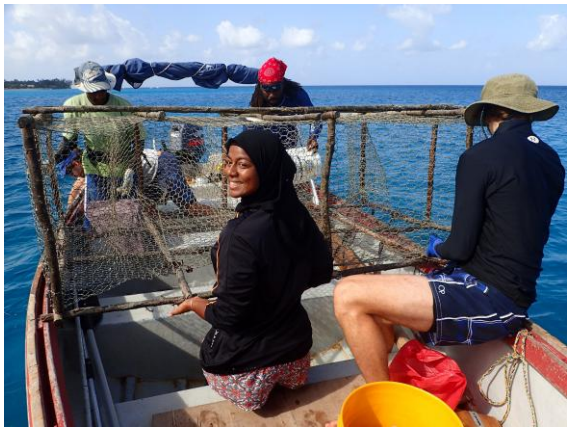
CERMES Connections

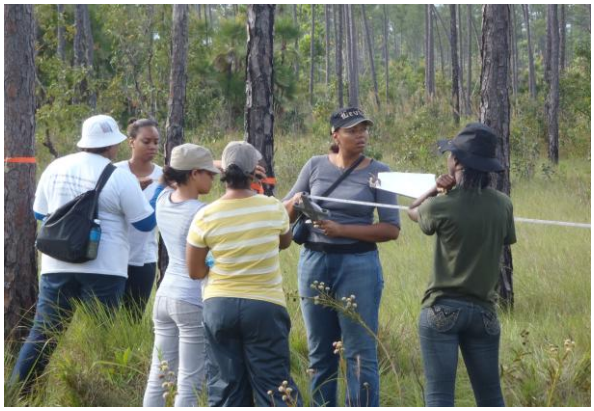
June 2021

A bi-monthly electronic bulletin about interdisciplinary research, teaching and outreach at the Centre for Resource Management and Environmental Studies (CERMES)
Editors: Maria Pena and Dr. Patrick McConney

CERMES MSc application period extended to 31 July 2021



Given the intended return of CERMES courses and the Cave Hill campus to normal conditions, if possible, the MSc application period has been extended to 31 July 2021. Spread the word that online applications are still being accepted for all four of our specialisations: coastal and marine, climate change, water resources and land management. Visit our website for further details on the programme plus the new fully funded scholarship and research fellowship opportunities. Come join us in "applying science to sustainability".



Inside this issue

Exploring nature-based solutions for Barbados in a changing world

By Karima Degia

Last week, the United Nations launched the Decade on Ecosystem Restoration. In her speech at the virtual Launch Gala, Prime Minister of Barbados, The Hon. Mia Amor Motley outlined Barbados' plans for ecosystem-based measures of adaptation to and mitigation of climate change to be enshrined in national policy through the Roofs to Reefs Programme.

CERMES is proud to offer its support for 'nature-based solutions' (NBS) in Barbados through applied research aimed at informing policy and implementation. The European Union funded project *Marine Coastal Ecosystems Biodiversity and Services in a Changing World* (MaCoBios) broadly aims to address knowledge gaps around marine and coastal ecosystem services and climate change, and to evaluate the effectiveness of NBS for addressing the effects of climate change. The project features several case study locations across three ecoregions, with CERMES leading the Barbados case study.

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Funding (total)*	€ 6 980 657.50
Funding (UWI-CERMES)	€ 286 886.25
Timeframe:	**2020-2024**

Multi-disciplinary team of experts from **16 institutions**

macobios.eu

*This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. n°869710.

MaCoBios Project Data and links to additional information

Barbados makes a particularly interesting case study for MaCoBios because it manifests an extreme case of some of the issues commonly faced by Caribbean small island developing states (SIDS), along with some additional challenges that are distinctly Barbadian. The island is densely developed, the landscape highly modified by human activities, and natural systems are fragmented. In developing relatively early post-Independence, we have done much that we now understand was not sustainable. We have relied heavily on conventional engineering solutions to address problems like flooding and coastal erosion.

