

In this issue:

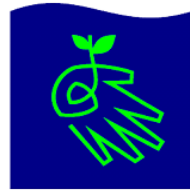
- Restoration Begins with Me!...pgs.1,2 and 3
- IWEco.SKN; Training & Capacity Building in Marine Ecosystems Conservation and Restoration ...pgs.1 and 4
- Vinci and the Mighty La Soufriere Volcano ...pgs. 5 and 6
- IWEco.Jamaica—Restoring the Negril Great Morass ...pg. 6
- IWEco's Second Governance Partnership Meeting Convened ...pg. 7
- IWEco Project Coordination Unit says Farewell to Nicole! ...pg.7
- IWEco's Regional Laboratory Assessment Published. ...pg. 8
- Growing a Future ...pg.8

Sustainable Development Goals being addressed



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IWEco:link

Quarterly newsletter of the GEF-funded Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States Project

www.iweco.org



Reef Guardian water training session, 2021

IWEco SKN: Training & capacity building in marine ecosystems conservation and restoration

IWEco SKN has been working with the Department of Marine Resources (DMR) to survey vulnerable coral reefs on the eastern coast of Nevis, as well as the reefs located closest to the outlets of major ghauts in St. Kitts. This is necessary to determine the full extent of any negative impacts from soil erosion and runoff.

To support these activities and ensure sustainability for both land and marine ecosystems management in the Federation, IWEco.SKN sup-

(Continued on page 4)

RESTORATION BEGINS WITH ME!

The United Nations (UN) declared 2021-2030 the UN Decade on Ecosystem Restoration, in a rallying call for the protection and revival of ecosystems around the world. Led by the UN Environment Programme (UNEP) and the Food and Agriculture Organization of the United Nations (FAO), it aims to build a strong, broad-based global movement to ramp up restoration and put the world on track for a sustainable future. Healthy ecosystems are necessary to enhance people's livelihoods, counteract climate change, and stop the collapse of biodiversity.

"Restoration Begins With Me" was launched on the International Day of Forests (IDF), 23rd March 2021, by the UNEP GEF-IWEco Project in partnership with the UNEP Caribbean Sub-Regional Office



(Continued on page 2)



Caribbean Public Health Agency

CARPHA

SGP The GEF Small Grants Programme

(Continued from page 1)

(CSRO), the Cartagena Convention Secretariat and the Food and Agriculture Organization Representation for Jamaica, the Bahamas and Belize, to invite people across the Caribbean to join the conversation on ecosystem restoration.

The campaign culminated on World Environment Day (WED), 5th June 2021, when the Decade on Ecosystem Restoration was formally launched. Both the IDF and WED themes “Forest Restoration – A Path to recovery and well-being”, and “Ecosystem Restoration”, were addresses as individuals and groups throughout the Caribbean were invited to share any restoration activity in which they have been involved.

Here is a selection of the submissions showing how people act, both individually and collectively, to restore areas or species that they care about. These were among those featured in our social media between 5th—23rd June 2021.

INDIVIDUAL CARING AND RESPONSIBILITY



“One of the reasons I became a photographer was to showcase the biodiversity that can be found in my backyard. Most people, my family included, have long seen yards as merely green areas to be used for their own enjoyment or useless plots that can be turned into an apartment. What they fail to realize is that the grassy plots are actually environments as complex and relevant for Trinidad's ecosystem as any other.

By showing the sheer amount of creatures that can be found in my yard, I wish to convince persons not to cut theirs and instead let it grow out. It is a complete waste to destroy an entire ecosystem merely to pave it over for a parking lot or the like. ...I did not do anything to modify my yard, I just let it grow out and everything fell into place naturally.”

- Zeph Luc, Trinidad & Tobago



“The mangroves are an irreplaceable limb on the coastal body. Everything from assisting in research and surveys, to planting and restoration, protecting, nurturing and educating others about these coastal gems is my duty, yet still both my passion and pleasure.”

- Jonathan Joseph, Saint Lucia

Short video: https://www.youtube.com/watch?v=C_sKWxqakMA

COMMUNITY MOBILIZATION

Short video: <https://youtu.be/u3o3BX5A0sE>



“Foundation Hofi Chiki is Reforesting by planting Tiny Forests in urban areas: using Internationally proven techniques, mixing modern science and old-school knowledge & technology while being rooted in local society.

