

CWWA INFOSTRUCTURE

FIRST EDITION 2021

MAY 2021

HIGHLIGHTS:



NEW EXECUTIVE COUNCIL
- PRESIDENT'S MESSAGE



THE HIGHLIGHTS OF
CONFERENCE 2020



LA SOUFRIERE VOLCANO -
WASH REPORT



YOUNG PROFESSIONALS
SPOTLIGHT

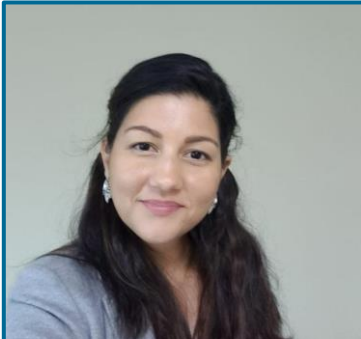


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WATER & WASTE INDUSTRIES

 **30th** Annual Conference
and Exhibition
CAYMANIAN WATER AND
WASTEWATER ASSOCIATION THE CAYMAN ISLANDS | 2021

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PRESIDENT'S MESSAGE - NEW EXECUTIVE COUNCIL



Sarah-Jade Govia

Dear Reader,

Thank you for your interest in the work of the Caribbean Water and Wastewater Association and for taking the time to browse our newsletter. As you are well aware, 2020 was the year that highlighted the criticality of reliable water and proper sanitation to public health and not much has changed in the first quarter of 2021.

As sector practitioners, our resiliency and fortitude continue to be moulded and our business continuity plans and risk management frameworks continue to be put to the test, as we adjust to a Covid lifestyle that is still new to us one year later. We have been supporting our partners in water, wastewater and waste in the Caribbean Region through platforms such as CARICOM, the development banks and other NGOs.

As we carry out our mandate in an ever-changing world, the CWWA Executive Council and Secretariat have made a few commitments which would support our evolution as an Association of professionals. In 2021, the CWWA would revise its constitution to retool the Association with a modernised governance architecture that focuses on strengthening its products and outreach in the sectors we represent. We also have plans to develop a system of data collection and sharing which can be used by governments and development bodies to inform critical decision-making.

However, we need you, our members, to reach these goalposts. One of the starting points for you to get on board is by populating the Caribbean Skills Reservoir. This would allow us to organise ourselves as a community of practice and better align the work of the CWWA to your needs, as members, with a suite of opportunities that exist for employment, tendering, consultancies and others.

Continue to connect with us through the Secretariat as we work hand-in-hand to create a CWWA that can benefit you and the Region.

Yours in Service,

Sara-Jade Govia

President, CWWA

EXECUTIVE DIRECTOR'S MESSAGE



Wayne Williams

Dear Colleagues:

It has been a while since I put “pen to paper” to the membership. I do apologize for that. Since my last message, CWWA has been through much internal growth in capabilities. Last October we hosted our first-ever virtual Conference and Exhibition, including the two virtual High-Level Fora for Water and Waste. The feedback we received was very positive, and many of our little “innovations” such as the inclusion of regional music and entertainment to keep the Caribbean “flavour” were appreciated and have been duplicated regionally since then.

COVID is still in the region affecting regional work plans. 2020 was a year to understand the challenges of the pandemic and to work on pivotal actions. Virtual capability grew exponentially worldwide and thrust decentralised work production into the limelight. There were many advancements billed “the new normal” as the advantages of working from home, reduction of travel costs and greenhouse gases from the lack of commuting and global travel, etc. have been slowly embraced. Meetings with the occasional domestic background noises or the random appearance of a young child in the video are “par for the course” and elicit smiles from the audience, but the “show goes on”.

The CWWA was confirmed as the lead agency for the implementation of the RSAP at the St. Kitts Conference, and in December 2020, with the CWMAP added to our implementation coordination responsibility. The implementation committee, chaired by the CWWA, comprises noteworthy partners such as the Caribbean Development Bank (CDB), Inter-American Development Bank (IDB), United Nations Caribbean Environment Programme (UNEP-CEP) and others included on an as-needed basis for the advancement of the works identified. Currently, through the funding by the IDB, both the RSAP Implementation Plan and the CWMAP are undergoing a 2021 revision. Since the original plans were completed, much has changed in the work plans of regional agencies and member states, due to changes in the leadership at all levels, and subsequently, the priorities and of course changes due to the economic effects of the pandemic on member states.

What does 2021 hold for the CWWA? It should be noted that with our incorporation in August 1991, our 30th Anniversary year is 2021! Plans are underway to celebrate that accomplishment year-round. There is an Anniversary logo to celebrate the achievement and there will be an Anniversary magazine to reflect and remember achievements/events to date. Our social media will also be a source of some of the content before and after the publication of the magazine. Also, currently in the works is an updated CWWA logo to reflect the waste sector as part of the ongoing name change process. In addition, the CWWA and National Section Constitutions are under revision, as they are dated and do not accurately represent the changes in the CWWA over the years. Notable changes are with the upgraded Secretariat that, since 2013, has an Executive Director, resulting in the assumption of several duties of the Executive Council. The inclusion of non-technical membership, such as lawyers, communication personnel, etc. as well as membership from non-English-speaking Caribbean territories has been added.

Our first Specialist Group: “Non-Revenue Water” has been formed and we look forward to other specialist groups for wastewater and solid waste categories to be setup soon. Also formed is a CWWA transformation committee to morph the CWWA into an association that would have broader appeal, regionally and internationally. In addition, regional gender and youth input and issues are to have more of a platform from which to be heard.

Our 2021 Conference and Exhibition will be virtual once again, as the region has not yet started to remobilize. However, despite no “face to face” yet again, we will still enjoy the benefits of a virtual conference. The Cayman Islands is assisting the Secretariat in the planning and execution of the event. We are looking to do some things differently this year to increase the value proposition and good numbers from last year, so stay tuned!

Sincerely,



Wayne O. Williams
Executive Director
CWWA

CWWA'S WEBINAR AND TRAINING DEVELOPMENT

The CWWA has continued its evolution in every arm of its operations with the introduction of new initiatives. The development of webinars and trainings are geared toward the continuous education of water and waste professionals on the latest innovations and ideas transforming the way work is done and influencing positive and sustainable outcomes at every level.

