

Forum

Young Islanders Conserving Their Large Ocean State and Beyond

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As an islander scholar from Aruba and a PhD candidate focused on social innovation in the governance of tourism-oriented small island social-ecological systems, particularly Aruba and Bonaire in the Caribbean, I have been fortunate enough to explore various place-based sustainability initiatives with a grassroots origin and approach to advancing sustainable development. An objective of my PhD research is to delve into the changing organization of collective decision-making in society regarding land/natural resources use, conservation and restoration of marine and terrestrial ecosystems using the disciplines of human geography, island studies, and sustainability science. Social-ecological systems literature recognizes the social processes involved in the governance of social-ecological systems; however, there is still room to improve our understanding of the societal side (Parra and Moulaert 2011; Parra and Moulaert 2016). Social innovation research pertains to looking at the potential of activities that are rooted in local social relations; it is a solidarity-based approach to building community and society as opposed to one driven principally by economic growth as is the case in Western modernity currently caught within a neoliberal era (Moulaert et al. 2013; MacCallum and Moulaert 2019). In light of the current global challenges requiring a shift towards post-anthropocentrism, which is the decentering of humans and recognition of the interconnections among all species, it is imperative to regenerate people-place relationship (Mehmood et al. 2020). The initiatives I specifically look at aim to manage, conserve, and restore marine and terrestrial natural resources. They involve topics such as mangrove restoration, coral reef regeneration, fisheries, zero waste/circular economy promotion, and endemic species conservation. Through the curated interviews featured in this article, I aim to highlight and showcase the experiences of the youthful generation actively involved in place-based sustainability initiatives on the island of Aruba, with a specific focus on their contributions to the conservation and restoration of coastal and oceanic marine ecosystems.

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When it comes to islands, the marine environment is an integral part of island life. The seascape, the open ocean, and at times other surrounding islands are “islandness” characteristics that deeply shape island cultures. Large portions of the world’s oceans and their abundant resources are governed by small island nations with small populations and limited land masses, making them an essential base from which to safeguard the sustainable utilization of ocean resources and preserving the marine environment and its biodiversity. In recent years, to contradict the common “small state” and vulnerability narrative, leaders of various Pacific and Indian Ocean governments have begun utilizing the concept of the “large ocean state.” This change from the simple vulnerability narrative is most certainly a sentiment that carries across island geographic regions from the Pacific to the Caribbean. Nevertheless, islands do face a wide range of conservation and management concerns because of local environmental problems and global change. Particularly due to global climate change, the plight of small islands has gained international attention. According to the *Sixth Assessment Report* of the Intergovernmental Panel on Climate Change (IPCC), published in 2022, increases in temperature, higher frequency of the most intense tropical cyclones, storm surges, droughts, shifting patterns of precipitation, sea level rise, coral bleaching, and invasive species are already observable on small islands and are having an increasing impact on natural and human systems.

A crucial force for achieving sustainable development is an engaged citizenry that is equipped with the means to influence change. The latest *Global Sustainable Development Report* (GSDR), prepared by an independent group of scientists in 2019 to provide analysis for achieving the United Nations Sustainable Development Goals (SDGs), has found that one of the key levers for transformation towards sustainability is individual and collective actions at the local level. Increasingly, the youth of today are claiming their space and educating the next and the older generations on what is at stake on a global as well as national and local levels and on sustainable actions. The advocacy of Greta Thunberg and Malala Yousafzai has been monumental in recent years, reaching many generations and becoming the most profound and progressive voices in the international arena for pertinent questions. On the small island of Aruba (fig. 1), which stretches thirty kilometers long and about eight kilometers wide, Raydeline Wever and Jean-Luc Schwengle are young, local islanders, currently Bachelor of Sustainable Engineering students at the University of Aruba, who are impressively giving their time and energy to activism and volunteering for the marine environment. I interviewed both youngsters to let them share their story about growing up on the island, their experience today participating in differing place-based sustainability initiatives, and their views on nature conservation and restoration on the island of Aruba.



FIGURE 1: Overview of PhD research area case study, island of Aruba, approximately fifteen miles off the coast of Venezuela in the southern Caribbean Sea.

*If you look at the high-rise hotel area, you will not see much **mondi** [wilderness]. I think if you keep adding more and more hotels, the tourists will not see the full beauty of the nature on Aruba.*

Raydeline Wever

Raydeline Wever is twenty years old and grew up in the neighborhood of Ayo on the island of Aruba. One of her favorite childhood memories is being in nature: “I used to play a lot outside with my cousins. I think that’s one of my favorite memories from my childhood. We would always go grab dirt and leaves; we would make make-believe soup, and it was really fun!” “There were a lot of trees where I grew up in Ayo, a lot of *mondi* [wilderness].” Today her favorite place in nature is being at one of the beaches of Eagle or Arashi beach: “The beach will be one of the things I will miss most when I go study abroad.”