Tiny Forests have an Educational function. Our Tiny Forests planted at schools bring the experience of nature closer to children. They stimulate the curiosity of children and give children the opportunity to discover and learn about nature in their own living environment.

Tiny Forests stimulate Biodiversity: Tiny Forests consist of many different types of trees and plants. These trees attract insects and birds who fertilize the flowers, eat fruit and by doing so, seeds will be spread over a wider area.

The planting of Tiny Forests significantly increases the Water Storage capacity on an island where tropical showers drop a lot of rain in a short time.

Tiny Forests improve Air Quality. The forests combat Heat Stress, and that is important because Climate Change will also affect the Caribbean.

This forest at Klein College is the first Tiny Forest planted in the Dutch Caribbean. At least 450 indigenous shrubs, shrubs and trees have been planted in this forest. The 41 different species range from common to extremely rare trees.”

- Lennart Bak, Hofi Chiki, Curacao

#CaringForOurFuture

COMMUNITY MOBILIZATION

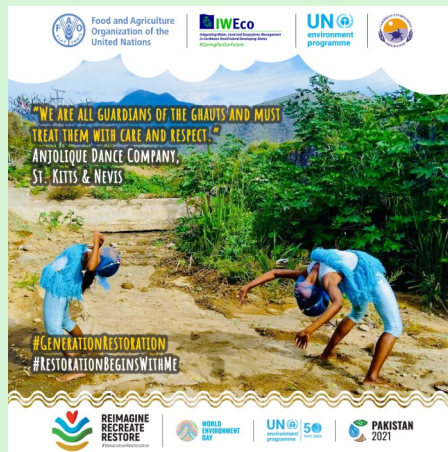


“Here’s what you can do to maintain a healthy ghaut and prevent erosion:

- ⬇ practice good management by minimizing disturbance adjacent to and on ghaut slopes and planting large growing native tree species, plus native shrubs and forest plants, appropriate to your area
- ⬇ control invasive plants
- ⬇ monitor forest health
- ⬇ ensure and maintain proper setbacks from the edge of the ghaut
- ⬇ be a good neighbour – realize that your actions affect the property owners

We are all guardians of the ghauts and must treat them with care and respect. Enjoy and protect your ghauts! “

- Anjolie Dance Company, St. Kitts & Nevis



“This is the largest specimen of the endemic Sabal palm (Sabal lougheediana) on Bonaire. There are only 25 mature palms left and the population is declining, mostly due to invasive herbivores. Thankfully, most of these palms, including this one, will soon be enclosed within a fence that will keep these animals out, so the population can recover. BonBèrdè is furthermore working together with the local government to implement a Bonaire Sabal Palm park in the future. The park will include both sustainable tourism as well as research and conservation of this unique species.”

- Quirin Coolen, BonBèrdè, Bonaire

PARTNERSHIP AND COLLABORATION



“The Ministry of Planning and Development in Trinidad and Tobago is charged with the responsibility of environmental policy and management through our environmental divisions and agencies.

Understanding the importance of our forest ecosystems, we embarked on a project through our Environmental Policy and Planning Division (EPPD) and the Institute of Marine Affairs (IMA) to restore some of the mangroves in Brickfield located in Couva, to halt some of the coastal erosion which has been occurring in that coastal community.

We mustered over 100 volunteers over a two-day period and along with our staff transplanted some mangrove plants from the Caroni Swamp to the Brickfield Mudflats.”

- Ministry of Planning & Development, Trinidad & Tobago

NEED FOR MANGROVE CONSERVATION AND RESTORATION



Mangrove restoration was the single most common theme of submissions.

(Left) “The Mangrove Maniacs is a dedicated NGO of professionals and volunteers committed to the preservation of the mangroves of Bonaire. Restoring waterflow and circulation as well as reforestation are key operations. This photo is of an out-planting event on the west coast of Bonaire.”

(Right) Photo, from Panama’s Ministry of the Environment, of “a Red Mangrove Plato (Rhizophora mangle), where the propagule planting method was used in bamboo stakes, framed on a mirror of crystalline water that reflects the bright blue sky. It represents the renewal of life in the wetland, which through restoration methods is able to recover the beauty of what it once was.”