Our pre-conference workshops are an annual initiative that marries experts with individuals seeking guidance in key areas. At our October 2020 Conference, the Preventative Maintenance Workshop was held virtually, and headed by Operators Without Borders (OWB).

Since then, the CWWA has committed to the provision of several free introductory webinars in light of the present COVID-19 situation, as a perk to our membership and by extension the sectors we serve. Following from this, will be much more in-depth workshops and trainings that will be hosted later on in 2021 that will incur a small fee.

The following is a list of webinars and trainings that the CWWA has led or collaborated on from November 2020 to May 2021:

1. Nov 2020 - Regional Energy Dialogue - A CSEF Event
2. Dec 2020 - OOCUR 2020 Virtual Symposium
3. May 2021 - CCCCC- GCCA+ - Regional SOPs for Climate Resilient Water Infrastructure
4. March, April, May 2021 - UNHABITAT/CWWA/CAWASA/IDB/CDB - "Setting the Agenda for Wastewater Treatment and Monitoring in the Context of SDGs: Urban Wastewater 2030"
5. May 2021 - FS-AWWA/CWWA/CAWASA – Link-Up - Caribbean & Florida "H2O Link Up!": Introduction and Disaster Planning, Response, and Capacity Building
6. May 2021 – Caribbean Risk Management Academy - Enterprise Risk Management

As the CWWA adapts to the ever-changing environment, we continue our commitment to and focus on building the capacity in the region through the provision of knowledge-sharing activities. Some of topical areas of our planned upcoming webinars for 2021 are:

- CWWA Webinar Series – Extended Producer Responsibility Policy & The Circular Economy *in collaboration with Mr. Bob Paul of E5 Solutions, Canada.*
- Youth Service in the Water and Waste Sectors
- Women in Water and Waste
- Public Relations and Communications in the Water and Waste Sectors
- Wastewater Reuse
- Desalination
- Tariffs in the Water and Waste Sectors
- Waste to Energy



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THE LA SOUFRIÈRE VOLCANO WASH REPORT - APRIL 2021

On Sunday April 11th, the Executive Directors of CWWA and CAWASA were contacted about participation in the activated **Detailed Damage Sectoral Analysis (DDSA)** of CDEMA. The Soufriere volcano had erupted on the 9th and the regional emergency response was activated. Under the auspices of the CDEMA team through daily meetings, CWWA, CAWASA, PAHO & UNICEF staff supported the water/sanitation/hygiene (WASH) sector DDSA process on the ground in St. Vincent. The overarching objectives were to rapidly assess the needs related to WASH in the community and shelters, and to provide preliminary recommendations.

There was no significant physical damage to the WASH infrastructure reported from the volcanic eruptions or the seismic activity in the green and yellow zones, but the ash deposits led to the loss of water production capacity island-wide, as well as a difficulty in accessing critical intakes and treatment plants. Alternative water sources, storage design and treatment technologies should be investigated for their appropriateness, utilizing renewable energy sources where feasible. Where possible old infrastructure should be replaced with more climate resilient systems.

Among the defined conclusions were the need to 1) establish and support a national environmental health laboratory; 2) ensure the availability of treatment supplies in order to maintain a free chlorine residual of 0.5mg/L in all water supplied; 3) assure standard WASH procedures for shelters (running water, hygiene, waste management and adequate showers/water closets).

Among the many WASH considerations are the following:

- WASH related Disease: changed population density and displacement with increase pressure on water and sanitation infrastructure increases the risks of disease in the host community and in shelters.
- Redistribution of people from the red and orange zones to the green and yellow zones caused a shift in water demand for the water systems in some areas.
- Climatic Resilience: this is an essential area for Caribbean SIDS as they are vulnerable to storms, especially in the hurricane season; therefore, emergency, and long-term shelter for the displaced is

a WASH concern, as well as rehabilitation and repairs to ensure climatic resilience.

- The Caribbean Water and Wastewater Association (CWWA) obtained water samples from the CWSA and sent to Trinidad for testing. Tests include microbiological and chemical parameters. Test results shared for the water samples were favorable according to the WHO standards for drinking water.
- Water treatment plant tanks, including the sand filtration systems, are uncovered and received significant quantities of ash deposits. These have been emptied, cleaned and refilled systematically.
- Solid waste reported ok, with service by Solid Waste Authority.



Ash in Jennings Water Treatment Plant



Cleaning Jennings Water Treatment Plant



ADDRESS FROM THE WATER AUTHORITY-CAYMAN (WAC) –AS CONFERENCE LEAD 2021.

Preparations Underway for the CWWA 30th Annual Conference and Exhibition

The 30th Annual Conference and Exhibition is just over six months away. The Local Organising Committee (LOC) in the Cayman Islands is hard at work to put on the best event possible.

The 2021 event will take place on a virtual platform. While COVID-19 vaccine programmes are rolling out in many countries, globally cases continue to rise. This makes it

difficult to forecast what international travel will be like in six months.

While we are disappointed that we will not be able to welcome you to our shores, the culture of the Cayman Islands will be on full display throughout the conference. In fact, it is infused within the conference logo with a turtle, an icon of great cultural significance to the Cayman Islands, front and centre.

The logo also highlights the theme of this year's event; "Innovation and Smart Technologies: Building Resilience in the Water and Waste Industries". The theme aligns with the current climate we face today. One of the many lessons learnt from the pandemic is the need to be resilient and the critical role innovative thinking and technology plays in attaining that goal.

We invite all interested parties to share their experiences on applied research, case studies, and lessons learnt in the water, wastewater and solid waste sector by presenting a paper or poster. The extended deadline for abstracts is **Monday, 31 May 2021**. The Abstract Submission Form can be found [here](#).

We would also like to invite groups and organisations to partner with us as sponsors of the conference. We have a broad scope of sponsorship benefits at different levels, making it accessible to all organisations. You can learn more about the advantages of becoming a sponsor [here](#). Information on becoming an exhibitor will be shared soon.

In the meantime, we encourage you to visit the CWWA website, www.cwwa.net. Very soon, the 2021 Conference web page will be launched. It will serve as the hub for all information related to the conference, with continuous updates to keep you up to speed.

