

SIDS Times

The Cowrie



SDG 6

Ensure availability and sustainable management of water and sanitation for all.

Water

TARGET 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all

Sanitation

TARGET 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all...



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Small Island Developing States (SIDS) Unit

Division for Sustainable Development Goals

United Nations Department of Economic and Social Affairs



Chief's Corner

Welcome, to the 1st edition of the Cowrie for 2018. I wish to first and foremost, acknowledge and thank everyone for their good work in our collaborative efforts to advance the sustainable development goals of Small Island Developing States (SIDS). This edition is focused on the theme of water and sanitation in line with Sustainable Development Goal(SDG) 6, "Ensure availability and sustainable Management of Water and Sanitation". SDG 6 is one of the six goals being reviewed, at this year's meeting of the High Level Political Forum, to be held 9-20 July 2018 in New York. The other Goals being reviewed are SDGs 7, 11, 12, 15 and 17.

Reading through the very informative contributions in this edition, I couldn't help but recall my own youth, where some 8 years of my life was spent on a remote, small island Catholic Mission Boarding School. Each day we bathed, brushed our teeth and washed our clothes in what was basically-the Pacific Ocean. The Government ship came once every two to three months towing a water filled barge to refill our drinking water in water tanks that had been built one generation earlier, and were infested with mosquito larvae. We could all tell, when a student had run out of coconut oil, as you could easily see the salt down their necks, or the backs of their head or legs, as they tried to pay attention in class. We cooked our food with water drawn from wells which sometimes tasted of seawater. Life was good, it was fun, but in retrospect, it was basic survival,and we knew no other alternatives.

As I reflect on my past, I often wonder how many children around the world still have salt running down their necks. The statistics however, seem encouraging .¹The proportion

of the global population using safely managed drinking water services has increased from 61.4% in 2000 to 71.2% in 2015. The proportion of the global population safely managed drinking water, by residence, in rural areas, has also increased from 40.9% in 2000 to 54.8% in 2015. The proportion of population

in urban Oceania also show that upward trend, from 91.9% in 2000 to 99.6% in 2015. Slowly but surely, despite the persistent challenges, it seems that we are advancing.

For SIDS, however it is vital that we appreciate the universality and interdependency of SDG 6 and in this regard integrated water resources management is key. An integrated approach to implementation of SDG 6 is important for balancing the competing demands for water from various sectors, protecting the health of ecosystems and building resilient societies.² Such integrated actions require a shared understanding of all SDG goals and their interlinkages, and shared strategy and plans to strengthen synergies and address trade-offs.³



Mr. Sainivalati S. Navoti

Chief of SIDS Unit

¹<https://unstats.un.org/sdgs/files/report/2017/secretary-general-sdg-report-2017--Statistical-Annex.pdf> (pg. 50-51)

²<http://www.unwater.org/publications/advance-briefing-sdg-6-synthesis-report-2018-on-water-and-sanitation>

³Ibid.

A Change in our Nomenclature

The Division for Sustainable Development of UN-DESA has been restructured and renamed the Division for Sustainable Development Goals (DSDG). As mandated by GA resolution 70/299, the Division now serves as the Secretariat for the Sustainable Development Goals, focusing on providing substantive support and capacity building to the 17 SDGs and their related thematic issues, including water, energy, climate, ocean, urbanization, transport, science and technology, the Global Sustainable Development Report (GSDR), partnerships and SIDS. The Division now contributes to the intergovernmental processes on the 2030 Agenda, including those under the General Assembly, the Economic and Social

Council and the High-level Political Forum, with its substantive analytical work on thematic issues of the Sustainable Development Goals. It now coordinates substantive inputs for the deliberations on the review and implementation of the 2030 Agenda. The reorganized sub-programme of DSDG will also serve as UNDESA's departmental anchor on the 2030 Agenda. The Division will now be organized into focal teams on the Sustainable Development Goals and their interlinkages. It will also play a key role on evaluation of system-wide implementation of the 2030 Agenda and on advocacy and outreach activities relating to Sustainable Development Goals.



Division for Sustainable Development Goals DSDG



Water Action Decade

22 March 2018, New York

Today we celebrate the launch of the Water Action Decade and World Water Day.

It is a critical moment as our world faces a water crisis.

During the past decade, water-related disasters have not only struck more frequently but have also more severely, hampering sustainable development.

90% of disasters in the world are water-related, such as floods, including flash flooding, droughts, deforestation and desertification.

The impacts of climate change are aggravating these challenges. More extreme water-related hazards are becoming the new norm.

It is simply impossible to achieve social and economic progress if development gains are so regularly wiped out, often overnight.

Excellencies,

Water is essential for all stages of energy production, from the extraction of raw materials, to cooling and cleaning. It is needed for the production of biofuels, and for powering turbines.

That is why the water and energy nexus is so critical.

Simply put, energy needs water; water needs energy.

Roughly 75% of all industrial water withdrawals are used for energy production.

Likewise, energy is required to ensure water supply for consumption and production, for irrigation, for treatment, and for desalination.

80% of the world's waste water flows into the ocean without basic treatment, in part due to lack of energy.

Water and energy are both recognized as cross-cutting. They underpin progress across the 2030 Agenda for Sustainable Development.

Ensuring access to water and energy for all will have a positive impact on the rest of the Sustainable Development Goals, from health to education, to infrastructure, to job creation and economic growth.

In this regard, I wish to mention that UN-DESA provides secretariat services to both UN-Water and UN-Energy, which serve as collaborative mechanisms for the UN system and external partners.

UN-DESA has also convened a multi-stakeholder SDG7 Technical Advisory Group to support the review of SDG7.

From this nexus of water and energy we also see the linkages to other sustainable development goals and targets, including sanitation.

Today, around 4.5 billion people lack safely managed sanitation services, and 2.1 billion people live without access to safely managed drinking water services.



Women and girls suffer disproportionately when water and sanitation are lacking, affecting health, and often restricting work and education opportunities.

Without access to safe drinking water and sanitation, we cannot ensure good health, food security, dignity and equality for all. Nor can we help protect our fragile ecosystems.

This July, the High-level Political Forum on Sustainable Development offers a timely opportunity to explore these interlinkages, including an in-depth follow-up and review of the progress made in the implementation of SDG 6 on water and sanitation.

As the secretariat for the High-level Political Forum, UN DESA is working with all stakeholders to catalyze exchange of experiences and mutual learning and to mobilize further action. For example, in October this year, DESA will convene a global symposium on synergies between the Paris Agreement and the 2030 Agenda. These agreements, as well as the Sendai Framework for Disaster Risk Reduction, all call for addressing water challenges, and opportunities, in a more concerted and integrated way.

The Sustainable Development Goals in particular, present fresh opportunities for synergies, and for a balanced and integrated implementation of the entire 2030 Agenda.

Excellencies,

Last week, the High-Level Panel on Water handed over its outcome report to the UN Secretary-General, "Making every drop count: An agenda for water action".

The Panel calls for a new approach and recommends actions to transform our water challenges into opportunities.

The Panel calls for shifting the focus of disaster management from response to preparedness and resilience.

It also recommends using the Water Action Decade as a platform for policy dialogue, exchange of best practices, and building global partnerships.

I am convinced that World Water Day 2018 will be remembered as a big step ahead for the global water agenda, and for the implementation of the Sustainable Development Goals.

Water connects us, unites us. Let us work together for a sustainable future.

I wish you all a successful Water Action Decade.

Thank you.

Liu Zhenmin

USG DESA

Section II

Our Water, Our Future



Our resources, our livelihoods': Women in Sao Tome are taking change into their own hands
Credit: UN Environment / UNDP

How women are pushing national change in one of Africa's smallest nation

While the idea of an island may call to mind the image of a beach paradise, for the world's 51 Small Island Developing States this is all too often a fragile idyll.

Small, often economically at the mercy of their larger neighbors and world markets, and at the forefront of the reality of climate change, many of these states face a raft of challenges to their ongoing sustainable development. And while it may seem counter-intuitive, among the first of these is water.

They may be surrounded by the big blue, but the reality is that for many islands water for drinking, agriculture and industry is a precious – and often scarce – resource. With changing weather patterns, increasing urbanization and growing competition for what water these islands have, sustainably managing this resource is fast becoming a top priority.

“Most Small Island Developing States are experiencing increasing shortages of freshwater as a result of multiple anthropogenic pressures and climate change impacts on their already vulnerable freshwater resources,” reads the UN's 2014 Emerging Issues for Small Island Developing States report.

“Water scarcity will have far-reaching impacts on sustainable development... and could even jeopardize the continued human habitation of some islands.”

In the tiny island nation of São Tomé and Príncipe, however, people are pushing back. And it's not all coming from the top. With a population of just 200,000 people, São Tomé and Príncipe is Africa's second-smallest nation. But in the fight for sustainable access to water, it is fast becoming a big hitter. With the support of UN Environment and the Global Environment Facility, the country has recently instituted its first Water Law (enacted in January 2018), which guides control and use of water with a view to guaranteeing sustainability and access for all, as well as a National Integrated Water Resources Management Plan, giving scope for all water users to have a voice in how the island's water is managed.

And while water reforms might be coming from the capital, in many ways this story starts somewhere much smaller - with a river.

Neves is a small town on the northwest coast of São Tomé Island. While Neves is home to some of São Tomé's limited

industry – with a brewery, a power plant and a small port – most of the townsfolk depend on fishing, farming and the related processing industries for their livelihoods, making the Provaz River, which runs through the town to the sea, the literal lifeblood of the community.

So, when the Global Environment Facility-backed Implementing Integrated Water Resource and Wastewater Management in Atlantic and Indian Ocean Small Island Developing States project – or Water 4 Islands – set out to help São Tomé and Príncipe's government to improve the islands' water resource management, Neves and the surrounding Provaz River Basin – with its diverse water users and reliance on both freshwater and marine resources – was fast chosen as a demonstration site.

The Water 4 Islands team undertook research on the basin's hydrogeology and water use, then brought together water users from across society and industry to form the Provaz River Basin Management Committee – the first initiative of its kind in São Tomé and Príncipe.

