.

Wastewater can also be a source of energy. Indeed, the potential of **New Water** is increasingly being realized in both developed and developing countries.

Each one dream...

Inspiration eventually came from the dreams and pledges already posted on UNEP's WED website.

Perhaps most inspirational for me was this dream/pledge, posted by Simon Sneddon:

“Short-term: Fit solar panels to reduce my carbon footprint further. Med-term: Buy locally-produced food, and be a veggie for 4/7 days. Longer-term: Grow my own food.”

I like it, not because he uses beautiful words but because he breaks his dream down into smaller, manageable – short-, medium- and longer-term steps – all of which describe meaningful actions that he can achieve individually.

Inspired by his example, my dream for the way I manage wastewater is:

“Short-term: reuse grey water in my garden, conserve water generally and learn more about where my wastewater goes. Medium-term: make sure my septic tank is working efficiently. Longer-term: install water-conserving toilets throughout my home.”

What's yours?

Dream Collectively

To dream and then pledge means we need to set collective goals. Communities dream: setting goals such as clean-ups, recycling projects and awareness campaigns. Coming together to tackle local issues galvanizes support and maximises limited available resources. Institutions dream: For WED 2015, the pledge made by the team at Bank & Vogue Ltd., a Canadian company that buys, sells and

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ships used goods around the world, is encouraging:

“Bank & Vogue pledges to develop policies, procedures and business practices to reduce our energy consumption, reduce waste, and to reuse and repurpose materials and commodities whenever possible.”

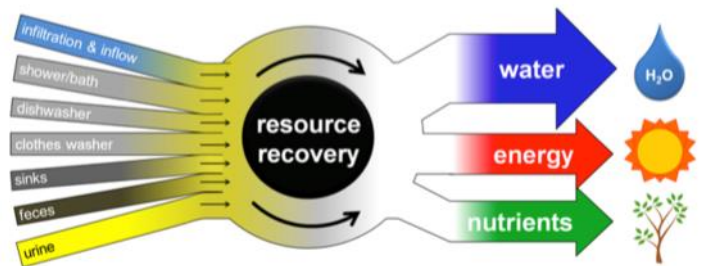
By taking the lead in this way, a company is able to influence employees, suppliers, customers and partners as it goes about its business.

Do projects dream?

The CReW's Dream

When the GEF CReW Project began in 2011 with support of the Inter-American Development Bank (IDB) and the United Nations Environment Programme (UNEP), its objectives were:

“To provide innovative financing for wastewater management projects; to improve skills and knowledge needed for policy formulation, planning and financing in water, sanitation and wastewater management at the national and local levels; to develop tools to improve and strengthen the legislative framework for wastewater management, including compliance with the Protocol on Land-Based Sources of Pollution; and to educate and raise awareness of wastewater and sanitation issues in the Caribbean.”



This amounted to a big dream that is supported by a great deal of work in each of the Project's 13 participating countries. We take the opportunity to renew our commitment on WED 2015.

Wastewater = New Water: Maybe not an impossible Dream

UNEP asks us to imagine what seven billion dreams can do when they come true!

Wastewater is no less worthy of our dreams than any other aspect of the environment and sustainable development. On the contrary, how we manage wastewater greatly influences the quality of all our lives. Let's dare to dream about wastewater! Let's dare to dream of the potential and opportunity that wastewater offers all of us in the Wider Caribbean Region.

Still not working for you? Maybe you can dream about 'New Water' instead?



GEF CReW Project Background:

The CReW is a four-year project, funded by the Global Environment Facility (GEF) and implemented by the Inter-American Development Bank (IDB) and United Nations Environment Programme (UNEP). It was established in 2011.

It aims:

- To provide sustainable financing for the wastewater sector
- To support policy and legislative reforms, and
- To foster regional dialogue and knowledge exchange amongst key stakeholders in the WCR.

There are thirteen participating countries: Antigua & Barbuda, Barbados, Belize, Costa Rica, Jamaica, Guatemala, Guyana, Honduras, Panamá, Saint Lucia, Saint Vincent & the Grenadines, Suriname, and Trinidad & Tobago.

The Project Coordination Group (PCG) is based in Jamaica, at the offices of the IDB and at UNEP's Caribbean Regional Coordinating Unit which is Secretariat to the Cartagena Convention (UNEP CAR/RCU).

Please check our website and visit (and like!) our Facebook page: [GEF CReW Project](#)

Acknowledging the contributions of Guyana's Project Executing Agency, the Ministry of Housing and Water, and of its Project Management Unit.

Contact Donna Sue Spencer at: ds@cep.unep.org for more information.

For more information contact:

Caribbean Regional Fund for Wastewater Management Project Coordination Group
 6th Floor, Dyll Building, Inter-American Development Bank
 40—46 Knutsford Boulevard
 Kingston 5, Jamaica, W.I.
 Phone: (876) - 764—0815
 E-mail: crew@iadb.org or ds@cep.unep.org