GENERAL

- Exploring the Nexus between Water, Waste and Health
- Climate Change, Resilience, Disaster Preparedness and Recovery
- Nature-based solutions for Water & Land Management
- The Water-Energy Connection: Challenges and Opportunities
- Asset Management
- Regulatory Compliance and Best Business Practices

WATER

- Non-Revenue Water
- Innovation in Water Treatment & Distribution Technologies
- Technologies in Water Quality Monitoring

WASTEWATER

- Optimizing Onsite Wastewater Collection & Treatment
- Innovation in Collection and Treatment for Central Systems

SOLID WASTE

- Landfill Alternatives: Achieving Behavioral Change through Innovative Technologies
- Recycling and Energy Recovery Technologies in the Caribbean

Dr Gelia Frederick van-Genderen, LOC Chairperson



THE HIGHLIGHTS OF CONFERENCE 2020

Thank you to everyone who contributed to ensure the CWWA's first virtual conference and exhibition 2020 was successful.

THE CWWA's 2020 CONFERENCE SUCCESS!

Our 29th Conference and Exhibition (October 19-23, 2020) was moved to a fully virtual format after the COVID-19 pandemic came into play. This was the first time that the CWWA's Conference included any virtual aspect! However, even with the all the sudden transformation, all elements of the in-person conference were included. The week of the 19-23 October primarily focused on Technical Sessions with presentations on both the water and waste sectors, with topics including: non-revenue water (NRW), the circular economy, water surveillance for COVID-19, flooding and groundwater modelling to name a few.

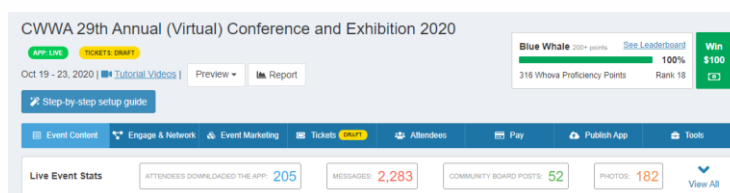
The annual High-Level Fora (HLF) for Water (HLF-16) and Waste (HLF-4) were held on the 27 & 28 October and 3 & 4 November 2020 respectively.

The Conference saw a total of 277 persons registered on the Whova App, with a total of 240 active participants. It was conveyed to us at the CWWA by many who attended as well as several partners, that this, our first Virtual Conference and Exhibition was a huge success! This was well reflected in the number of persons who signed onto the Whova App as well as the number of interactions and postings that were evident within sessions as well as informally via the Whova community chat. Here are a few statistics coming out of our post-conference Whova report:

- During the conference week, our event rated 15th and moving up to 7th place out of 800 events worldwide in the Whova App (based on activity and attendance)
- 82% of participants reported that they found Whova useful.
- Total of 2,015 messages were sent and received in app.
- There were 1,898 attendee profile views.
- 75% of registered attendees downloaded the mobile app.
- There were 113 Webpage Agenda views
- 419 tweets
- A total of 30 leads generated by Exhibitors.
- 249 shared photos and 56 business card exchanges
- Total of 3,455 session views with the top three being the Opening Plenary, Technical Seminar –

Introduction to NRW and Project Finance and Technical Seminar – Waste Reduction and the Circular Economy.

- 93 participants were active in the Community board with 1, 158 messages posted.
- 31 virtual in-app meet ups were organized with 178 in total participation.
- 33 articles shared with 3 job postings.
- 430,686 Sponsor Impressions (Sponsor impressions are when an attendee clicks either on the sponsor banner or navigates to the sponsors customize resources. Each view is counted towards the sponsor impressions total)



The following testimonials speak to the above stats!



Marius Caprariu

I attended other Virtual Conferences and I'm grateful to the CWWA organizer Team for this wonderful event. It is a pleasant surprise to see how everything goes so smoothly. As we see that we can develop good contacts and discuss a lot of issues that each one of us are facing in our day to day jobs, the biggest challenge comes at the end of this successful Conference. How we maintain the communication going and how we can attract other people from the Region into our discussions. Once again many thanks for organizing such a wonderful event. Marius Caprariu

05:18AM

From Kevin Carter to Everyone:

Many thanks for setting these up. Great idea and great conversations! I thank all the CWWA organizers very much and hope you enjoy the moment. Job well done.



Kieran Cadogan

Session was informative and I don't think much was lost having not been done in person. Kudos

12:45PM

BEST VIRTUAL EXHIBITOR BOOTH 2020:



Best Virtual Exhibitor Award is Eng. Ivan Rodrigues Award for Best Exhibitor Booth.

THE RON WILLIAMS AWARD FOR TECHNICAL EXCELLENCE 2020:



Mr. Antony Farrar – Recipient of Best Technical Paper 2020

Title of Mr. Farrar's Paper: **Phasing a Non-Revenue Water Reduction Programme: Realise the In-House Potential of your Utility.**



2020 VIRTUAL CONFERENCE COMPETITION WINNERS

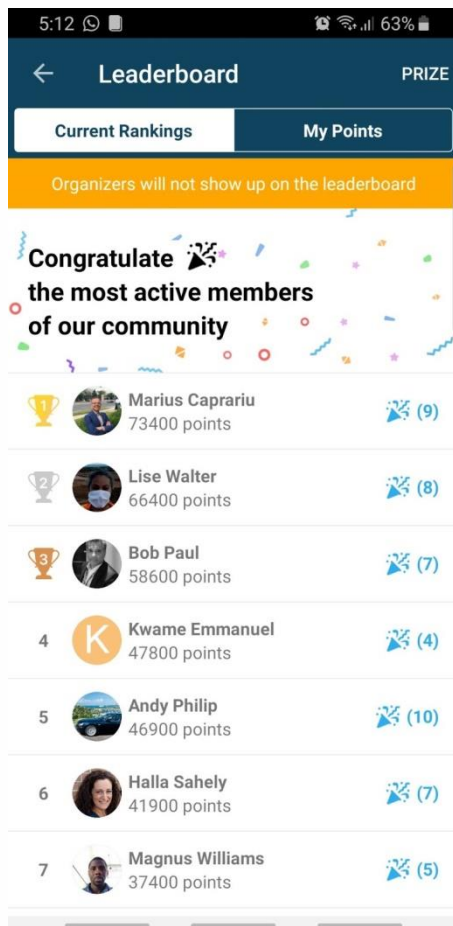
Our 2020 Virtual Conference was a first of many for us at the CWWA! One of our outstanding firsts was the level of interaction on our conference app! We had a total of 2, 283 messages among participants, 1898 profile views in app with 249 photos shared and 56 business cards exchanged, 31 successful virtual meet ups, and amazing interaction on our community board with 68 topics posted and 1158 total messages!