One of the challenges she sees with awareness on the island of Aruba is the lack of experiential education on the environment of the island: “It was in high school when I first heard about how water is produced [by desalinization], but I did not get to learn about nature specifically here in Aruba.” The island of Aruba has a colonial past, and only in 2003 has the local language of Papiamentu been recognized as an official language next to the colonial Dutch language, this even though Papiamentu always having been the daily, widely spoken language. Curriculum books are mostly from the Dutch metropole, containing western European examples. A particular focus of education for just sustainability is the use of place-based education in order to empower people to take action in their own local communities (Morgan 2012; UNESCO 2020). In this sense, a lack

of place-based and experiential education is a point of attention for the island of Aruba.

MAGEC and Brenchie's Lab are two place-based sustainability initiatives on the island of Aruba being carried by Millennials and Generation Z. Raydeline is currently active in multiple projects of these two organizations. MAGEC stands for "Making Aruba a Greener Environment Club," an organization born out of a group of students at the University of Aruba that is also open for young members outside of the university. In the words of Raydeline, the purpose of MAGEC is to "raise awareness for the community on environmental issues, including climate change and how one can take individual action." Projects the organization has worked on include awareness raising at Aruban primary schools—to fill in the gap their generation experienced growing up—beach clean-ups, setting up plastic recycling bins and an urban garden at the university, and the use of social media to reconfigure social practices, social norms, values to promote sustainable behavior, and choices.

Brenchie's Lab is a social, entrepreneurial open-makerspace in Aruba set up for people to develop and build sustainable solutions to problems they see in the Aruban community on a pay-what-you-can basis. Raydeline actively volunteers in the Plastic Beach Party initiative, which is a plastic recycling facility that collects plastic and turns it into new products in the Brenchie's Lab makerspace and simultaneously raises awareness for recycling and the general reduced use of plastic. Additionally, Raydeline completed a summer internship this year for Brenchie's Lab's Surfside Science project, which is a locally conceptualized and EU-funded project that aims to validate low cost and replicable citizen science methods for island coastal ecosystem monitoring. The project will also contribute to monitoring of the UN Sustainable Development Goals (SDGs). For the Surfside Science project, she supported the monitoring of coastal change using Google Earth Engine: "I looked at the coastal and aquatic vegetation using GIS analysis with satellite imagery." One concern she expresses for the marine environment is the continuance of coastal development for the tourism sector on Aruba: "If you look at the high-rise hotel area you will not see much *mondi* [wilderness]." "I think if you keep adding more and more hotels the tourists will not see the full beauty of the nature on Aruba" (fig. 2).

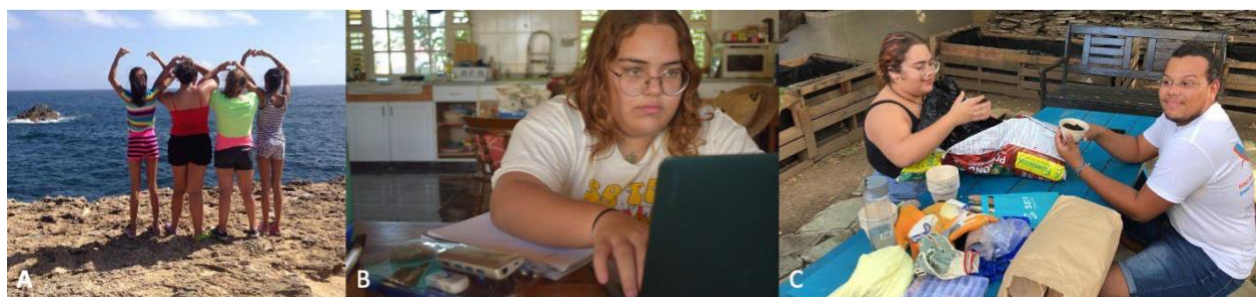


FIGURE 2: A) Raydeline and her cousins at the rocky northside coast of the island of Aruba; B) Raydeline working on coastal and aquatic vegetation with GIS analysis for the Surfside Science project; C) Raydeline and Andrew from MAGEC collaborating on a project to create an urban garden for the University of Aruba.

To watch my outplants grow and become the size that they are now and to see that in two years a handful of little coral fragments has become an entire little forest onto itself and see all the fish living in it is very rewarding.

Jean-Luc Schwengle

Jean-Luc Schwengle is a twenty-year-old island citizen who wants to effect change in his community. He grew up in a fisher family in the neighborhood called Savaneta: “One of our traditions was every Easter we would go on our little reef island for a whole week, and my uncle would put out a net, at this time these nets were not banned yet, and he would gather all the kids and say . . . ‘alright kids, jump in the water and scare the gutu [parrotfish] into the net,’ . . . and I was having the time of my life! . . . These are some of my fondest memories.” However, Jean-Luc nowadays seeks to approach the sea with a more sustainable and balanced mindset, rather than a “take all you can” attitude. His elders have shared with him stories of how much more abundance there was in the sea in the past: “Stories of the past suggest reefs to be much denser with larger species closer to shore. . . Today, fisherman need to go further out and more dangerously away from the coast for a good catch.”