The project team and newly formed basin committee held public outreach activities – from school talks to coastal walks – to build community awareness of water-related issues, but it was a local river clean-up that caught the public imagination. Inspired by the clean-up, a small group of Neves' women decided to make it a regular activity. Soon teams of local women were cleaning the river of solid waste as many as three times a week. The Provaz had found its new champions.

"The women decided that they weren't going to wait for the government to protect the catchment, but instead mobilise every woman in the basin and take things into their own hands," Water 4 Islands communication officer Geraldine Deblon says. "They developed their own philosophy – 'Our resources, our livelihoods' – saying that just as they kept their households clean, they could keep the community clean as well."

As the women's groups grew – so did their public profile, with a wide range of media outlets, from newspapers to television, seizing on their grassroots approach to environmental protection. Soon even the national government was taking notice, with President Manuel Pinto da Costa himself visiting Neves to recognize the women's initiative.

"I know that our clean-up work in the river basin will benefit the entire population of Neves and secure a better future for everybody," says Maria Lucilia, head of the women's groups involved in the clean-up activities.

As the project began to scale up its activities, convening other river basin committees around the island, the Ministry

of Infrastructures, Natural Resources and Environment was quick to invite Neves' environmental champions to act as its ambassadors – sponsoring the women to visit other river basins to share their experiences.

"Focusing on gender, and engaging women has been the catalyst for the whole process," Water 4 Islands regional coordinator Daniel Nzyuko says.

"In São Tomé and Príncipe women are the ones who fetch water, who use the river to wash – so when you go to a river, it's mostly women you see. Elevating women's role and promoting women's empowerment in taking decisions related to water and participating in public fora on water issues has been key to building public momentum behind local-level changes in the way water is managed."

In a context where women's voices are often marginalised, Neves' women are breaking the mould, actively advocating for their interests and playing a leading role in the Provaz River Basin committee – where three of the 12 members are now women.

They are also speaking up on issues like pollution and sanitation – backing basin committee bylaws imposing fines for washing vehicles in the river and promoting the use of public toilets supported by the project in an effort to reduce the spread of water-borne diseases.

"Building public toilets was very important for us... to try to stop people from defecating on the beach and in the river," Maria Lucilia says. "Fisherman and women use these same places to fish and fetch water, it is not good. People need to start using bathrooms to protect our common health."

With another three river basin committees now operating around the nation and two more under development as the Water 4 Islands project draws to a close in 2018, Maria and her fellow women continue to be an inspiration, from Neves to the capital.

"The biggest challenge is to distribute good quality water to the population," says Carlos Vilanova, the nation's Minister of Infrastructures, Natural Resources and Environment. "In order to do this, we must manage water in the best way possible. This project is greatly helping us in raising awareness and changing the population's attitude and behaviours to keep our freshwater supply clean."

Source UN Environment



Re-purposing “Waste” Water for Caribbean Small Island Developing States (SIDS)

As children from Small Island Developing States (SIDS), many of us remember with enjoyment playing in puddles of water after heavy rains without a second thought or knowledge of any risks to our health. We remember taking walks and drinking water directly from rivers and streams but did we think whether this water was safe to drink? No – it was natural and safe.

What about today?

As our surface and groundwater sources become more contaminated, including from untreated and partially treated wastewater, these childhood recollections become just that - distant memories – actions that are no longer desirable or even possible. Pollution and our inadequate disposal of wastewater are some of the reasons for this. We have lost our connection with nature; but what if we could re-connect by altering how we perceive and manage wastewater?

Think about it, every time you use water, you generate wastewater. Wise wastewater management is about controlling and regulating the treatment, flow and discharge of wastewater. While large outflows, like those coming from connected sewer systems in our homes, offices, farms and industries, require more advanced treatment, there are simple and easily adaptable ways we can channel some of the wastewater we generate for reuse in our everyday

life. For example, reusing the grey water generated from our kitchens and laundries to water our gardens or flush our toilets is a simple way for us to start. Why treat water to then dump it down the drain?

Connecting with wastewater

The United Nations Water (UN-WATER) encourages us to think of the business opportunities that wastewater can offer which can also promote circular and green economies. In the Caribbean, whilst many countries have realised this potential, enhancing the reuse of wastewater requires significant investment in the sector, including an identification of incentives for private sector involvement and a coordinated and inter-sectoral approach to integrated water and wastewater management.

What can we do as individuals?

Across the world people are finding ways to re-purpose wastewater on an individual level. Managing wastewater more wisely is not beyond our reach. By looking at examples from other regions, we can learn more about re-purposing wastewater so we can make informed decisions about wastewater reuse in our homes, schools, farms and offices.

In some parts of the Caribbean, at the household level, efforts are increasingly being made to partially treat wastewater and improve ecosystem services

through the construction of wetlands for greywater outflow and using more nature-based solutions. These help persons to minimise the use of potable water for lawns, enhance green spaces, improve soil quality, and reduce soil erosion caused by poor soil composition. Ultimately people enjoy more vibrant gardens in addition to improving the quality of effluent which eventually reaches waterways and the sea. Maybe it's time we started thinking about this in our own homes, but first we need to start by changing our perception and removing the “YUCK” factor. Perhaps we can disassociate the word “waste” from “waste-water” and look to rebrand this substance from which we can derive so many positive and safe uses. The Global Environment Facility funded Caribbean Regional Fund for Wastewater Management (GEF CREW) Project (www.gefcrew.org) suggested the name ‘new water’ as a start to assist in changing our attitudes and behaviour towards re-use of treated wastewater.

Changing Our Perceptions

A wave of negativity surrounds the idea of wastewater. It has a bad reputation for the hazards it poses to human and environmental health and the negative impact it can have on our economies. However, when treated, it creates opportunities for greatly improving our quality of life.

The GEF CREW Project (www.gefcrew.org) encouraged us to embrace the possibilities of re-purposing treated

wastewater by changing our perceptions and ultimately attitudes and behaviour. By looking beyond, the surface of wastewater challenges, we can delve into the value of wastewater as a precious commodity. It improves access to a sustainable and safe supply of water- important if we are to increase food security and sustainably generate energy thereby contributing to poverty reduction.

Making wastewater “fit for purpose”

Treated wastewater is made “fit-for-purpose” when treated to the level required to make it safe for specific purposes. These include providing a reliable supply of potable and non-potable water, enabling the reuse of nutrients as fertilisers for irrigation in agriculture and forestry, generating energy, and enhancing the goods and services provided by our ecosystems. These benefits impact livelihoods, human health, environmental protection and preservation, water, food and energy security and can help us adapt to and mitigate climate change impacts. While the idea of drinking treated wastewater may take some getting used to, people in many parts of the world have been doing it for years out of a need for sustainable sources of potable water. In parts of Namibia, Southern Africa, where there are arid lands and severe, extended droughts, for almost 50 years wastewater has been reclaimed and treated to its highest level for drinking. Water regenerated in this way is feasible with tremendous sustainable and long-term benefits.

Population growth and increased urbanization augment the amount of wastewater we generate on a global scale.

The increased volume of wastewater offers an opportunity to capitalise on such a resource capable of meeting the demands for potable and non-potable supplies of water. SIDS are particularly vulnerable to the impacts of climate change, for example rainfall patterns have become altered and droughts have become more regular thereby limiting the water supply in many of these countries.

In the Caribbean, approximately 50% of the populace works in the agricultural sector which means there is a heavy reliance on water for food production. During dry periods, farmers must therefore find methods of irrigation beyond a dependence on rainwater. Treated wastewater serves as an alternative for irrigating crops whilst replenishing the soil with nitrogen and phosphorous which are vital in food production. This could reduce a reliance on chemical fertilisers whilst promoting more organic food production.

If wastewater treatment is given equal attention as water supply provision, we will have better treated outflows of wastewater into our waterways and for use in agriculture. Additionally, we would be able to preserve our important marine ecosystems and aquatic life.

Let us appreciate the resourcefulness of wastewater and pledge to look for ways to give our wastewater new purpose and help achieve the Sustainable Development Goal 6 on Water and Sanitation.

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Linkages between Freshwater and the Oceans in the 2030 Agenda

The 17 Sustainable Development Goals (SDGs) and 169 targets of the 2030 Agenda for Sustainable Development are integrated and indivisible. There are deep interconnections and many cross-cutting elements across the Goals and targets. Understanding and addressing these linkages and interdependencies is essential to the implementation of the 2030 Agenda and to fully achieving its aims.

The implementation of SDG 6, which aims to ensure the availability and sustainable management of water and sanitation for all, also supports the achievement of targets under several of the other 16 Goals. For example, the sustainable management of freshwater is also relevant to the implementation of SDG 14, which calls for the conservation and sustainable use of the oceans, seas and marine resources. The Earth's freshwater resources and the oceans are inextricably linked through the planet's water cycle. Developments upstream - on land and in rivers and streams - cause effects downstream in the marine environment. This is recognized in the United Nations Convention on the Law of the Sea which requires States to adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources, including rivers, estuaries, pipelines and outfall structures, taking into account internationally agreed rules, standards and recommended practices and procedures.¹

Consequently, it is vitally important to integrate efforts to implement SDG 6 and SDG 14 and achieve the targets set under those Goals. Target 14.1 calls for a reduction in marine pollution from land-based activities by 2025. To achieve this Target, action under Target 6.3 to improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally, will be critical. A reduction in pollution in rivers and coastal aquifers will also support the sustainable management and protection of marine and coastal ecosystems by 2020, as called for in Target 14.2.

Pollution from land-based sources, including untreated

sewage, chemicals, plastics and pesticides, is one of the most pressing threats to coastal and marine habitats, accounting for approximately 80% of marine pollution globally. Lack of or inadequate sewage systems and wastewater treatment remains a major threat to the ocean, and poses a pressing challenge to the sustainable development of SIDS. The small land area and remoteness of many SIDS present particular challenges for the sound management and disposal of waste, which require an urgent response.