We also ran 3 competitions:

1. Leader board Competition - the person with the most interaction on the platform
2. Caption Contest - post a photo and caption it!
3. Visitor of Most Booths

The following are our 2020 winners:

1. Leader board Contest- Marius Caprariu - a startling 73400 points! We want to also acknowledge all those who were so close behind!



2. Caption Contest - Mr. Bob Paul (Canada) who posted the following photo with the caption "I cycle and recycle"



3. Visitor of Most booths - Ms. Lise Walters (Jamaica)

CONGRATULATIONS TO ALL OUR WINNERS!

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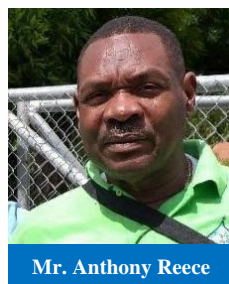
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CWWA'S GOLD AWARDEES 2020



Dr. Adrian Cashman



Mr. Anthony Reece

At our 2020 Conference, the CWWA was honoured to highlight the invaluable work and contributions of two stalwarts of the water sector in the Caribbean. Dr. Adrian Cashman received our prestigious Caribbean Gold Award and Mr. Antony Reece our country-level award for St. Lucia!

Dr. Adrian Cashman has a long work history in the water sector dating back to 1973. His studies at the Imperial College in London were the beginning of his academic foundation. In 1982, he joined the Department of Water Affairs in Namibia where he introduced the concept of environmental impact assessments as part of the planning and design process and managed all the water supply schemes in Southern Namibia. In 1998, Dr. Cashman went on to study for a master's degree in environmental economics at the University of York, UK and further a PhD at the University of Sheffield's Management School, Department of Accounting. At the beginning of 2007, Dr. Adrian Cashman joined the Centre for Resource Management and Environmental Studies (CERMES), University of the West Indies, Barbados as a Lecturer and subsequently appointed Senior Lecturer in Water Resources Management. He went on thereafter to take on the post of Director of CERMES. Dr. Adrian Cashman has been responsible for water research projects in the Caribbean region attracting funding of USD \$5 Million to the UWI. He is presently a water resources management consultant working out of Barbados.

Mr. Anthony C. Reece is a Senior Technician within the Design and Construction Department at the Water and Sewerage Company Inc. (WASCO), Saint Lucia. He is responsible for project implementation, planning and coordinating all site activities. Reece is responsible for Quality Control and Assurance for all pipe installations for new capital work projects and water reticulation systems. His other duties include reporting and ensuring adherence to health and safety standards and policies; and assisting other departments with the installation of lines, tanks and pumps when necessary. Mr. Reece began his career at WASCO on March 17, 1986 as a Leak Detection officer and over the

decades has held various positions, including Technical Officer, Superintendent (Production/Treatment) and Distribution Superintendent. He has had responsibility for oversight of large projects including supervision of the expansion of the T.R. Theobalds' Water Treatment Plant – the largest treatment facility in Saint Lucia. He was then seconded to the construction and design team of Halcrow Engineering. Mr. Reece was also supervised the installation and commissioning of the pumping station and 24-inch mains at Vanard and Sarot. Mr. Reece is a high performer who believes that the honing of his knowledge and skills through continuous education is the key to success. He is certified by the American Boards of Certification (ABC) as a Class III Water Distribution Operator and is currently pursuing Class IV Certification (the highest level by the ABC). Mr. Reece has definitely proven himself to be an all-rounded individual and dedicated worker at WASCO, who goes the extra mile to ensure that his work is of the highest quality and is well deserving of this award.

Congratulations to both gentlemen!

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2017	1-045	2 x 29,000m³	Potable Water	Dominican Republic
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The 2020 High Level Forum for Ministers with Responsibility for Water and Waste in the Caribbean Region

The 16th High Level Forum for Caribbean Ministers Responsible for Water (HLF-16) and the 4th High Level Forum for Caribbean Ministers Responsible for Waste (HLF-4) was held for the very first time virtual for the 29th Annual CWWA Conference and Exhibition.

THE HLF-16 FORUM

The thematic area of discussion for HLF-16 was “Building the Caribbean Water Sector Resilience in the face of a Pandemic and Natural Disasters: The Regional Strategic Action Plan (RSAP) in Action”. This year, the forum was attended by 43 key persons from across the region including Ministers, development partners, heads of utilities, academics and non-governmental agencies. The discussions centered on the impacts of COVID-19 on the water sectors, lessons learnt from the pandemic and the success of the RSAP thus far and the continuation of the first Implementation Plan.

The Honourable Minister Herold Stanislas, Minister of Agriculture, Fisheries, Physical Planning, Natural Resources & Cooperatives of Saint Lucia gave the official Ministerial Opening Address. In this address, Minister Stanislas highlighted a few priority areas in the region including the importance of disaster planning and preparedness as a means to ensuring business continuity in the water sector.



The Honourable Minister Herold Stanislas, Minister of Agriculture, Fisheries, Physical Planning, Natural Resources & Cooperatives of Saint Lucia at the CWWA's 29th Virtual Conference

Minister Collin Croal of Guyana also indicated that the Guyana Water Incorporated (GWI) is facing significant challenges with respect to high levels of NRW and delivering constant supplies of water. He noted that as of 2019, the NRW baseline was 69.7 with three (3) main areas of focus for the provision of water services that include the coastline, urban and Hinterland regions, of which the Hinterland region is particularly problematic due to settlement patterns and topography. Minister Croal also commented on the many effects of the COVID-19 pandemic that has increased overhead costs, increased expenditure on fuel

and decreased revenues. The Honourable Adrian Gibson of the Bahamas expounded on the effects of Hurricane Dorian on the water sector and the lessons learned from the experience.