(Continued from page 1)

ported two different training and capacity building activities in April and May 2021. A total of 40 persons in St. Kitts and Nevis benefitted from training and capacity building in marine ecosystems monitoring and restoration under two different interactive training programs.

The SKN Reef Guardian program

This was developed in collaboration with the DMR, the Department of Youth Empowerment, and the Anjolieque Dance Company with a grant from the UNDP GEF Small Grants Program (SGP) in 2019.

The program aimed to reduce negative impacts on the marine environment and its resources through awareness building, knowledge sharing and support for on-the-ground efforts for conservation and environmental sustainability. It combined theory and practice through interactive classroom and in-water sessions. Topics covered included the importance of mangroves, seagrasses, corals, sea turtles and other marine species within the network of St. Kitts and Nevis Marine Management Areas, as well as the blue economy and climate change.



Trainees at Career Fair hosted by Ministry of Agriculture, Fisheries and Marine Resources, 2021

In 2020, the first 19 graduands of the program formed an NGO in active partnership with the DMR, which provides technical mentorship. The group focused upon Marine Conservation, Education and Awareness and Youth Empowerment. In addition, the DMR's Ecosystem Management Division has incorporated the SKN Reef Guardian training program into its annual work plan, aptly led by course facilitator and DMR marine biologist Mrs. Tricia King.

IWEco.SKN also supported extension of the training program to a second cohort in Nevis. The training was held over 7 classroom and water sessions in April and May 2021. Trainees also had the opportunity to interact with youths and share knowledge at a Career Fair hosted by the Ministry of Agriculture, Fisheries and

Marine Resources. Government entities represented included DMR Nevis, Department of Environment and Physical Planning Nevis, Nevis Disaster Management Department and Department of Agriculture Nevis. A total of eight participants graduated in a ceremony on May 20th, 2021 (see photo above). The program will be run again this summer and focus on youth participants.



Training in coral reef restoration

Artificial reef Training sessions with the MOREEFS experts

MAY 2021
Mondays (10 and 17)
Wednesdays (12 and 19)
6:00 pm - 8:00 pm

IWEco.StK&N
Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States
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This was delivered over four 2-hour-long sessions using the Zoom platform which were facilitated by Dr. Alwin Hylkema of the University of Applied Science Van Hall Larenstein and based in Saba who is also the developer of the MoReef* Artificial Reef. Over 30 participants participated in the sessions which covered 4 main topics: Artificial Reefs, Coral Reef Restoration, Diadema Restoration and Application of the MoReef.

As part of the effort to restore coral reefs in St. Kitts and Nevis, the DMR has decided to construct and deploy several MoReef artificial reef modules using the special molds and associated equipment purchased with the support of IWEco SKN. The newly-trained participants, as well as the newly-trained SKN Reef Guardians will apply their new skills in deployment of the artificial reef as well as other restoration options such as coral reef nursery. Construction of the modules will start in summer 2021 and they will be deployed in the following months. Look out for more information and updates on this exciting activity in St. Kitts and Nevis!

* MoReef Fb: @moreefmorelife

“Vinci” and the mighty La Soufriere volcano

A vulnerable parrot faces a devastating threat

On April 9th 2021, La Soufriere Volcano on the island of St. Vincent, began a series of explosive eruptions which reached their peak with the collapse of the dome and the beginning of pyroclastic flows on April 12th, and continued almost daily until recently. This activity decimated nearby towns, agriculture, affected rivers, and blanketed the entire country in ash. People and animals had to be evacuated out of the danger zone and the country has since been preoccupied coping with a humanitarian crisis, made more challenging by the ongoing COVID-19 pandemic.



Photo courtesy
Nandini Bridglal



1. Destroyed Caribbean Pine plantation on the foothills of La Soufriere, St. Vincent, May 2021

The unpredictability of the volcano led to great concern not only about the inhabitants of the island, but also about the parrots and other wildlife which would have been badly affected in the immediate zone around the volcano.

Just south of La Soufrière, in the central mountain range of the island of St. Vincent, is the home of the St. Vincent Amazon (*Amazona guildingii*), the only native parrot. Endemic, it is the national bird, and is found mostly in the mature rainforest between 125 and 1,000 metres up. Known locally as “Vincie”, it lives here, feeding on the flowers, nuts, fruits and seeds of many plants such as Ficus, Clusia and Cecropia.