For SIDS, as for all countries, improper management of wastewater and human waste leads to excessive inputs of nutrients and hazardous substances into the oceans, which damage the marine environment, create a human health risk, and degrade marine resources that sustain the livelihoods of coastal communities. For example, inputs of excessive nutrients can spawn blooms of algae that rob the water of oxygen, creating hypoxic areas ("dead zones") where little or no marine life can exist. Since the mid-twentieth century, low oxygen areas in the open ocean have expanded by 4.5 million km², and it is estimated that there are now more than 500 dead zones in coastal areas (IOC-UNESCO Global Oxygen Network (GO2NE)).

Addressing the challenge of pollution from land-based sources, for SIDS and for all countries, is complex and demands a collaborative multilateral response. Such a response might usefully include the elements identified in the SAMOA Pathway - sharing and implementation of best practices, development of effective partnerships, including through the development and implementation of relevant arrangements, and, as appropriate, instruments on marine debris and on nutrient, wastewater and other marine pollution.²

Another cross-cutting issue which affects both freshwater resources and the oceans, and connects SDGs 6, 13 and 14, is climate change. The adverse impacts of increased CO₂ emissions pose a significant risk to SIDS and their efforts to achieve sustainable development. Challenges associated with rising temperatures, rising sea levels, coral bleaching, ocean stratification and acidification are of fundamental importance.

¹United Nations Convention on the Law of the Sea, Article 207.

²SIDS Accelerated Modalities of Action (SAMOA) Pathway, paragraph 58.



SUSTAINABLE DEVELOPMENT GOALS



For example, SIDS' freshwater resources, particularly on small islands and low-lying atolls which depend on freshwater lenses and rainfall as their primary resources, are particularly vulnerable to rising sea level and changes in precipitation. Sea level rise will likely increase the salinity of surface water and ground water through salt water intrusion. Drought and lower rates of rainfall will also threaten SIDS freshwater resources. In addition, in many locations, changes in rainfall patterns and extreme storm events related to climate change are altering the environmental flow in coastal rivers, estuaries, wetlands and lagoons. This can be detrimental for coastal and near-shore ecosystem services. The impact of this change is variable - in some locations the amount of water is decreasing, while in others it is increasing. This increasing variability of water flows to near shore coastal waters presents major challenges for urban planners, coastal industry, fisheries, tourism operators, health authorities and managers of marine ecosystems, such as coral reefs.

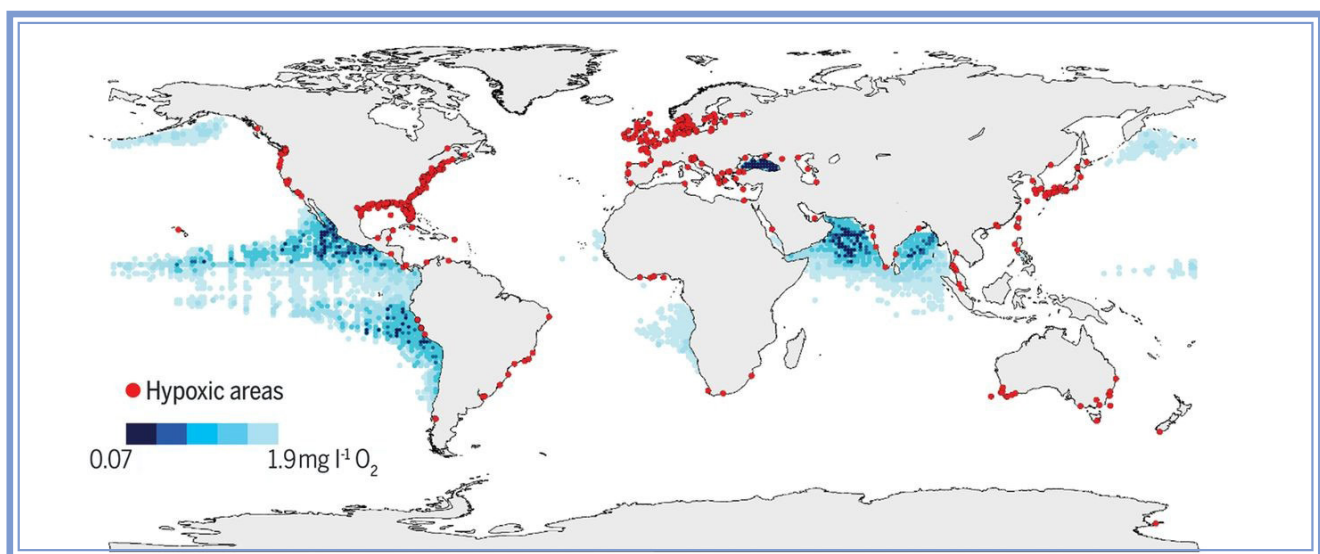
The SAMOA Pathway recognizes that healthy, productive and resilient oceans and coasts are critical for poverty eradication, access to sufficient, safe and nutritious food, livelihoods, economic development and essential ecosystem services, and

represent an important element of identity and culture for the people of SIDS. The Pathway also recognizes the importance of addressing challenges faced by SIDS with respect to freshwater resources, including pollution, waste water treatment and the lack of access to sanitation and hygiene. These vital goals - conservation and sustainable use of the oceans and their resources on the one hand, and the availability and sustainable management of fresh water and sanitation on the other - are inextricably linked. Harnessing these linkages will facilitate the implementation and achievement of SDG 6 and SDG14, and the broader 2030 Agenda, including through the implementation of effective and targeted capacity-building.

Division for Ocean Affairs and the Law of the Seas (DOALOS)

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Waters where oxygen is lower than 2 milligrams per litre
(Source: Science, 5 Jan 2018: Vol. 359, Issue 6371)



Shielding the Guianas from Mercury Contamination



Mining ponds in the Guianas

If I mention the Minamata Convention, most people will not know much, if anything, about it. But for Guyana and Suriname this will become an important global policy instrument to combat the ever-growing threat of mercury to people, waterways and wildlife in these Caribbean states.

Dealing with mercury contamination is complex not just because of the chemical processes required to remove it once it enters our bodies and ecosystems but also because the major source of contamination stems from artisanal and small-scale gold mining (ASGM), which necessitates an intricate balancing act between socio-economic, human health and environmental concerns.

The United Nations Environment Programme estimated that ASGM accounts for 37% of the global mercury emissions – a staggering amount. However, the ASGM sector is not all bad. Despite being largely informal and unregulated, it contributes significantly to national economies, providing 90 per cent of the jobs in the gold mining sector across the Guianas – approximately 40,000 miners. Whichever way you look at it, ASGM is a crucial contributor to livelihoods in these countries.

However, those 40,000 miners place themselves at serious risk every day when they process their gold ore with mercury. As far back as 2000, WWF Guianas funded research to understand the impact of mercury on human health. In Isseneru, an area of Guyana dominated by gold mining, approximately 93 percent of the population were found to have mercury concentrations greater than the World Health Organization's minimum known adverse effect limit for adults. Since mercury is extremely toxic to people – affecting the functioning of the nervous system and our vital organs – this is a major health hazard.

Direct exposure to mercury during gold processing is not the only way it impacts humans. Like so many pollutants all over the world, our rivers are often the first entry point into the ecosystem. The Guiana Shield is an extremely important source of freshwater for the region. This water source is not just ecologically significant but has a vital role to play in achieving a water secure future for the region. It should ultimately become an important economic resource for the region. However, ASGM has already significantly affected some regionally important water catchment zones, including the Essequibo Basin in Guyana and the Marowijne/Maroni Basin shared by Suriname and French Guiana.

Rham et al (2017). Monitoring the impact of gold mining on the forest cover and freshwater in the Guiana Shield.

We've spoken about the impact of mercury on human health and the Guianas rivers and waterways, but there is another emerging threat – to the area's freshwater fish, which are an important food source for many communities. While further research needs to be done to quantify the full extent of the problem across the Guianas, we have found high levels of mercury in fish in Suriname, resulting in negative impacts on human health.

The challenge is a significant one and is also faced by a number of Amazon countries, where we have human health, livelihoods, economies, climate change, rivers, food sources and

“...40,000 miners place themselves at serious risk every day when they process their gold ore with mercury.”



Artisanal mining in Guiana

ecosystems to think about. But we do have an opportunity to change the narrative around mercury.

The Minamata Convention on Mercury entered into force last year. It is a global treaty that seeks to protect human health and the environment from the adverse effects of mercury. We also have the Global Goals and specifically a Sustainable Development Goal dedicated to water, SDG6. With these global commitments in place, it is time to transform political will into action and implementation so that the world starts making progress towards achieving the established targets. Small Island Developing States, face an additional challenge – finding the finances to achieve these commitments. This will require us all to rethink the way in which we perceive finance for conservation. We will need to start framing our concepts and programmes as bankable projects to get the attention of financial institutions to invest in the places that need it the most.

The governments of Suriname and Guyana recently ratified the Minamata Convention, outlining their commitment to phasing

out mercury. No governments will be able to achieve this on their own. WWF offices in Guyana and Suriname have demonstrated that through collaborative efforts between private sector, government and civil society, we can jointly put plans in place that shape national policies to deliver the commitments made under the Minamata Convention.

But this is also going to require a significant effort from the private sector. Mercury is used to produce gold and we need to understand the gold value chain so that buyers of gold are aware of the risks that have been taken to produce their luxury product. I appreciate this is not an easy task but this should not deter us. Given that 128 countries are signatory to the Minamata Convention and 98 have already ratified it and that all these countries have also committed to improving water quality by reducing pollution under SDG6, it is clear that the political will to tackle these difficult challenges exists. But we need solutions.

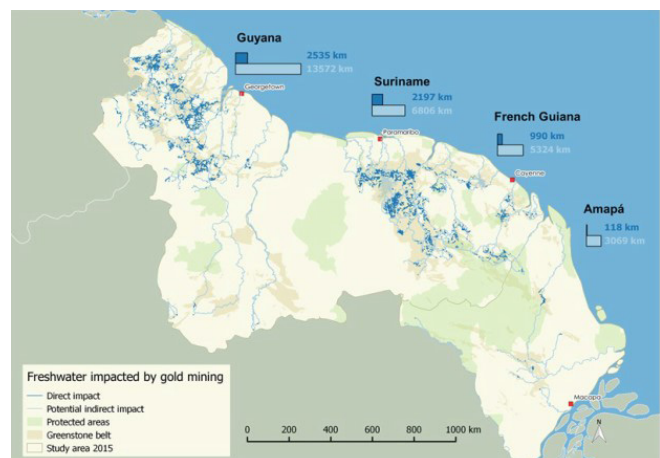
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Rham et al (2017). Monitoring the impact of gold mining on the forest cover and freshwater in the Guiana Shield.