MaCoBios is an opportunity for a holistic stock-take of our island's natural systems as a foundation for assessing where, when and how NBS can be effectively deployed in a heavily modified and intensely used small island environment. We aim to produce outputs that can inform agencies planning and implementing nature-based interventions over this Decade of Ecosystems Restoration, such as mapping that builds on existing spatial planning to show what types of NBS are suitable and where, and concepts for pilot projects.

We are excited about this chapter in CERMES' ongoing support for sustainable development in Barbados, and we look forward to sharing more information with you as work proceeds – watch this space!

This article is loosely based on a presentation delivered at the CERMES-CZMU World Oceans Day Webinar Partnerships at the Marine-Science Policy Interface.

Regenerate Barbados, getting the Doughnut moving

By Robin Mahon

Regenerate Barbados, a Doughnut Economics initiative hosted by CERMES, which was launched in February 2021 moved to the next stage with two virtual Action Scoping sessions on 8 and 15 June. Fifty-two changemakers attended the sessions and offered their insights on how Barbados can move towards a more sustainable future.

Regenerate Barbados offers potential for a collective voice from Barbadians and NGOs working on various aspects of sustainability to identify community-driven action and areas of policy intervention that make Barbados fairer and safer. Based on the Doughnut Economics concept, the group's purpose is to promote a shift away from the current GDP-based development approach, to one that is oriented towards achieving widespread human wellbeing for all Barbadians.

The first action scoping session focused on the social justice foundation issues facing Barbados such as availability of healthy food, access to recreational space, education for life skills, and social equity in income and wealth. The second session focused on the ecosystem limits that must be observed if we are to avoid destroying our island, such as parks and protected areas, pesticide and fertiliser use, and waste management.

Participants recognised there is a lot already being done by the public sector to address these areas, but greater action is needed. They also recognised that there are many organisations and individuals already active in these areas, but largely working in isolation.

In both sessions participants were asked to consider where working together could add value to what they were already doing or fill critical gaps. Some areas that emerged for priority attention were improved facilities and social security for vendors, integrating recreational, social and economic benefits of walking and cycling trails, establishing conservation areas, and monitoring and lobbying for reduced use of pesticides. Coastal

wetlands were flagged as important habitats at risk from development and in need of protection.

Taking these ideas forward together is the next challenge for Regenerate Barbados. If you are interested in joining Regenerate Barbados activities or have general queries, please email Barbadosdoughnut@gmail.com

CERMES/CZMU host World Oceans Day webinar

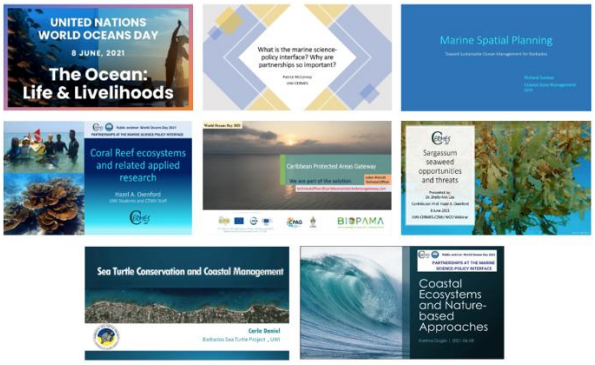
By Amina Desai

World Oceans Day 2021 was observed globally on 8 June under the theme "The Ocean: Life and Livelihoods." In celebration of this special day, CERMES together with the Coastal Zone Management Unit (CZMU) hosted a public webinar on partnerships at the marine science-policy interface, which highlighted the frequent two-way interaction between marine science and national policy, and its impact on life and livelihoods.

During the two-hour session, attendees learned about a range of topics by speakers from CERMES, CZMU and related organisations. The session began with an introduction to the marine science-policy interface by Patrick McConney (CERMES Director) in which he stressed that most important to this meeting of science and policy is "exchanging information so that the co-development of knowledge helps to enhance evidence-based policy and decision-making." Following on from the welcome and introduction, was a presentation on marine spatial planning in Barbados by Richard Suckoo (CZMU) and a review of recent coral reef related research from Hazel Oxenford (CERMES). Julian Walcott discussed the Caribbean Protected Areas Gateway and bridging the data to decision-making making gap in protected area decisions and management, while Shelly-Ann Cox (CERMES) spoke about sargassum seaweed opportunities and threats. Leo Brewster (CZMU Director) addressed the current draft Integrated Coastal Zone Management Plan and stimulating engagement in marine citizen science. Carla Daniel (Barbados Sea Turtle Project) gave a presentation on sea turtle conservation in coastal management and Karima Degia (CERMES) spoke about coastal ecosystems and nature-based approaches.