Once common, Vincie is now on the IUCN Red List of Threatened Species and listed on Appendix I and II of CITES. It is increasingly threatened by trapping for the illegal cage-bird trade, deforestation, forest fires, expansion of agriculture, charcoal-production and natural events such as hurricanes and volcanic eruptions, which contribute to habitat loss.

In the 1980’s there were as few as 370-470 birds but today Vincie and its habitat are protected by law and the population has been slowly increasing. It is still listed as Vulnerable with a wild population of about 750 birds.

BirdsCaribbean quickly launched a crowd funding page to assist with rescue and rehabilitation of the parrot. Several international organizations got involved, including Fauna & Flora International, Caribaea Initiative, Durrell Wildlife Conservation Trust and Rare Species Conservation Foundation. With the guidance of the St. Vincent Forestry Department and a local NGO, SCIENCE SVG, they began helping with rescue and rehabilitation of the parrots.



2. Change in shoreline caused by pyroclastic flows and lahars in the Walibou River, St. Vincent, May 2021.

Efforts included fundraising to cover the cost of field equipment and supplies needed by Forestry staff, aviary building supplies and veterinary supplies.

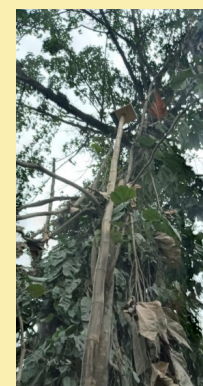


3. Forestry workers installing feeding platforms

Foresters thought that any parrots in the area of the volcano would have moved to safer zones to the south but there was concern that continuing eruptions would lead to the death of many birds as ecosystems were devastated by the atmospheric gases and heavy ash-fall blanketing the country, as well as by pyroclastic flows. Teams of foresters used their ingenuity to set up feeding stations for the parrots. Rehab facilities for rescued birds at the Botanical Gardens of St. Vincent received more supplies.

The IWEco National sub-Project in Saint Vincent & the Grenadines, which began in 2020, to address land degradation in the Georgetown Watershed, a major habitat for the parrot, includes two activities focused on the species. The first is a census to be carried out in July 2021. This has become even necessary following the recent volcanic activity.

The second is thinning of the Blue Mahoe and Mahogany forest plantations located at



4. Feeding platform on a bamboo pole

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Perseverance, with the aim of improving stability of the existing forest plantation as well as diversity through natural regrowth of indigenous forest tree species. This would increase the parrot's living area significantly.

There are also plans to develop the Jennings Bird Watching Trail, an existing forest patrol trail. This is expected to result in

spin-off benefits for the community, through jobs linked to the provision of services, accommodation, trail guiding and selling of indigenous, local branded souvenirs.

The forests of St. Vincent provide a home for the St. Vincent Parrot and so many other valuable species. In addition to their aesthetic value, they stabilize the land, prevent flash flooding, and are used for traditional medicines, fuel, ornamentals, craft and construction; in fact, they provide a range of ecosystem services. Yet, according to a 2004 study, they were being lost at an annual rate of 3%.

The last word goes to Fitzgerald Providence:

"The eruptions of La Soufriere have brought challenges and opportunities to our lives and livelihoods as Vincentians. The IWeco.SVG project was a response to severe damage caused to the Georgetown watershed by an unexpected trough system in 2011 which caused extensive flooding, soil erosion and infrastructural damage."

"Now, more than 30 explosive eruptions of La Soufriere have dumped tonnes of ash on the island, damaged vegetation and covered the forest floor on these vulnerable, steep slopes with ash. There will be further damage by the heavy rains of the wet season, which is just beginning. We must be observant and responsive, and work with the forest environment to ensure that our island's precious land and biodiversity are protected for future generations to enjoy."



Photos 1-4, pg. 5, courtesy of Fitzgerald Providence, Director of Forestry, Forestry Department, Ministry of Agriculture, Forestry and Fisheries SVG



IWEco Jamaica: Restoring the Negril Great Morass

IWEco's Jamaica National Sub-Project is being implemented in the Negril Environmental Protection Area. With the start of the Decade for Ecosystem Restoration, Loureene Jones, National Project Coordinator underlined the significance of the project:

"We have an excellent opportunity to rehabilitate the Negril Great Morass which is one of the largest wetlands in Jamaica and one of the largest natural coastal wetland ecosystems in the Caribbean. The Negril Great Morass is the home of internationally significant species such as the Morass Royal Palm (*Roystonea princeps*) which is only found in western Jamaica; and the West Indian Whistling Duck (WIWD) which is a globally threatened species. The project site is delineated by the boundaries of Negril Environmental Protection Area (EPA), and covering approximately 271 square kilometres and spanning the western parishes of Westmoreland and Hanover.