Jacob's Ladder – No Longer Left Behind

Newly harvested water supply helps community of persons living with disabilities improve self-sustenance



Entrance to Jacob's Ladder

Behind the iron gates of Jacob's Ladder, nearly 100 men and women with physical and mental disabilities find refuge, love, and a place where finally, they are no longer left behind.

Many here had been abandoned or left on the streets to die; ditto the 20 on a growing waiting list.

On Jacob's Ladder's 150 hilly acres in rural Moneague, 64 km from Kingston, they find acceptance, inclusion and special care for their special needs, the only one of its kind in Jamaica.

Securing water to satisfy every sanitation, cooking and agricultural needs of this expanding community of socially excluded Jamaican adults has always been a challenge – until a water harvesting project was introduced in 2015 by the UNDP-implemented Global Environment Facility Small Grants Programme (GEF SGP), with funding support from Australia Aid.

Hyacinth Douglas, National Project Coordinator for GEF SGP



UNDP- 50 hectares of agroforestry featuring a mix of crops, fruit and timber trees

says the project completely refurbished a water catchment system, channelling water from one of three wells owned by the government owned Jamaica Bauxite Mining Company, to collection facilities at Jacob's Ladder. The company agreed to allow extraction of the water, while the project provided the pumping station, water pipes and other equipment to route the water into the community, plus adding ten new thousand-gallon tanks to boost storage capacity.

Deacon Paul Dunn who heads Jacob's Ladder points to the pipe from which water gushes into 750 000-gallon water catchment ponds lined with black tarp. That water, he says, supplies all the needs of the community. "The programme has served to assist us in achieving some amount of self-sufficiency in that we are now able to water our crops and animals and to provide water for the home." Water now flows to the kitchens, bathrooms, dorms, to an expansive laundry, and to crops growing in abundance.

Dunn points to the irrigation piping providing a life line to greenhouses bursting with vegetables: tomatoes, sweet peppers, aromatic herbs and seasonings and experimental strawberries grow side by side.

A few steps from the greenhouses lie a mix of crops and timber trees supported under the GEF SGP project. Rows upon rows of fruits, vegetables and lumber and food trees, grow together in the distinctive red dirt of these reclaimed bauxite lands. They extend as far as the eye can see – 50 hectares in all.

"We grow sweet potato, corn, sweet peppers, cho cho(a small green squash), yam, cocoa, pineapple, escallion, pumpkin, callaloo, pak choy, scotch bonnet peppers and grass for animals," he says. Integrated into the agroforestry system are food trees such as naseberry, breadfruit and ackee mixed with lumber trees to name a few.

Since the refurbishment of the water catchment and expansion of the agroforestry acreage, 5,000 pounds have been reaped, Dunn estimates, with a smile. "Excess produce is sold to staff members and the market, and earnings are used to purchase other goods and services we cannot provide for ourselves."

The agroforestry system provides more than just food for this growing community but also a natural land degradation



UNDP - Deacon Paul Dunn reaping scotch bonnet peppers from the land

reversal system. Tree roots stabilize the soil and improve its quality, reduce rainfall runoff and allow the water to replenish underground water reserves. The goal is to reverse the impacts of climate change, by mitigating drought and flooding while boosting access to underwater reserves.

Persisting inequalities in the distribution of potable water are being systematically overturned through the work of projects like GEF SGP. In rural communities such as Moneague, location of Jacob's Ladder, only 63.9 % have access to an improved source of

drinking water compared to 99.5% for the capital city, and 88.9% for other urban areas, Jamaica's Survey on Living Conditions (2015) confirms.

But for Jacob's Ladder, one of a cluster of special needs refuges under the Roman Catholic-run Mustard Seed Communities (MSC) umbrella, sustainable agriculture is not only a practical solution for daily living and climate change action, but a means of therapy for its challenged residents. The MSC says involvement in their sustainable agriculture model helps residents gain independence and occupational skills while enabling the MSC to provide holistic care to residents with disabilities.

Rohan Lampart, young adult male, lives here amid the rolling hills, pastel coloured cottages and a small army of caregivers tending to his special needs. He recounts his therapy chores: "Every day, I tie out the goat, run the sheep feed the pigs and ... the chickens", he says with childlike candour. "I also give them water".

The latest assessments now indicate that Rohan and his neighbours at Jacob's Ladder are less vulnerable to the impacts of Climate Change. A UNDP

Vulnerability Reduction Assessment (VRA) indicates that the community's vulnerability had been significantly reduced after the project, plummeting 163% from 1.75, (with one being the most vulnerable) to 4.6 (with five being the least vulnerable).

In Jamaica, there are no governmental or private facilities to take care of individuals with mental and physical disabilities after they reach 18 years of age. Therefore, demand is high for Jacob's Ladder and Deacon Dunn says they turn back no one, even as the waiting list continues to grow. When the project started in 2015, there were 60 residents. Within two years, there were 58% more.

The international Director of Mustard Seed Communities, Father Garvin Augustin passes by in time to hold large scotch bonnet peppers reaped from the farm. He sums up the impact: Water is life and what that has done for us is added little more meaning, value and purpose to their own lives," he says of the residents. "There is no way we can live without it."

Mustard Seed Communities (MSC) was started in 1978 by Monsignor Gregory Ramkissoon in response to the abandonment of children with disabilities on sidewalks, empty lots and in some cases, trash cans by families on the streets of Jamaica. Jacob's Ladder is one of 13 residential care facilities operated by MSC in Jamaica and Jamaica is among five nations served by the mission.

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UNDP - One of the 750 000-gallon catchment ponds into which newly harvested water supplies empty.



Nature, Water Imbalances & Climate Change

“
The Answer is
in Nature
”

The Caribbean is no stranger to natural disasters; hurricanes, droughts and the possibility of earthquakes and tsunamis are all things we consider likely but cross our fingers and wish away.

With the reality of climate change, weather patterns globally are becoming unpredictable, and for Small Island Developing States of the Caribbean, it could mean an increase in the vulnerability and severity of natural disasters that we face.

On a basic level, it is common knowledge that the Caribbean experiences two major weather seasons- there are the expected two rainy seasons, separated by the drier summer months.

In years past, we could often predict the months in which there would be rain and those months which would be much drier. However, in recent times, our weather patterns have also been harbingers of potential disasters.

In the expected rainy seasons, there is the strong possibility of flooding when the periods bring more rainfall than predicted.

On the opposite end of the spectrum, if the dry period extends way longer, over weeks, months or even years bringing far less rainfall than expected- we experience droughts.

The demand for water is increasing. Globally, it increases at a rate of 1% each year as the demands of population growth,

economic development and consumption patterns rise. Industrial and domestic demand is also multiplying at a faster rate than agriculture.

As a water-dependent region, droughts and water scarcity present significant challenges to the Caribbean. If not addressed through proper water resources management and citizen involvement, it could negatively affect the sustainable development of the region.

Climate change too is becoming an even more present reality and as the possibility and severity of droughts increase, Caribbean countries must enhance their ability to address these and other climate-related challenges.

New thinking encourages a paradigm shift from mere solutions to nature-based solutions which will address water-related issues such as flooding, drought and pollution- all of which may contribute to water scarcity. Nature-based solutions will allow for reduced impact on humans even while considering the environment and its resources.

Human activity has contributed a lot to the some of the severe challenges we now face from natural disasters, it is only appropriate for our actions to reverse water challenges and imbalances in nature.

With the involvement and collaborative efforts of



Governments, private sector and citizens, UN Environment is assisting to address issues relating to climate change, ecosystem management, disasters and conflicts, chemicals and waste, environmental governance, environment under review, resource efficiency as well as several different coastal and marine environmental threats.

Through Ecosystem-based adaptation, countries are implementing initiatives in urban cities to reduce the negative effects of environmental degradation on water availability and quality and their vulnerability to climate change. It is key for policy and decision makers to recognize the importance that watershed management plays in ensuring that a consistent water quality and quantity is supplied to citizens and that the risk of flooding and water pollution are greatly reduced.

Caribbean SIDs have also been

investing in wastewater treatment technologies, aimed at decreasing the nutrient pollution from agricultural run-off and other sources of pollution. Currently, approximately 80% of untreated wastewater flows into oceans and other water sources in the Caribbean, polluting these sources and reduce the amount of potable water that is accessible- repurposed wastewater is one way Caribbean countries are alleviating water imbalances and drought. Of course, there is still much to do to reduce the impacts of droughts and water scarcity in Caribbean Small-Island Development States but it is not beyond our doing- **The Answer is in Nature.**

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**Water treatment plant in Scarborough,
 Trinidad**
 Photo Credit: GEF-CREW



The Flow of Caribbean People

Water Utilities Unite Post-Hurricanes



Devastation in Rosseau, Dominica - Source: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH CARPHA (Caribbean Public Health Agency) – CARICOM Environmental Health & Sustainable Development Dept.

The spirit of the Caribbean is colourful, simple and resilient which reflects how they live and how they prevail in the face of setbacks. Snuggled between the continents of North, Central and South America, the convex cluster of small islands that form the Caribbean is not immune to the threat of powerful weather systems. Indeed, when a tropical wave was conceived in September 2017, the Caribbean could not imagine the tragedy that was looming as this wave began to organise itself in what would later become Hurricane Maria.

Efforts were not fully launched for disaster response to Hurricanes Irma and Jose when the warning of Hurricane Maria was broadcasted across the region. The Caribbean Water and Wastewater Association (CWWA) – a community of professionals and corporate entities in the water and solid waste sectors - detected the impending peril and launched appeals to its partners to mobilise resources for the water and wastewater utilities. The CWWA worked through the mechanism for CARICOM's regional disaster response, Caribbean Disaster Emergency Management Agency (CDEMA) to provide the human and financial resources to assist in the recovery of the operations of these utilities.