One of the more provocative presentations was done by Ms. Laura Bulbena of K&M Advisors, which was commissioned by the IDB to evaluate the impact of the COVID-19 pandemic on the technical, commercial and financial position of water utilities in Latin America and the Caribbean. The results presented showed that all water utilities recorded a decrease in net incomes and revenue collections over the period April and May 2020. It is important to note that collection rates have varied on a monthly basis depending on the state of COVID-19 in the countries. In contrast, cash outflows increased forcing at least two (2) regional utilities to operate with lower revenues. Residential consumption recorded a slight increase and non-residential consumption decreased while there was no evidence of an increase in NRW.

THE HLF-4 FORUM

The thematic area of discussion was “Build Back Better: Waste Management in the Caribbean- Post COVID Recovery” was split across a two-day period, attended by an average of 53 individuals from across Caribbean, North America and Europe. Attendees included Ministers, development partners, heads of waste utilities, academics and non-governmental agencies, reflecting on the impacts of COVID-19 on the waste management, lessons learnt from & challenges encountered during the pandemic, and highlighting specific projects, which have championed sustainable waste management in the region.

Opening the forum was the Honourable Marvin Gonzales, Minister of Public Utilities, Trinidad and Tobago. Minister Gonzales opened by establishing that good waste management practices are also integral in water preservation. He also highlighted the work of the Solid Trinidad & Tobago Solid Waste Management Company Limited (SWMCOL) in

championing an integrated waste management (IWM) system which is based around Landfill management, Waste Recycling Services and Public Education & Awareness.



The Honourable Marvin Gonzales giving his Ministerial Address at the 4th High Level Forum for Waste

Mr. Christopher Corbin, representative of the UNEP Cartagena Convention, in moderation of the session entitled *Reporting on the Country Action Plans through COVID-19-Lessons Learnt* recalled that 2020 was scheduled to be the year in which the Caribbean region gained control of its consumption patterns, most notably via the ban of single-use plastic products. However, the impact of the COVID-19 pandemic has changed the landscape and progress of waste management at the global scale. Mr. Corbin made specific reference to the exponential increase in the use of disposable facemasks, the need for greater packaging as social distancing & lockdowns increased the demand for online shopping, and greater consumption & disposal of medical waste.

The goal of the HLF-4 discussions is centered in the development and implementation of the Caribbean Waste Management Action Plan (CWMAP). Reviews of the present plan with adjustments and finalization were carried out, including the emerging topics like COVID-19 and others.

The fora were also supported by the UN Caribbean Environment Programme (UNEP-CEP), UNEP-IWEco, Caribbean Youth Environment Network (CYEN), the Organization of Eastern Caribbean States (OECS), The Kingdom of the Netherlands, Caribbean Development Bank (CDB), Inter-American Development Bank (IDB), the European Union (EU), Caribbean Disaster Emergency Management Agency (CDEMA), Pan-American Health Organization (PAHO), CARICOM and others.

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REPRESENTATIVE CONTACTS

- Bob Rebori, President, rrebori@biomicrobics.com
- Jennifer Cisneros, Marketing, jcisneros@biomicrobics.com
- Joe Rebori, Manager, Sales, jrebori@biomicrobics.com

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THE NEW EXECUTIVE COUNCIL MEMBERS



President – Sara-Jade Govia



Secretary – Cyrielle Casimire



Treasurer – Ronald Roach

General Conference – Change of the Executive Council at the Annual General Meeting 2020

At our Annual General Meeting (AGM) 2020, the following positional changes took place:

1. Secretary - Our outgoing Secretary Ms. Candice Santana was succeeded by Ms. Shervon Ifill elected at the 2020 AGM, however due to personal issues Ms. Ifill resigned and has been replaced by Ms. Cyrielle Casimire. Ms. Casimire was elected at the Special Constitution Meeting of the CWWA membership held on 31 March 2021.
2. Treasurer - Our outgoing treasurer Ms. Laurayne Lucky was succeeded by Mr. Ronald Roach.
3. Vice President - Mr. Marlon Daniels was re-elected.

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- 2) Sign up for an account. If you already have an account, login using your credentials.
- 3) Navigate to "User Profile" → "Renew or New Membership". This takes you to the page with all the membership plans.
- 4) Choose a suitable plan.
- 5) Fill out the membership form
- 6) Click "add to cart" and check out to make your payment. This makes a payment for the present financial year and covers the period 30th June 2019- July 1st 2020.
- 7) If you would like to pay an owed amount for past years (2017-2018 etc.), that option is also available.

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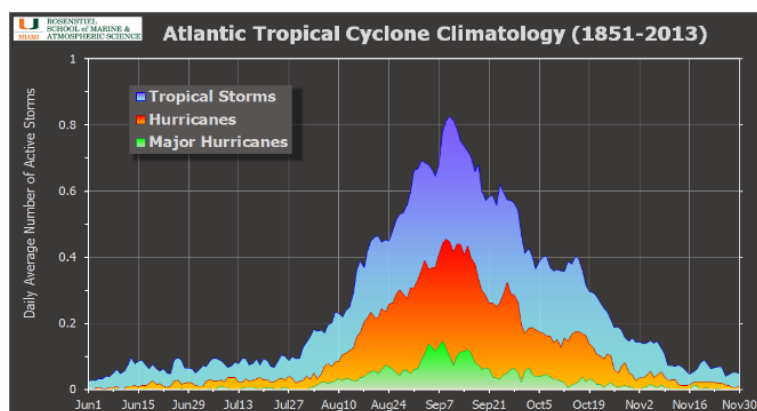


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CARICOF WET/ATLANTIC HURRICANE SEASON OUTLOOKS

The Caribbean Climate Outlook Forum (CariCOF), one of many Regional Climate Outlook Forums promoted by the World Meteorological Organization (WMO), is led by the Caribbean Institute for Meteorology and Hydrology (CIMH). The purpose of CariCOF is to provide sectors with real-time seasonal climate forecasts that can influence their plans and decision-making process over the next 3-6 months. Inputs for these forecasts are also gleaned from the National Meteorological Services of the region. This information is critical even more so for the water sector, where climatic factors directly influence the quality and quantity of our water resource.

The latest forecasts span the months of June - August 2021. The projection for the month of June is for a steady increase in rainfall, wet days and wet spells along with an increase in heat wave days and increasing tropical cyclone activity and flooding across the region. All of these are forecasted to peak in the months of August & September. Heat will be intensifying particularly from July onwards but, overall, the heat is forecasted to be less intense this year than 2019 and 2020.