Over the years, the Negril Great Morass has been subjected to many destructive human practices, compromising its functions and the ecosystem services. Threats such as the unsustainable farming practices, human-induced drainage and reclamation, coastal development, invasive alien species, and the proliferation of unplanned settlements have exerted numerous stresses on the natural resources of this area. A successful project means the successful rehabilitation of the Morass and its restoration of ecosystem services. In particular, it will result in the maintenance and improvement of biodiversity, trapping of sediments and pollutants and an improvement in the quality of water which is being released to the sea. It also means protecting and improving livelihoods as well as maintaining a sense of well-being through interactions with a healthy environment.

As part of the project's effort to curtail threats and actively participate in the Decade on Ecosystem Restoration, the possible solutions to restore the hydrology and increase water retention within the morass is being investigated. The project has also initiated the *Why Our Wetlands (WOW)* Public Awareness Campaign and farmer training activities. Together, these activities offer an unparalleled opportunity for job creation, food security and adaptation to climate change but we can only succeed if everyone plays a part."

See article on the WIWD: <http://www.iweco.org/node/361>

IWECO's Second Governance Partnership Meeting convened

On April 9, 2021, the Organisation of Eastern Caribbean States (OECS) Commission, with the collaboration of the Caribbean Public Health Agency (CARPHA), held the second meeting of the Governance Partnership under the GEF-IWECO Project. The meeting was convened virtually and attended by the project's governance partners.

The Governance Partnership seeks to assist countries in strengthening and mainstreaming policies and strategies related to the major thematic areas in water, land and biodiversity resources management in the context of climate change. The first Governance Partnership meeting of the Governance Partnership took place in Saint Lucia in March 2019. This, second, meeting aimed to review and consolidate the approaches defined at the first meeting, and to provide partners with an update on two major activities taking place under Component 3 of the project.

Component 3 aims to strengthen the policy, legislative and institutional reforms and capacity building for Sustainable Land Management (SLM), Integrated Water Resources Management (IWRM) and ecosystem services management in all participating countries. It takes into consideration climate change resilience building and its expected outcomes are:

- Strengthened policy and legislation for the effective management of water, land and ecosystems resources that account for climate change; and
- Strengthened capacity of national and regional institutions and other stakeholders for water, land, and ecosystems management that account for climate change.

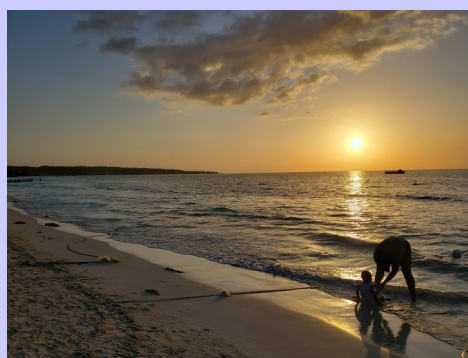
Under this Component, in the period since the conclusion of the first Governance Partnership Meeting, in September 2020, Open Plan Consultants Limited was awarded the consultancy to review and strengthen policy,

legislative and institutional capacity to support sustainable land, water resources and eco-systems management in IWECO participating states.

Their assignment will inform and make recommendations for the development and/ or enhancement of policy, legislation and institutional reforms that address *inter alia* the lack of financing and policy as well as the lack of coordination amongst sectors identified in many of the participating countries. In fulfilment of this, they have conducted interviews and executed capacity building workshops with stakeholders across eight IWECO project countries.

More recently, in April 2021, also under Component 3 of the project, the consultancy to develop a regional action framework for integrated water resources management (IWRM) for the Caribbean region was awarded to Global Water Partnership-Caribbean (GWP-C). This assignment focuses on strengthening and mainstreaming national action plans and strategies through the development and support of regional frameworks, notably the proposed CARICOM regional frameworks for IWRM.