Business continuity planning has become cardinal for water and sewerage utilities. It enables a utility to not only plan how it would respond to disruptions, but it builds a system that would furnish a utility with the operational capacity to continue serving its customers. However, for water and sewerage utilities of Small Island Developing States (SIDS) - with limitations in finances, people and technology - activating these plans requires tremendous support from neighbouring utilities. The passage of the dynamo hurricanes in the latter part of the 2017 Atlantic hurricane season introduced a new variable for business continuity – regional coalition to return to operations.



Destroyed Water Facility in Dominica – Source: L. Hosten



The experience of the Caribbean water and sewerage utilities post hurricane season 2017 is testament to the force of SIDS unified in a robust framework of symbiosis. The CWWA platform offers access to human capital with a wide spectrum of competencies. CWWA Member, Engineer Lauriston Hosten of Grenada valiantly volunteered to trek through the Caribbean helping the CDEMA assess the damages from Hurricane Irma in British Virgin Islands and Hurricane Maria in Dominica. There are many more examples of professionals who courageously helped, and continue to help, these water and sewerage utilities recover from these grave disasters.

Post-hurricanes, Caribbean water utilities face a range of challenges that make recovery seem insurmountable, particularly since these events also bring personal disaster. Disaster response and recovery therefore calls for altruism and grit by utility staff as they attempt to normalise the needs of the country or community. Consequently, a water utility will first have to account for employee safety and their availability to begin duty. Human capital is a major asset post-disaster and their safety through the response mechanism is paramount as they assess damages, act as “mobile” customer communication centres, repair infrastructure and restore service back to customers. Hurricanes have instilled a creative gene in Caribbean water and sewerage utility personnel as they reconstruct a certain degree of normality in the midst of

technology collapse and power failures. One example of this resourcefulness is the use of fire hydrants as collection points for water supply.

Perhaps, the most remarkable experience that the CWWA has taken away from the 2017 Atlantic Hurricane Season is the alacrity of the professionals and companies that serve the Caribbean community to extend a ‘helping-hand’ to the disaster-hit countries. The CWWA was inundated with requests from its corporate community to assist with the response and recovery efforts after Hurricanes Irma and Maria. In a remarkable display of peer-to-peer support, Water Utility Companies from Belize, Grenada and Antigua sent teams of skilled personnel from engineers to pipe fitters and plumbers to support Dominica, a member of the CWWA. The private sector also provided support by sending containers of materials to help restore the water system. Just a few months later, the Dominica Water and Sewerage Corporation (DOWASCO) is able to report that the water system restoration works has significantly advanced.

The post-hurricane experience of the Caribbean’s water sector has drawn attention to the necessity of a central coordinating body with a database of the skills, and the access to a cadre of professionals with the practical experience to help utilities reinstate water and wastewater services to its customers. The CWWA is well-positioned to hold this platform which can take the form of a skills bank that will enable the Caribbean region and beyond to tap into the niche human capital market of its members. The CWWA envisions itself as a think-tank focused on developing strategy, building regional and international connections and championing the progression of the Caribbean region’s water, wastewater and waste sectors.

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Caribbean Countries to Address Governance and Climate Resilience in the Water Sector

Caribbean countries have embarked on a process to develop a Strategic Action Plan (SAP) for Governance and Building Climate Resilience in the Water Sector. The development of the SAP is supported by the Caribbean Development Bank (CDB) and the Inter-American Development Bank (IDB) and the Caribbean Water and Wastewater Association (CWWA). Many development partners are involved including UN Environment, the Pan American Health Organisation

(PAHO), the Caribbean Community Climate Change Centre (CCCCC), and other regional organisations working in the Water Sector.

As Small Island Developing States (SIDS) the Caribbean region is deemed one of the most vulnerable to climate change and the water sector is a key sector that is impacted. Studies have shown an increase in hurricanes and the intensity of these. Every year, the region goes on hurricane alert between June and October when planning for events, travel, construction and all aspects

of life revolves around predictions of hurricane events. It is an overlay on the lives of millions of people and when a hurricane hits, the affected countries, donor and development partners, support entities spring into action to assist in relief and restoration efforts; it is a recurring decimal in the lives of the people of the Caribbean and it plays havoc with vulnerable economies. In 2017, many countries were in the direct path of Hurricanes Maria, Harvey and Irma. The devastation was widespread with a great loss of lives.

... “the Caribbean region is deemed one of the most vulnerable to climate change and the water sector is a key sector that is impacted”

In a White Paper on the subject which was presented to the 13th High Level Forum of Caribbean Minister Responsible for Water (HLF 13) which took place in October of 2017 in Georgetown Guyana, during the 26th Conference of the CWWA), the impact of increasing drought conditions was also highlighted. Sea level rise is already causing the salinization of aquifers, which will pose a serious problem for those water-stressed Caribbean countries like Barbados and Antigua and Barbuda that depend on groundwater sources. Moreover, climate change, by causing an intensification of weather events, can increase the risk of pollution of water supplies from damage to wastewater treatment or collection systems, flooding of septic tanks and the consequential contamination of groundwater sources. Also, the use of treated wastewater another water source relative to climate impact on freshwater resources is being promoted.

The SAP is high on the development agenda of the Caribbean. It will identify the issues, challenges, actions and resources needed to implement the SAP. The intent is that the SAP will identify common actions which should be implemented at a regional level. Already identified as areas of major focus is

Governance in the Water Sector, Non-Revenue Water, Regional Coordination in the Water Sector, Capacity-Building and Resource Mobilisation, including Investment and Financing.

The next tier will be the development of National Action Plans(NAP) for Governance and Building Climate Resilience in the Water Sector. The NAPs will address national issues which are specific to each country. Between the SAP and the NAP, concerted action, with a cohesive and coherent approach are intended to address what so far has been a piece-meal, ad hoc approach to water sector development in the region.

The development of the SAP and the NAPs is based on multi-stakeholder input. Key economic sectors impacted by water such as Tourism, Agriculture, Industry are engaged, including the Caribbean Tourism Organisation (CTO), the Food and Agriculture Organisation (FAO), the Caribbean Public Health Agency (CARPHA), the Caribbean Institute of Meteorology and Hydrology (CIMH) and the Caribbean Disaster and Emergency Response Agency (CDEMA). Agencies such as the Organisation of American States (OAS) the IDB and the CDB are already making strategic interventions to

leverage technical, human and financial resources to implement the Plan. One of the key elements of the SAP and the NAPs is the role of the private sector in support of implementation.

Once the SAP is ready, it will be widely distributed for comments. It will be presented for endorsement to the 14th High Level Forum of Caribbean Ministers Responsible for Water (HLF14) which will take place during the 27th Annual Conference and Exhibition of the CWWA scheduled for the 8 to 12 October 2018 in Montego Bay, Jamaica.

There is much anticipation among countries, donor and development partners in the region that there will soon be a blue print for action in the water sector which should lead to a more rationalized, coherent approach with better use of the limited resources that are available to the Caribbean.

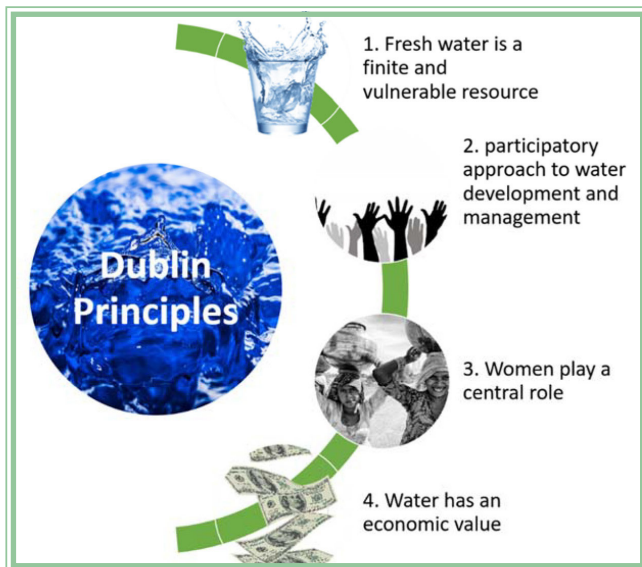
The White Paper is available from the CWWA on request.

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Integrated Water Resources Management (IWRM) and Sustainable Development in the OECS



The experiences in the OECS Region from the 2017 Atlantic hurricane season were unprecedented. Never had 3 category 5 hurricanes swept through the region in the same year, forcing the evacuation of Barbuda—a first in 300 years; and leaving Dominica totally ravaged. This recent experience reinforces the reality of the devastating effects that climate change can have on OECS islands, by impacting the economies and critical resources such as water and its related infrastructure, noting that water is already impacted by poor land use, poor waste management and overuse. According to the IPCC, observed and projected temperature increase and expected decreases in precipitation will affect small islands. This, coupled with population growth and urbanisation, will likely cause water demand to exceed water supply. Moreover, the OECS Region has experienced several periods of drought in the last few years, including the prolonged drought of 2009-2010.

Definition of IWRM

The Technical Committee of the Global Water Partnership defines IWRM, based on the principles of social equity, economic efficiency and environmental sustainability stating that it is “a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.”

The IWRM approach was recognised and adopted during the 1992 International Conference on Water and the Environment held in Dublin, Ireland, agreeing to the Dublin Principles (See Figure 1) which state :

1. Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment;
2. Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels;
3. Women play a central part in the provision, management and safeguarding of water; and
4. Water has an economic value in all its competing uses and should be recognised as an economic good.

More recently, the 2030 Agenda for Sustainable Development includes a separate Sustainable Development Goal (SDG) on water, SDG 6—ensure availability and sustainable management of water and sanitation for all. Additionally, target 6.5 speaks specifically to the implementation of integrated water resources management at all levels, including through transboundary cooperation as appropriate. Also, target 6.6 speaks to the protection and restoration water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes. In line with this, several other SDGs



including 3, 11, 12 and 15 address water-related issues. Similarly, the SIDS Accelerated Modalities of Action (S.A.M.O.A.) Pathway also includes a section on Water and Sanitation (Paragraphs 64 – 65) recognising the peculiar challenges of SIDS and their water resources and outlines commitment to “develop institutional and human capacities for the effective, inclusive and sustainable implementation of the integrated management of water resources and related ecosystems, including supporting women’s engagement in water management systems.”