Historically, Basin-wide tropical cyclone activity historically peaks on 10 September (CariCOF, 2021)

The General CariCOF Forecasts

1. June to August at least as wet as usual in the Bahamas, Greater Antilles, Guianas and Leeward Islands, but possibly somewhat drier than usual in Belize and in the islands southward of Guadeloupe. No major concerns for drought.
2. The ABC Islands and most islands north and west of Dominica may end up even wetter than usual during September to November.

What does this mean for the water sector?

- These projections show the potential for **flash floods, long-term flooding and cascading hazards** are expected to be of growing concern by August in the islands but decreasing in the Guianas.
- **Potentially faster recharge** of large water reservoirs and soil moisture in most of the region in view of increases in rainfall.
- Frequent showers will progressively **decrease wildfire potential**.

In light of the external factors that are affecting the water sector, including the COVID-19 pandemic, this would mean greater focus on strategizing on the use of already limited human and physical resources in case of flooding and potential hurricane impacts.

The threat of landslides and therefore sedimentation of the water resources in some countries will affect supply potential. In addition, the possible impacts of landslides on pipe bursts and leaks should be noted.

For more information, please visit:

<https://rcc.cimh.edu.bb/>

By the Caribbean Institute for Meteorology and Hydrology (CIMH)

CARICOF
CARIBBEAN CLIMATE OUTLOOK FORUM



Dear CWWA Member,

We take great pleasure in bringing to you an added membership benefit:

THE CWWA'S CARIBBEAN SKILLS RESERVOIR

As the name suggests, the CCSR is a pool of information about the skills and competencies of our membership. The benefits are mutual to you and the sector of which you are a part. The CCSR is a database, but more importantly a platform bringing a myriad of job-related possibilities and other capacity-building opportunities to you. (Key benefits are listed in the flyer). Additionally, harnessing the skillsets you possess enables sector heads to understand the present career availability in the water and waste sectors in the region and in so doing help identify gaps in skills required. Filling these gaps can then be facilitated through training and other offerings of the CWWA and its partners, both in the public and private sectors, regionally,

and internationally. This is where the CCSR platform holds its core significance; once opportunities related to your area of expertise come to our doorstep, we are ready and in place to choose you to represent us while you earn additional CV worthy experience! That is, on the condition that you have provided us with your information via the survey below. The CWWA is, therefore, providing you with a marketing strategy for your personal career advancement through increased visibility regionally and internationally. Above all, you are able to be part of a community of practice in your sector. And it gets even better! This service is made available to you free of additional charges and forms part of your membership benefits! All you have to do is click the link below, enter your information, submit and you are good to go!

[CLICK HERE FOR CCSR SURVEY!](#)

INTRODUCING THE CWWA SKILLS RESERVOIR

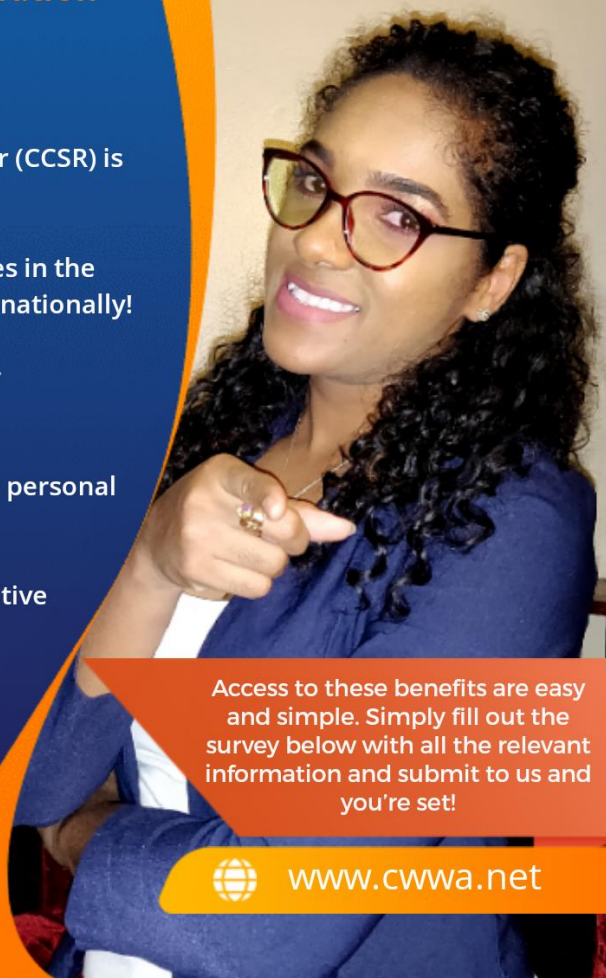
Make your skills and competencies known to us! We at the Caribbean Water and Wastewater Association are interested in you!

The CWWA's Caribbean Skills Reservoir (CCSR) is intended to:

- Connect you with employers/vacancies in the water/waste sectors regionally & internationally!
- Expose you to a myriad of new career opportunities!
- Create opportunities to increase your personal financial earning
- Boost your CV and give you a competitive advantage
- Add experience in your field
- Increase your sphere of influence (or interest)
- Enable you to be part of a community of practice



Wants you!



Access to these benefits are easy and simple. Simply fill out the survey below with all the relevant information and submit to us and you're set!



www.cwwa.net

DISASTER DEBRIS MANAGEMENT IN THE CARIBBEAN

By Ronald Roach

The Caribbean region is prone to natural disasters. Within recent years, there have been disasters caused by earthquakes, hurricanes and volcanos. On 12th January, 2010, a magnitude 7.0 earthquake struck Haiti, causing a death toll of at least 160,000 persons and resulting in widespread destruction, creating some 10 million cubic meters of disaster waste in the process. It was reported that one year after the earthquake only 5% of this disaster waste was cleared. Hurricanes are an annual occurrence in the Caribbean and often result in substantial quantities of disaster waste being produced. In September 2017, Hurricane Maria devastated the islands of Dominica, Saint Croix and Puerto Rico. According to Puerto Rico's Solid Waste Authority, approximately 6.2 million tonnes of waste were generated due to this hurricane, enough to fill 43 stadiums with trash up to eight stories high. The Soufriere volcano which erupted in St. Vincent on 09th April 2021 is producing another type of disaster debris in the form of ash. Additionally, the buildup of ash on buildings will result in building collapses which would lead to additional disaster debris being generated.