The webinar was well attended with around 70 participants from Barbados and other countries in the Caribbean, but also included people from as far afield as Italy, Kenya and the USA. Many attendees actively engaged - posing questions and offering comments, which led to a rich exchange of information. It is hoped that the session helped to inspire the audience to be more involved citizen scientists and actively engage at the marine science-policy interface! In closing, Patrick McConney challenged participants to "engage actively and publicly in the co-development of knowledge." He reemphasized that "policy needs to be evidence-based and influenced and takes citizens to be engaged."

The presentations are available online on the CERMES website here.



A better road ahead

By Danielle Evanson

CERMES's most recent PhD candidate, Danielle Evanson, through her research is seeking to understand and contribute to a sustainable transport system for Barbados. Get a sneak peek into Danielle's research below.

Despite its low contribution to global emissions, Barbados has an economy-wide plan for transitioning to 100% renewable energy by 2030 articulated in the Barbados National Energy Policy

(BNEP) 2019-2030. However, with a high density of vehicles, heavy dependence on fossil fuels, an unreliable public transport system, and suburban sprawl, the pathway to reach this goal is unclear. This is further compounded by a lack of understanding of travel patterns and choices among different groups of people, and perceptions and understanding of the public in relation to sustainable transport modes.

This research will therefore seek to first characterise cultural behaviours and practices among the Barbados population in relation to transport. This will be used to answer the question of what policy package(s) are most likely to result in the highest and most rapid levels of Green House Gas (GHG) emissions reduction, taking into account social acceptability and equity, economic viability and environmental responsibility. With this, the stages of the research will aim to:

- Identify correlations between historic transport and energy policies on mode choices and GHG emissions in the transport sector
- Characterise the travel behaviour of the local population and factors affecting their choices
- Identify context-specific barriers to a sustainable transport transition
- Model appropriate policy and incentives options, which would produce a rapid and equitable transition to a zero-carbon sector in Barbados

Danielle returned to CERMES in Oct 2020 to pursue her PhD in Natural Resource Management with a focus on sustainable transport. Before this she worked with the United Nations for over a decade managing programmes on environment, climate change and disaster risk primarily across the Eastern Caribbean. She enjoys hiking, music, sports, gardening and reading.

Danielle is sure to keep us updated of her progress and findings through her contributions to the CERMES *Connections.*

Bee engaged

By Jay Belmar

"If the bee disappeared off the face of the Earth, man would only have four years left to live." This quote has been often attributed to Albert Einstein, although there is no real proof. However, if the honey bees died, the world's food security would definitely be impacted.

In Barbados, bees play a vital role in the island's food and agriculture industries. There are at least 30 species of bees recorded here. The most common species are the honey bees (*Apis mellifera*) and the Carpenter bees (*Xylocopa virginica*). In the past decade, interest in beekeeping — honey production — has increased considerably. Apiculture is currently small, but an important part of agriculture on the island.

The Barbados Apicultural Association (BAA) has worked assiduously to develop the beekeeping industry, including sensitising the local populace about preserving bees and their vital role.

Despite wide-ranging denigration of the hard-working bee, the lust for the sweet and viscous substance in Barbados is unrelenting. The island is the Caribbean's largest importer of honey. This proclivity for the liquid gold and love of other bee products (90% of which is imported) costs the island approximately 1 million Barbados dollars per year.

The BAA through support from the Ministry of Agriculture, aims to drastically reduce this figure by producing pure honey and bee products locally.

The Caribbean Protected Areas Gateway (CPAG) team spent some time 'bee-friending' a few Barbadian apiarists and learning about their jobs. To read the full article visit:

https://caribbeanprotectedareasgateway.com/world_bee_day_2021/