This global recognition and reiteration of adopting an integrated approach to managing water resources illustrates the need for Integrated Water Resources Management (IWRM) to form part of the climate change adaptation and overall resilience building strategies of OECS Member States to help withstand the potential impacts that inadequate water availability and poor water quality can have on their environment, people and the economy.

Relevance for OECS SIDS as part of a Resilience Building Strategy

At the OECS level, the St. George’s Declaration of Principles for Environmental Sustainability in the OECS in its Preamble, identifies water as a key natural resource that is fundamental to the well-being of humanity. This document also highlights the need for the resource to be carefully managed in all Member States. The OECS Commission through a United States Agency for International Development (USAID) funded project called the Reducing the Risks to Human and Natural Assets Resulting from Climate Change Project (RRACC), developed a Model Water Policy and Law for the OECS Region to facilitate IWRM in the context of climate change. These documents are

aligned with the Dublin principles as they emphasize that all stakeholders should participate in the management of their Member States’ water resources to contribute to sustainable economic, social and environmental development in an efficient and equitable manner.

Correspondingly, OECS Member States at the national level have developed water policies taking into consideration the IWRM approach. This, in addition to recognising the impact climate change can have on this finite resource in our small islands will play a role in helping to achieve sustainable development. With this, actions must be ongoing to implement IWRM recognising that implementing the approach in the small islands of the OECS Region have several potential barriers, including limited financial and human resources that can impede coordination and cooperation. Nevertheless, Member States can implement the IWRM approach by engaging in short, medium and long-term interventions that ensure the involvement of all stakeholders in management and include measure such as rainwater harvesting, water storage and reforestation among others. While such actions are being implemented, it must be noted that IWRM does not dictate how water resources should be managed but provides a framework within which decision makers can collaboratively decide on their water management goals and co-ordinate the use of different instruments to achieve them. All in all, these considerations and actions can jointly contribute to achieving the SDGs and other goals of the 2030 Agenda for Sustainable Development.

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Integrated Monitoring for Improved Implementation of SDG 6 in Jamaica

Small island developing states (SIDS) are very familiar with the impacts of climate change and natural devastations, and the Caribbean island of Jamaica is no exception. Water-related disasters such as floods, landslides and droughts need to be addressed in an integrated manner along with other water and sanitation challenges such as access to water and sanitation services and ecosystem protection. Monitoring is an essential way to uncover what and when interventions are most needed and whom are the most affected. With a credible monitoring system in place and through an integrated analysis of data, Jamaica can better find the challenges and address them accordingly.

UN-Water has spoken with Ms. Schmoi McLean from the Statistical Institute of Jamaica (STATIN) to find out how Jamaica is ensuring progress towards Sustainable Development Goal 6 on water and sanitation. According to McLean, there are abundant supplies of underground freshwater resources still available for development. However, there is a disconnect between population centres and source locations as the populated areas are located where there are significantly less usable natural water resources. As it relates to sanitation, the larger issue surrounds treatment and disposal of waste water. Revitalization of old water infrastructure and access to irrigation for agriculture has been ongoing, but all these challenges can be addressed by adequate financing.





In Jamaica, water and sanitation are dealt with by many stakeholders, who regularly collect data on different aspects of water use and quality. STATIN carries out surveys to assess access to water and sanitation at the household level, and they also receive, use and publish data from

other institutions. To promote integrated water and sanitation monitoring and to establish a national baseline for SDG 6, STATIN convened a group of persons from the ministerial departments and agencies involved in monitoring. Throughout their work, it became apparent that many data providers were unaware of the SDGs, and not all stakeholders came on board immediately. However, through high-level support within the different departments and agencies, and by explaining to people how important their contribution was, the process could move on and a data baseline be established. To further overcome sector fragmentation, the Jamaican government has introduced an open data portal to share information.

The data that are collected and analysed are used to issue water abstraction rights and for development and environmental planning. The information further enables policy dialogue on priority issues and can encourage national and international donors to fund essential revitalization projects. As such, monitoring directly helps implementing SDG 6 in Jamaica.

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Through the UN-Water Integrated Monitoring Initiative for SDG 6, the United Nations seeks to support countries in monitoring water- and sanitation-related issues within the framework of the 2030 Agenda for Sustainable Development in an integrated manner, and in compiling country data to report on global progress towards SDG 6. The Initiative brings together the United Nations agencies who are formally mandated to compile country data for global reporting on SDG 6. In 2016-2017 the Initiative focused on establishing a global data baseline for SDG 6 and initiating a process of country-level capacity building for integrated water and sanitation monitoring, in which Jamaica participated. The global baselines will be published in 2018, along with a SDG 6 Synthesis Report. www.sdg6monitoring.org

Partnerships

Key element of success for the GEF Caribbean Regional Fund for Wastewater Management in the Wider Caribbean Region.



The Global Environment Facility (GEF) funded “Testing a Prototype Caribbean Regional Fund for Wastewater Management (CRew)” project was a four-year project which used an integrated and innovative approach to reduce the negative environmental and human health impacts from untreated wastewater discharges to the Caribbean Sea. (www.gefcrew.org)

It began in 2011 and completed activities in 2017. CRew was implemented by the Inter-American Development Bank (IDB) and United Nations Environment Programme (UN Environment) with the lead regional executing agency for the project being UN Environment Caribbean Regional Coordinating Unit and Secretariat to the Cartagena Convention (CEP) (www.cep.unep.org).

CRew's objectives were 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 Wider Caribbean Region (WCR).

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

ISSUES AND CHALLENGES

The provision of infrastructure for wastewater services lags behind drinking water services. It has been estimated that 85% of wastewater enters the Caribbean Sea untreated. The impact of poorly functioning sewage systems and the lack of, or improper sewage disposal, is causing serious pollution of

surface, ground and coastal waters. The effective management of wastewater is further hindered by the strong cultural barrier to discuss wastewater management openly and to identify opportunities for reuse of treated wastewater.

While water is often a national political priority - wastewater is not. Effective wastewater management in the Wider Caribbean Region requires improved planning, coordination, and knowledge-sharing amongst the several agencies and programmes involved in water and wastewater management.

The regional capacity building components of the CReW project involving policy, legislative and institutional reforms as well as communications and outreach, offered a unique opportunity for several regional agencies to better co-ordinate their capacity building programmes. The lack of political profile or visibility and prioritization of wastewater management also enabled the CReW Project to work with regional water stakeholders so that wastewater became a topic of conversation at the highest technical and political levels, both nationally and regionally.

The issue of wastewater directly impacts the lives of persons and the success of the CReW project were because of formal

and informal partnerships developed throughout project implementation. This enabled the CReW to build on synergies and avoid duplication and wastage of limited financial, human and technical resources.

EXPERIENCE

Several organizations were involved in the implementation of the CReW. The main “actors” were ministries with responsibility for water and wastewater, and the water and wastewater (WW) utilities. However, in most, if not all countries, more than one ministry has some responsibility for water and sanitation. Activities were designed to ensure the involvement of other government ministries and agencies, academia, the private sector and non-governmental organizations.

In recognition of the number and variety of stakeholders involved in wastewater management, the Project through its national and regional executing agencies developed approaches to strategically engage in partnerships that supported development and implementation of project activities at both national and regional levels. At the project inception workshop in 2011, a deliberate effort was made to identify and invite several specialized regional agencies involved in water and



GEF CReW Media Training in Panama 2014



SLU GEF CReW SSFA Media

wastewater management in the Caribbean.

The knowledge of the implementing agencies - IDB and UN Environment as well as the existing network of national focal points to the Cartagena Convention, Regional Activity Centres and collaborating agencies formed an excellent basis for collaboration. These partners made presentations on ongoing and planned projects and activities in water and wastewater management and identified concrete ways in which they could support future implementation of the GEF CReW Project. This formed the basis for their future involvement and success of the partnerships during implementation.

REPLICATION

Some of the major project successes that now position the region and Caribbean SIDS to be more effective in water and wastewater management included:

- Enhanced relationship between UN Environment and the IDB.
- Formalization of relationships with lead umbrella organizations such as the Caribbean Water and Wastewater Association (CWWA), Caribbean Association of Water Utilities (CAWASA), Global Water Partnership (GWP) Caribbean and Central America, and the Caribbean Development Bank (CDB).
- Improved linkages at national level between water utilities, environment and health authorities, as well as planning and finance ministries.

There was increased coordination of activities and collaboration among regional agencies involved in water and wastewater management in the Wider Caribbean region and in particular between the IDB, UN Environment and its network of partners at national and regional levels. This helped to eliminate duplication of effort and made the work more effective, meaningful and sustainable.

A publication entitled *GEF_CReW_Partnerships_for_Wastewater_Management_in_the_Wider_Caribbean* identifies existing partners as well as potential additional partners that should be engaged in any future water and wastewater projects. Organizations are grouped into Governmental, Community/NGO and Private Sector at national, regional and international levels. Their specific roles and responsibilities in the water and wastewater sector are listed as well as potential areas for partnership in future projects.

Some key examples of collaboration catalysed by the GEF CReW Project that benefitted Caribbean SIDS included with the:

- IDB Water Centre for Latin America and the Caribbean (located in Monterrey, Mexico) in the design and delivery of online and face-to face courses on Water and Wastewater Management;
- GWP-Caribbean and GWP Central America in organization of media training on wastewater management;

- CWWA and GWP-Caribbean in ensuring that the work of the CReW Project, IDB & UN Environment CEP on wastewater management was featured at annual CWWA Conferences and Exhibitions as well as Ministerial High-Level sessions;
- Global Water Leaders, CAWASA and CDB in online and face to face training for Water Utility Managers;
- Centre of Engineering and Environmental Management of Coasts and Bays (CIMAB) and Caribbean Public Health Agency (CARPHA) in providing technical training for monitoring and analysis of wastewater effluent;
- CDB, United Nations Institute for Training and Research (UNITAR), UN Environment CEP and World Bank in the design and implementation of an online and face to face course on Governance and Sanitation;
- CEP and the World Resources Institute (WRI) to develop an economic resource valuation methodology as a tool for better decision making in wastewater management in the WCR, based on the experience of pilots in Trinidad and Tobago and Panama;
- Food and Agricultural Organization (FAO), Pan American Health Organization (PAHO) and the Government of Antigua and Barbuda in the implementation of a pilot project on the reuse of treated wastewater.