All of this disaster debris requires careful and considerate management. Experience has shown that most waste disposal sites often become overwhelmed after a disaster incident and cannot accept the volumes of debris being received. In many cases, this results in unplanned temporary dumpsites being created. After Hurricane Maria swept the island of Puerto Rico, the quantity of garbage created by the storm was so overwhelming that the island's pre-existing landfills could not begin to contain it all. As a result, the government was forced to temporarily deposit debris in other places, such as soccer fields and the grounds of closed public schools. This creates further challenges for public health and the environment due to the putrescing garbage.

To develop a coordinated approach for managing disaster debris, it is imperative to develop and implement a disaster debris management plan as part of the overall disaster management plan. Through effective planning, disaster-related waste can be managed in a very environmentally sound manner, with regards for public health and maximizing source reduction and recycling as well as minimizing land disposal of the debris generated. A disaster debris management plan can help a country, municipality or community identify options for collecting, recycling and disposing of debris. Identification of equipment required for clearing of pathways and removing the debris (loading and transport), establish sites for sorting and recycling the debris

and identification of sites for temporary disposal and/or storage of disaster debris are all components of a disaster debris management plan. Disaster debris management plans are required at a regional, national and community level. Large organizations and institutions can also develop their own disaster debris management plans.

In summary, the Caribbean region will continue to experience natural disasters due to its location and geographic features. Disaster debris management is an important but often overlooked aspect of disaster management. It is therefore imperative that disaster management plans be properly developed and that a disaster debris management plan be developed as a subset of the overall plan. Successful disaster waste management can reduce health and environmental risks, improve the timeliness of recovery efforts, reduce stress and trauma of affected persons, whilst still allowing for the proper and safe disposal and/or recycling of the debris generated.

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COLLABORATION FOR SUCCESSFUL WASH PROGRAMS

By Rensforde Joseph

WASH (or Watsan, WaSH) is an acronym for "Water, Sanitation and Hygiene, first coined in 1988, to mean Water Sanitation and Health but was later changed. The common belief is that the concept of WASH groups together water supply, sanitation, and hygiene because the impact of deficiencies in each area overlaps strongly. The lead international body behind WASH is the United Nations, considering its link to Sustainable Development Goal 6, and particularly to Goal 6.1 and 6.2. These goals aim to, by 2030, achieve universal and equitable access to safe and affordable drinking water for all and achieve access to adequate and equitable sanitation and hygiene for all, and end open defecation.

During the period 2019 to present, the Guyana Water Incorporated (GWI) and the United Nations Children Fund (UNICEF) and later the United Nations Development Program (UNDP); have been working collaboratively as Guyana thrusts forward towards achieving SDG Goal 6. A significant proportion of the activities under this WASH program were executed in Barima Waini, Region 1. This specific WASH initiative was birthed out of a need to respond to the sudden influx of hundreds of Venezuelan Migrants into several already-challenged villages of Region 1, Guyana.

Through an efficient collaboration, swift and effective solutions were rolled out in the seven Region 1 villages and one remote village in Cuyuni-Mazaruni in Region 7. Understanding the concept of WASH, the executing unit, during the investigative and implementation phases, focused on saving lives, especially among children and the elderly. Understanding that access to clean water, basic toilets, and good hygiene practices is paramount to the children's development, the team embarked on a project geared at providing a clean and safe environment for all the affected - children, migrants and hosting communities.

Upon entering the village of Khan's Hill, the team found that the entire village population of 139 locals,

including 79 children and 129 migrants, 72 of whom were children, the only source of water was from a slow flowing unprotected spring. The spring was found more than 200 meters from the nearest resident, at a depression of over 100 feet. Further, the source, due to its location reference to the village, is unavailable during the wet seasons due to it becoming contaminated from run-offs. In the area of sanitation, the community had just three dilapidated conventional pit latrines, suffice to say, open defecation was widespread across the village.

Multi-purpose center and rainwater harvesting facility Constructed at Khan's Hill



Understanding the urgent need for access to a clean and sustainable source of water, the project initially looked at the possibility of sinking a well at Khan's Hill. This however proved futile due to the igneous rocks at this location, which makes such an exercise very difficult. The alternative therefore, though temporary, was to set up sufficient rainwater catchment facilities, with filtration systems to provide safe water for the residents during the wet seasons.

As seen in the pictures above, this intervention provided fresh drinking water for the residents whilst also providing a multi-purpose center that is being used particularly to provide schooling for the scores of children.

The sanitation issue was also addressed through the construction of twelve ventilated Improved Pit latrines, completed with rainwater harvesting facilities, containers and hand washing facilities as see in the pictures below.

These interventions completely changed the initial bleak outlook for the hundreds of children residing in this village from one of desperation to hope, life and dignity.

Under the hygiene aspect of the project, the locals, who spoke the language of the migrants along with the Regional Environmental Health Officer, were utilized in executing hygiene training whilst the project distributed hygiene items, and cleaning agents.



VIP Latrine at Khan's Hill

Author:

Rensforde Joseph

Sanitation Manager, Guyana Water Inc.



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THE CWWA'S INTERN 2021



Salisha Gunness

The CWWA was founded in 1991. It is the preeminent Association of professionals and practitioners in the private and public sectors for water, wastewater and solidwaste in the Caribbean. I chose to do my internship with this association because I recently completed a BA Special (Hons)

in Visual Arts, specializing in Design at the University of the West Indies, St. Augustine Campus. And I wanted a hands-on opportunity to apply the education and knowledge I gained in my degree.

My duties at the CWWA are to conceptualize graphics and video campaigns for social media sites, website and other platforms. As well as daily update and maintenance of the CWWA's social media sites, assisting in communication with National Sections and marketing the annual conference, designing a branded PowerPoint presentation, letterhead and call cards. In addition, aid in the setup of the online CWWA paraphernalia sales sites and periodic updates of the CWWA membership database.

My internship experience thus far, has been an amazing one. I enjoy working directly with the CWWA's Executive Director and Operation's Officer as well as members of the CWWA. It gives me the real-work experience in my field, and I have the opportunity to interact with professionals in the water and waste sectors.