CARPHA is a co-executing partner of the GEF-IWECO Project and is responsible, in collaboration with the OECS, for executing Component 3. The recently concluded second Governance Partnership Meeting provided the partners with an opportunity to share information which will be useful in implementing project activities, and the GEF-IWECO Project team will continue to work with the partners to achieve the project's objectives.



The IWECO Project Coordination Unit says Farewell to Nicole!



With the start-up of national and regional activities and as partners began reporting on their progress, the Project was happy to have the support of Dr. Nicole Caesar as IWECO's Technical and Monitoring Specialist.

For 2 ½ years, Nicole maintained intensive contact with most, if not all, of the project partners, stimulating execution, documenting and reporting their progress. Her attention and guidance with these aspects of the project have been vital.

Nicole managed the IWECO 'Progress Dashboard' where all progress information provided by partners is stored and automatically analysed, while at the same time taking the lead in several regional surveys. The Feasibility Study for the Establishment of a Regional Environmental Data Portal (REMDAP) and the recently completed regional Laboratory Needs Assessment in IWECO Project Participating Countries for Strengthening Capacity for Environmental Monitoring, were interventions that were successfully led by her.

In May 2021, Nicole was transferred from the IWECO Project Coordination Unit (PCU) to join the UNEP Chemicals and Health Branch with the Economy Division in Geneva, Switzerland.

We thank her for laying the basis for sound technical implementation in the IWECO Project and supporting partners with timely progress reporting. We wish her all the best in her new role within the organisation!



IWEco's Regional Laboratory Assessment published

The final report of the Regional Laboratory Assessment conducted for UNEP GEF IWEco in 2020 is now available. This assessment built upon the one previously carried out under the IWCAM Project (2006-2011) with the aim of strengthening national and regional capacity to perform environmental quality monitoring. Priority areas for assessment were expanded to include the capacity to analyse soil, sediment, and perform biota monitoring in addition to water analyses.

The assessment has been shared with key stakeholders, many of whom either facilitated, or assisted in, responding to the survey. It makes recommendations for suitable laboratories in which to conduct capacity building activities. Following guidance to be provided by the next IWEco Regional Project Steering Committee meeting, IWEco will be committed to a follow up of the assessment in terms of provision of equipment to support environmental quality monitoring in selected laboratories, and to capacity building through training in the use and maintenance of laboratory equipment.

Read it: [IWEco Project Report Laboratory Assessment Final Feb2021.pdf](#)

IWEco's project partner, the Caribbean Natural Resources Institute (CANARI) documented the application of CANARI's Local Green-Blue Enterprise Radar, to assess the triple-bottom line benefits (social, environmental and economic) and governance, of the Quarry Rehabilitation Champions' participation in the Trinidad & Tobago National sub-Project, using a short video case study titled "**Growing a Future- Rehabilitating quarries, restoring nature and securing livelihoods in North East Trinidad**".

Check it out: <https://www.youtube.com/watch?v=0opq9EEK82Y>



Stay safe everyone!

For up-to-date info on COVID-19: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

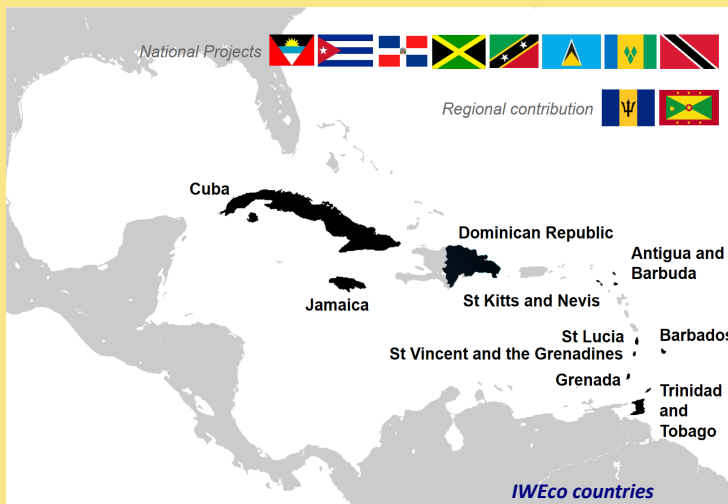
IWEco thanks IWEco:SKN, IWEco:SVG, IWEco:Jamaica, CARPHA and other Project Partners for their contributions to this issue.

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*integrating water, land and ecosystems management
in caribbean small island developing states*

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