Less tangible, but still evident and important, is the goodwill and positive collaborative attitude among the agencies involved.

SUSTAINABILITY

Regional agencies working in Caribbean SIDS have already begun to enhance their collaboration on other water and wastewater related projects and activities as evidenced during the recently concluded World Water Forum in Brazil where a Draft Caribbean Strategic Plan on Water was presented.

This network, working through the UN Environment CEP, will continue to showcase and share experiences about wastewater management in the region including through the development of a GEF CReW+ Project Proposal in 2018 for further funding consideration by the GEF.

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Decentralized approaches to Wastewater Treatment in Suriname



Opportunities for SIDS to Mainstream Ecosystem Services into the Water Sector



Photo: President Remengesau of Palau launching the Front-line cities and islands initiative at UNFCCC COP23. Credit: IISD Reporting Services.

This article approaches water and sanitation from the perspective of the Convention on Biological Diversity, as the UN's multilateral and almost universal agreement, also as a contribution to the upcoming discussion in the UN's High Level Political Forum (HLPF) on selected Sustainable Development Goals.

Because of their small size and limited landmass, many Small Island Developing States (SIDS) need to protect the forest, surface water-bodies, watersheds, catchment areas or underground sources of water that ensure water security and allow for water filtration through ecosystems. On many islands, freshwater is available only from thin groundwater lenses floating on saltwater or from small wetlands, rivers and lakes. The low-lying atolls of the Pacific and Indian Oceans as well as limestone islands in the Caribbean, for example, are all dependent on groundwater, biomass or the direct use of rainwater. Unsustainable use, particularly related to urbanization and significant tourism development, sea level rise and climate change compound the difficulties of SIDS in sustainable management of water resources. The lack of capacity for effective corrective action further leads to sanitation issues and the risk of disease.

But SIDS also show consistent creativity in their solutions to create opportunities. Among such measures are watershed management and downstream improvement to water supply, including conservation, reforestation and restoration of other ecosystems, sustainable agricultural production, biological wastewater treatment, and improved nature-based sewerage filtration systems. Other measures focus on water efficiency use, rainwater harvesting and groundwater recharge.

Storing, depuration and natural filtration of freshwater in forests, wetlands and inland water surfaces is an essential service for SIDS as it helps offset the cost of treatment, sanitation and storage infrastructure. These ecosystems also provide livelihood through hunting and non-timber products, health through medicinal plants, and food by enhancing fertility of subsistence farming.

Water as a cross-cutting development issue for SIDS

In the last – and the upcoming - Conferences of the Parties (COPs) of the CBD, governments have prioritized the mainstreaming of biodiversity, i.e. integrating or including actions related to conservation and sustainable use of biodiversity and ecosystem services in strategies relating to development and production sectors. One of the chosen sectors being health, the various connections between biodiversity and water-borne diseases can be a challenge in many SIDS. For these reasons, island governments and particularly SIDS are inclined, by nature, to be “mainstreamers” in relation to water security.

Other contributors include:

- The commonality of their challenges and expectations in the Convention, their cohesiveness as a UN group and their critical mass in a consensus-driven legal instrument like the CBD (43 Parties or 22% of the total signatories), where the Global Islands Partnership (GLISPA) serves as an effective cooperation platform since it was launched along with the Convention's latest and most recently reviewed Programme of Work, on Island Biodiversity (PoWIB);

- Natural resources are essential for their development and quality of life, even more than in other environments. Insular species and ecosystems tend to be endemic and fragile to changes and invasions, and when threatened, will impact the direct dependency and vulnerability of local communities in relation to biodiversity for water, food, fibres, construction materials, medicine, and livelihood in general;

The CBD's PoWIB has offered a useful platform for SIDS to highlight their issues, including the key role of nature for development, health, water and the other SDGs chosen for the HLPF in 2018, and adopted valuable recommendations related to a holistic and ecosystem-based approach to water security in SIDS:

- "7.2.2. Develop and implement watershed integrated management to prevent siltation and run-off impacts on island coastal ecosystems
- 7.2.3. Implement measures to prevent eutrophication of island coastal ecosystems caused by, inter alia, wastewater and agricultural run-off and infiltration;
- 1.1.2.3. Re-establish animal species in terrestrial and freshwater ecosystems from which they have been lost or significantly reduced;
- 4.2.1.12 Support integrated and participatory policy development, planning and management of coastal and marine resources with adjacent watersheds, including farming systems".

Further tools are provided by the Convention's Inland Waters Biodiversity programme of work. The challenges of integrating biodiversity and natural solutions in water and sanitation management are also strongly linked to urbanization which was emphasized as a priority in the SAMOA Pathway. To support greater collaboration and action in addressing urban issues, ICLEI-Local Governments for Sustainability and GLISPA came together at the twenty-third meeting of the COP of the

UN Framework Convention on Climate Change to launch "Front-line Cities and Islands", an initiative to convene mayors and urban leaders of island economies with resilience leaders around the world to work together to champion local action in urban areas to deliver scalable, integrated solutions to rapidly build resilience - on islands and globally (<http://www.glispa.org/commitments/11-commitments/210-front-line-cities-and-islands>).

Upcoming opportunities

Palau, Marshall Islands and Fiji have also started a process to strengthen national public-private partnerships to further build resilient and sustainable island communities based on the six pillars of energy, food, water, community, equity and environment through the Island Resilience Initiative (<http://www.glispa.org/commitments/11-commitments/203-islandresilience>). This Initiative provides a framework based on leading island models such as Aloha+ Challenge/Hawaii Green Growth and Micronesia Challenge to implement Sustainable Development Goals locally including a process to set high-level goals, develop shared measures to be tracked on an online platform, and develop a project pipeline. These initiatives are being implemented by GLISPA and the Pacific Island Development Forum with the GEF UNDP's Small Grants Programme, and with support from the European Commission, Secretariat of the CBD and Hawai'i Green Growth.

Backed by these facts and experiences, SIDS can progress further on the many synergies between work for the Convention on Biological Diversity, and the opportunity of the UN's 2018 development agenda discussions at the HLPF and the 2018 and 2020 CBD COPs, at which the process towards a review of the current 2011-2020 UN Biodiversity Strategy and the related Aichi Biodiversity Targets will be discussed. Video of the launch <http://www.glispa.org/2017/209-global-island-partnership-unfccc-cop-23>.

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\$63.4m Grant for Big Water Project



From right: Prime Minister Voreqe Bainimarama, United Nations Deputy Secretary-General Amina J. Mohammed accepting the tabua and President Major-General (Ret'd) Jioji Konrote on October 16, 2017. Photo: DEPTFO News

A grant of \$63.4million was signed between the Fijian Government and the Asian Development Bank (ADB). It will be used towards the \$829.5million Urban Water Supply and Wastewater Management Investment Programme, which will benefit more than 300,000 Fijians living in greater Suva area. This investment project is one of the largest in Fijian history. The deal was inked at the margins of the Pre-COP partnership event currently underway at Denarau Island, Nadi, where Government also signed a loan agreement with the ADB for an \$86.1 million loan to fund the first phase of the programme.

The leadership of Attorney-General and Minister for Economy Aiyaz Sayed-Khaiyum in finalising the grant received special mention from the co-Chair of the Green Climate Fund (GCF). Ewen McDonald and from Prime Minister and incoming COP23 President Voreqe Bainimarama.

“I wanted to very much acknowledge the Government of Fiji and in particular the Attorney-General’s efforts in pushing the ADB and the Green Climate Fund to conclude the agreements around this. That was very important and I very much thank you for your leadership in that,” Mr. McDonald said.

... “we urgently need to boost the resilience of our water supply and wastewater infrastructure to withstand severe weather events.”

His comments were reiterated by Mr. Bainimarama who thanked Mr. Sayed-Khaiyum and the team he led for finalising the grant which will be beneficial for thousands of Fijians in generations to come.

The Urban Water Supply and Wastewater Management Investment Programme will cover the:

- general maintenance and upgrades of water supply infrastructure;
- construction of a new water supply intake on the Rewa River,
- an associated water treatment plant;
- pumping station;
- a new reservoir;
- transmission main to connect to the existing Greater Suva Area water supply system; and
- all phases to be completed by 2025.

The project will also improve wastewater management in urban areas and engage expert consultants to complete engineering designs, ensure high levels of compliance and assist with procurement.

The European Investment Bank has also agreed to co-finance the project in partnership with the ADB.

The new water supply and wastewater management project is the first project funded under the Accreditation Master Agreement signed between the ADB and GCF in July 2017. The agreement allows the ADB to access and administer GCF funding for climate mitigation and adaptation projects in the ADB's developing member countries.

Mr. Bainimarama said: “As the incoming President of COP23, one of my top objectives is to create better access to finance for projects like this, not only for Fiji, but for other vulnerable countries in the region and around the world.

“I would not only like to thank the ADB and the GCF for their technical and financial support, but also for their leadership and forward thinking on climate finance more broadly.

“I encourage more lending institutions to follow their example and to join us in our grand coalition to build a more resilient, carbon-neutral world.”

Mr. Sayed-Khaiyum said: “Climate change brings serious risks for the Fijian people in accessing clean drinking water and sanitation services, and we urgently need to boost the resilience of our water supply and wastewater infrastructure to withstand severe weather events.”

Credit: Fiji Sun



How to Secure Freshwater Today, without Limiting Tomorrow

Already today, 2/3 of the world population faces water shortages. This means 4 billion people that are affected by the shortage of water. Water is not only the water we enjoy in our daily lives; our household water use only contributes to 1% of our water footprint. The remainder is determined by the food we eat, the products we buy and the energy we use. Scarcity of water involves pressure on food supply, production of goods and often results in tension, migration and the possibility of conflict. By using more water than we receive, our aquifers, rivers and lakes are disappearing; more than half of the world wetlands have already disappeared. Adding climate change to the equation, water is the biggest challenge for humanity in the 21st century. With the majority of SIDS lacking fresh water resources and being at the fore-front of climate change, this is an important issue.