At the place-based sustainability initiative ScubbleBubbles, Jean-Luc volunteers as one of the avid youth divers helping to grow coral nurseries and outplanting for coral restoration of the staghorn coral *Acropora cervicornis*. ScubbleBubbles is an organization born out of the youth that aims to get more local youth involved in ocean conservation activities with projects on coral restoration, beach and reef clean-ups, as well as coral surveys. “To watch my outplants grow and become the size that they are now and to see that in two years a handful of little coral fragments has become an entire little forest onto itself and see all the fish living in it is very rewarding,” said Jean-Luc. Additionally, he advocates for marine life conservation, on how to sustainably interact with marine ecosystems, and the need for protection, with the use of storytelling at different schools on Aruba: “Once I started diving, I realized how such a small part we are as humans on this earth. . . I think [holding] outreach events at primary schools is important; I did not get this sort of information when I was as kid, telling these kids from a very early age to have the right habits, for example, not throwing engine oil nonchalantly into the sea or the size of fish and lobster that is allowed to be caught and why.” Today his favorite place in nature is in a mangrove lagoon: “You put the kayak in and you go into the lagoon and you don’t hear anything, you don’t see civilization, you don’t see trash, and it is so untouched.”

Caribbean Lionfish Alliance is another place-based sustainability initiative where Jean-Luc is very active. The Caribbean Lionfish Alliance aims to protect Aruba’s reef for future generations by removing the invasive lionfish species. Jean-Luc is part of a group of lionfish hunters; the catch

can afterwards be sold by a food shack on the island, which is a nice tourism attraction of tasty food and simultaneously displays citizen management of the marine invasive species. More recently, Jean-Luc also travelled to the island of Saba as one of the Dutch Caribbean youth that got trained in restoring the long-spined sea urchin *Diadema antillarum*, which has been experiencing die-off events, a project of the Dutch Caribbean Nature Alliance.

A big challenge Jean-Luc sees on the island of Aruba is overfishing: “No one knows how much is being caught at the end of the day.” He fervently wants the government to take action on this issue: “There is not enough data on fish populations and not enough regulation; there has to be enforcement on the size of species catch and quotas [have] to be put.” Another concern he has is the effects of tourist divers who are not well informed; however, he believes that sustainable recreation in nature by locals and tourist is possible: “The only thing that has to change is respect; loss of respect is the main issue. As long as you are not interacting with the reef and you are simply there to observe, that is okay; the problem starts when inexperienced divers are not well informed.” For Jean-Luc, his activism is also about a connection he has with the island of Aruba and its inherent ecosystems: “It is about giving back to the island where I was born” (fig. 3).



Figure 3: A) Jean-Luc as a kid on a fishing trip with his great-uncle; B) Jean-Luc working on the coral nursery as part of the ScubbleBubbles youth group; C) Jean-Luc posing after a lionfish hunting session.

Social Innovation and Protection of Islands’ Coastal and Global Ocean Marine Ecosystems

It was a pleasure to speak to these spirited youngsters on their participation within differing place-based sustainability initiatives that have social innovative potential. Social innovation has transformative potential by shaping new institutional relations to deliver just and inclusive development in the face of contemporary challenges (Moulaert et al. 2013; MacCallum and Moulaert 2019). The place-based sustainability initiatives mentioned above can influence, to a certain extent, decision-making on development towards one that is taking more into account non-human stakeholders, that would incentivize sustainable consumption and care for the Earth. The experiences shared by the youngsters are reminiscent of my own upbringing: being a thirty-three-year-old from the island of Aruba, the beach has always been a space for relaxation, enabling social cohesion and a sense of place. Local island folklore denotes the biodiversity to be found in the island’s surroundings, and as with many other islands, we have multi-generational fisher families that through local food catch keep alive delicious traditional dishes. It is up to the whole island

community to stand up for their shared natural and cultural heritage as these two youngsters do, each in their own way. In addition to valuing the potential to impact their own lives and those of their communities in their large ocean state and beyond, encouraging and enabling people to participate collectively increases the amount of resources available for sustainable development. Increasing the civic space for people to organize and engage in public dialogue and decision-making enhances the likelihood of attaining representative outcomes and a development that is for the people rather than for primarily capitalist interests.

Social innovation is particularly important on islands where tensions exist between sustainable environmental governance versus economic growth, contributing to vulnerabilities and threatening a chance at a national trajectory that is sustainable. Recent displays of collective action on islands have brought attention to these tensions in differing forms, for example, the case of gentrification and loss of beach access in Hawaii reinvigorating the landback movement “Hawaii for Hawaiians” after an influx of tourism pressure post COVID-19 and in Puerto Rico, where recent “party protests” supported by reggaetón artists are organized for the Puerta de Tierra neighborhood on the outskirts of the colonial city of Old San Juan. The experiences of both these islands are not an exemption as coastlines must be shared with tourism since it is a key economic pillar on many islands; however, for preservation of cultural identities with people-place relationships, and thereby also the dignity of peoples, a public right to access along the coastline and the beaches and a sustainable management of marine environment on islands is imperative. In the case of Aruba, one essential element for island citizenry for coastal and ocean marine ecosystems exemplified by the youngsters interviewed includes empowerment through a more prominent presence of culturally relevant and experiential nature-education in curriculums to foster understanding, nature connectedness, people-place relationships, and future care of the Earth.

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