-Salisha Gunness



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THE CWWA YOUNG PROFESSIONALS SPOTLIGHT -MR. EMIL RAMKISSOON



Mr. Emil Ramkissoon

Emil Ramkissoon is a Lawyer and Director at New Wave Marketing Ltd.

New Wave Marketing is a manufacturer and distributor of domestic, commercial, and industrial PVC pipes and fittings, family entrepreneurship of over 35 years. He uses his legal skill set combined with his passion for business to execute his portfolio in the company's operations. At NWM, his focus is to provide complete waterworks solutions with technical support and installation guidance to its customer base on pressure-rated water and sewerage systems locally and throughout the Caribbean's hub. He is also continuously setting industry standards for its manufactured products with

various certification boards & services. Mr Ramkissoon is a young professional of the Caribbean Water and Wastewater Authority (CWWA) in Trinidad and Tobago's national sector and is always an avid attendee at the regional conferences and technical seminars held in various islands annually.

Mr Ramkissoon graduated with a Bachelor of Law (LLB) from BPP University and a law degree LPC from the University of Westminster, London. He returned to Trinidad and completed the conversion attachment at Pollonais, Blanc, de la Bastide, and Jacelon, where he focused his practice areas in mergers and acquisitions, corporate collateral loans, and the conveyance of properties. Thereupon, he was admitted to practice law in the Supreme Court of Trinidad and Tobago in 2018. He holds an MBA from Nova South-eastern University.

Mr Ramkissoon was the youngest member to be elected to the Trinidad and Tobago Manufacturers' Association (TTMA) board of directors in 2020 and is the current Corporate Secretary. He is also a member of the American Water Works Association (AWWA).

CARIBBEAN YOUTH MAKES A BIG SPLASH



Congratulations!

Jamilla Sealy - CYEN Member

Appointed as Vice-Chair of the Global Water Partnership (GWP) Steering Committee and holds the first-ever permanent youth seat

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FIRST WATER LOSS GROUP - CARIBBEAN

COME JOIN OUR FIRST WATER LOSS GROUP IN THE CARIBBEAN!

The Chair of the International Water Association(IWA) Water Loss Group who is also the International Business Development Director for MIYA Water, Mr. Stuart Hamilton, has indicated his interest in helping to formulate the First Caribbean Water Loss Group. This relevant and influential group will lead the cause to champion water loss through pipe leaks and bursts among other related issues in the water sector in the region.

The group is in its founding stages, which provides you with a very good window to get involved from inception and be an advocate for positive change in this challenging area. With Mr. Hamilton steering this group,

the availability of world-class guidance and advice is made available to the region proficiently - a tremendous opportunity!

At this time, we are looking for persons who are willing to assist with the setup of the group as well as at least one representative from each Caribbean country.

If interested, please contact, shamilton@hydrotec.ltd.uk to confirm your participation.



Mr. Stuart Hamilton

FIRST WATER LOSS GROUP - CARIBBEAN

The Chair of the IWA Water Loss Specialist Group is interested in developing the FIRST Water Loss Group in the Caribbean! The idea of this group is to enhance the knowledge of NRW in the region, to share available data, conduct training sessions and webinars and to bring the issue of lack of water through high levels of NRW to the forefront

The CWWA is looking for:

- Persons to assist with the set up of this group
- At least 1 representative from each Caribbean country

INTERESTED? PLEASE EMAIL SHAMILTON@HYDROTEC.LTD.UK
TO CONFIRM YOUR REQUEST TO PARTICIPATE!

KNOWLEDGE CORNER

Resources for Caribbean Water and Wastewater Utilities during the COVID-19 pandemic:

<https://www.awwa.org/AWWA-Articles/coronavirus-and-water>

<https://www.wef.org/news-hub/current-priorities/coronavirus/>

WATER & SANITATION FACTS (UN WATER, 2021)

- There is a global hygiene crisis

40% – or three billion people – of the global population live without basic handwashing facilities with soap and water available at home. Further, one out of six health care facilities globally have no hygiene service, meaning they lack hand hygiene facilities at points of care, as well as soap and water at toilets. 1 in 10 patients get an avoidable infection while receiving care.

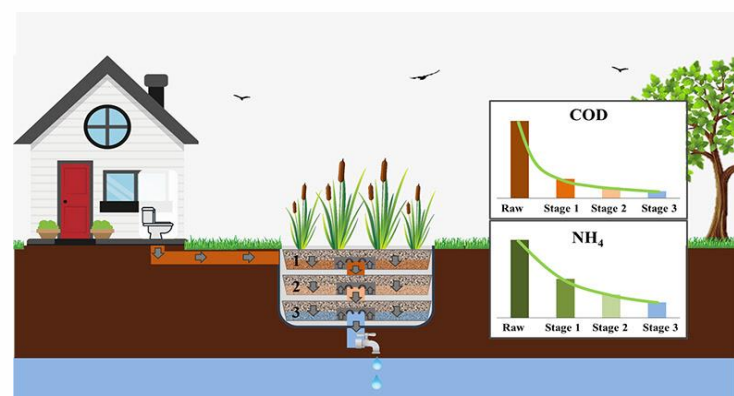
- Handwashing is a lifesaver

Handwashing with soap is one of the most effective barriers to the spread of diseases. Around 297,000 children – more than 800 every day – under five die annually from diarrhoeal diseases due to poor hygiene, poor sanitation or unsafe drinking water.

WASTEWATER TREATMENT

Nature-based solutions –The Importance of Wetlands

Did you know? Constructed **wetlands** provide simple and effective **wastewater treatment**. They can be used to **treat** domestic, agricultural, industrial and mining wastewaters. Their construction costs are much less (50 to 90%) than conventional systems and their operating



costs are very low.

SOLID WASTE MANAGEMENT

Separation of waste is one of the first steps of solid waste management.

Here are two methods of solid waste management:

Recycling- Recycling serves to transform the wastes into products of their own genre through industrial processing. Paper, glass, aluminum, and plastics are commonly recycled. It is environmentally friendly to reuse the wastes instead of adding them to nature.

Composting- It involves decomposition of organic wastes by microbes by allowing the waste to stay accumulated in a pit for a long period of time. The nutrient rich compost can be used as plant manure.



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