Elemental Water Makers, with the mission to be part of a sustainable solution for global water scarcity and create awareness on the importance and the role of water in our lives and ecosystems, ensures fresh water today without limiting tomor-

row. The company turns seawater into drinking water using only the sun, wind or waves. This means the opportunity of an affordable and reliable water supply from unlimited resources for communities, municipalities, resorts, private properties industries on islands and coastal regions. Elemental Water Makers have projects in Cape Verde, Belize, Mozambique, the Philippines, Indonesia, BVI and Lanzarote. Through the projects delivered, Elemental Water Makers seeks to make a direct impact on the availability of water, without any greenhouse gas emissions. The biggest challenge is to get this technology to the people who need it most on islands.

Reverse osmosis has been used for decades to provide drinking water from seawater on islands. However, desalination uses a great deal of fossil energy and can be a nightmare to maintain. With the high energy tariffs on our precious islands, desalination of seawater often becomes an expensive exercise. At the same time, SIDS often enjoy the natural soundtrack of the wind, an abundance of sunshine and 360-degree ocean views. This makes desalination powered directly by renewable energy a topic of increased interest, with a great potential for





“The company turns seawater into drinking water using only the sun, wind or waves.”

decentralized and small-scale island applications. Technology these days make it possible to be energy-efficient already at a very small scale, starting at a few cubic meters of water per day. By remote monitoring and automation, desalination can become easy to maintain and stress-free to operate.

This means the opportunity of an affordable and reliable water supply from unlimited resources for resorts, private properties, communities, industries and municipalities on islands and coastal regions. Through any project delivered, a direct impact on the availability of water is achieved, without any greenhouse gas emissions.

An example of such a project is a water kiosk Elemental Water Makers recently constructed in the Philippines. It's not an official SIDS, but being an archipelago, the coastal conditions are similar. Bottled water jugs can be quite expensive, limited in availability and its quality variable. To cope with this form of water scarcity, a 20ft container was shipped with inside the solar energy, water treatment and fresh water storage equipment. Within a matter of weeks, the container was converted into a water kiosk that purifies seawater into drinking water using only the power from the sunshine. The desalination unit converts 6,000 liters of seawater into fresh water each day, using the power provided by the 3.6 kW of solar panels (19

m²). The energy efficiency of the desalination unit is 2.2 kWh/m³, which is in the same range as the large-scale desalination plants. Local personnel have been trained to do the operation. The source water is taken from a beach well, which has been locally constructed next to the container. There is a fresh water tank of 13 m³ capacity installed next to the container. The water store is located inside the container and the solar panels on top of it, which makes it suitable for reproduction. As the container works off-grid, it finds ideal application in remote coastal locations.

In too many areas on SIDS, water is still being transported by boats or trucks, resulting in high expenses, fossil fuel emissions, fluctuating quality, limited availability and a strong dependence. Decentralized desalination solutions that don't use a great deal of fossil energy and are easy to maintain are available. So, SIDS can get reliable access to clean water that's affordable

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Section III

Samoa Pathway Mid-Term Review Meetings

In 2017, during the 72nd session in 2017, the UNGA decided to convene in 2018 regional preparatory meetings as well as an interregional meeting for SIDS to review the progress and implementation of the Samoa Pathway at the national and regional levels. These meetings will be facilitated and supported by UN DESA through the SIDS Unit, OHRLLS and by relevant agencies of the UN system including regional Commissions.

The UNGA also underscored the full and effective participation of small island developing States in the high-level review process and invites Governments, intergovernmental and non-governmental organizations and other major groups and donors to contribute to the voluntary trust fund for the purpose of assisting small island developing States in participating fully and effectively in the high-level review and the various preparatory processes.

A total 37 SIDS (UN Members) and 20 Non-UN Members/Associate Members of Regional Commissions

are earmarked to participate in both the preparatory and high-level review meetings. The Government of the Independent State of Samoa has graciously offered to host the Inter-regional meeting. The Government of Belize has formally indicated their desire to host the Caribbean SIDS regional Meeting. Talk is currently underway between the UN Secretariat with potential Hosts of the AIMS and Pacific SIDS Regional Meetings. The dates of the regional and inter-regional preparatory Meetings are as follows;

- (i) AIMS SIDS - Mauritius - 23 -25 May 2018,
- (ii) Pacific SIDS - Tonga - 19-21 June 2018,
- (iii) Caribbean SIDS - Belize - 7 -9 August 2018,
- (iv) Inter-regional - Samoa - Late October 2018

More information will be updated at <https://sustainabledevelopment.un.org/sids/samoareview>



Island Week: Promoting Action for Island Resilience

Island Week is one of the premier global events convening islands and island supporters to promote action to build resilient and sustainable island communities. The first edition of Island Week will enable resilience champions across political jurisdictions to connect and collaborate with partners to accelerate implementation of commitments. Hosted by the Global Island Partnership with key partners from public and private sector, Island Week will result in a new invigorated action plan focused on leadership and commitment supported by local implementation to build resilient and sustainable island communities through the Global Island Partnership 2030 Strategy.

Island Week will take part in three segments:

- Island Symposium: Bright Spots in Island Resilience, Wednesday 19 September 2018 from 10am to 5pm, Venue: Washington DC area, Registration: opening soon.
- Island Reception: Celebrating Partnerships in Island Resilience, Wednesday 19 September 2018 from 6pm to 9pm, Participation: By Invitation Only.
- GLISPA Council Meeting: Developing the Island

Resilience Action Plan, Thursday 20 September to Friday 21 September from 9am to 5pm, Venue: The Nature Conservancy World Wide Office, Participation: By Invitation to GLISPA Members.

The Global Island Partnership led by the Presidents of Palau, Seychelles and Marshall Islands with the Prime Minister of Grenada and Premier of the British Virgin Islands is a platform to promote action to build resilient and sustainable island communities. Since it launched in 2006 it has engaged high-level leaders to catalyze US\$150 million for island action and assisted 35+ countries to launch or strengthen sustainable island commitments. The Leaders of GLISPA call for partners from the public and private sector to become an Island Week Sponsor.

- To register your interest in Island Week or to become a sponsor email: info@glispa.org
- To learn how you can become a GLISPA Member go to: www.glispa.org/participate



Photo by Stuart Chape, Rock Islands, Palau



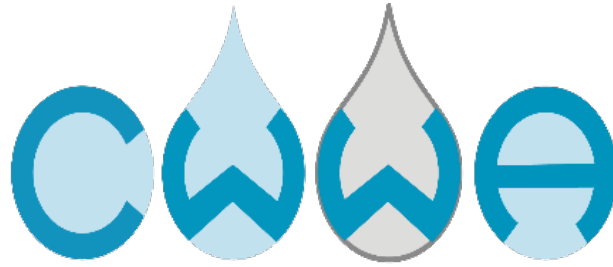
Island Week

Promoting action for island resilience

Hosted by the Global Island Partnership
19 to 21 September 2018, Washington D.C.

www.glispa.org | info@glispa.org





CARIBBEAN WATER AND WASTEWATER ASSOCIATION

The Caribbean Water and Wastewater Association (CWWA) in collaboration with the National Water Commission of Jamaica (NWC) and the Ministry of Economic Development and Job Creation (MEGJC) will be hosting the 27th Annual Conference and Exhibition of the CWWA from the 8 to 12 October 2018 at the Rose Hall Resort and Spa, Montego Bay Jamaica.

Over 400 participants, exhibitors, development partners, Ministers of Government, NGOs, Academia and the Media are expected to attend. The theme of the Conference is: Climate Resilience, Innovation and Partnership for Sustainable Water and Waste Management.

The Conference will also host two major events, namely the 14th High Level Forum of Caribbean Ministers Responsible for Water and the 2nd High Level Forum of Waste Management in the Caribbean.

For more information: cwwattsecretariat@gmail.com.



Climate Resilience, Innovation & Partnership
for Sustainable Water and Waste Development

SUMMARY OF SIDS RELATED EVENTS

June 2018 – December 2018

Date	Venue	Event	Organizers
20-22 June	Cartagena, Colombia	6th Regional Platform for Disaster Risk Reduction of the Americas	UNISDR/Government of Colombia
3-6 July	Ulaanbaatar, Mongolia	Asia Ministerial Conference for Disaster Risk Reduction	UNISDR/Government of Mongolia
11 - 14 June	New York	Meeting of States Parties to the 1982 United Nations Convention on the Law of the Sea - 28th meeting	UN-DOALOS
18-22 June 2018	New York	United Nations Open-ended Informal Consultative Process on Oceans and Law of the Sea - 19th meeting	UN-DOALOS
23-29 June	Da Nang Vietnam	GEF Assembly including Pacific Constituency meeting and GEF Council	GEF
3-5 July	Honiara, Solomon Islands	PIDF Governance Meetings	Pacific Islands Development Forum, Solomon Islands Government
23-26 July	Samoa	Preparations to the Madrid Protocol Accession meeting	WIPO/ Government of Samoa
7-9 Aug	Belize	Caribbean Regional Prep Meeting for the Mid Term Review of the Samoa Pathway	Gov't of Belize/UNDESA/OHRLLS
23 - 24 Aug.	New York	Ad Hoc Working Group of the Whole on the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects - 11th meeting	UN-DOALOS
4 - 17 Sept.	New York	First session of the Intergovernmental Conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction	UN-DOALOS
19 Sept.	Washington D.C.	Island Bright Spot Symposium. A showcase of solutions galvanizing action for island resilience and the Sustainable Development Goals.	Global Island Partnership (GLISPA) info@glispa.org
20 - 21 Sept.	Washington D.C.	Global Island Partnership Council: The Members of GLISPA will convene to revise and update the GLISPA strategy and determine a collaborative action plan to 2020 to build island resilience	Global Island Partnership (GLISPA) info@glispa.org