Life in "Paradise" a social psychological and anthropological study of nature conservation in the Caribbean Netherlands

Mac Donald, S.

LIFE IN "PARADISE":

A Social Psychological and Anthropological Study of Nature Conservation in the Caribbean Netherlands

Stacey Mac Donald

COLOPHON

Cover image
A collage of an imaginary island's historical and contemporary challenges related to its diverse society and pristine but threatened nature and heritage.

Cover Design
Stacey Mac Donald, 2022

Layout
Anna Bleeker, persoonlijkproefschrift.nl

Language editor
Prof. dr. Jessica V. Roitman

Printing
Provided by thesis specialist Ridderprint, ridderprint.nl

ISBN: 978-94-6458-163-8

Life in “Paradise”:

A Social Psychological and Anthropological Study of Nature Conservation in the Caribbean Netherlands

Proefschrift

ter verkrijging van

de graad van doctor aan de Universiteit Leiden

op gezag van rector magnificus prof.dr.ir. H. Bijl

volgens besluit van het college voor promoties

te verdedigen op dinsdag 17 mei 2022

klokke 15.00 uur

door

Stacey Mac Donald

Promotores:

Prof. dr. G.J. Oostindie
Prof. dr. G.A. Persoon

Co-Promotor:
Dr. H.J.A.M. Staats

Promotiecommissie:

Prof.dr. B.A. Barendregt	(Wetenschappelijk Directeur Instituut Culturele antropologie en ontwikkelings-sociologie/ voorzitter)
Dr. F.E. Guadeloupe	(University of Amsterdam)
Prof.dr. C.L. Hofman	
Prof.dr. R.K. Jaffe	(University of Amsterdam)
Prof.dr. M.J. Spierenburg	
Dr. A.P. Wit	

The research in this PhD thesis was made possible with support of the Dutch Research Council (Nederlandse organisatie voor Wetenschappelijk Onderzoek - NWO).

ACKNOWLEDGEMENTS

What a journey this has been. Embarking on this adventure in 2015 was a dream come true. Researching a topic so dear to my heart on the islands in the Caribbean I love most is indescribable. It has been the most difficult, horrible, incredible, rewarding challenge I have ever faced. It's been lonely but I was never alone.

I am grateful to all who participated in my research. You all work tirelessly to conserve the natural and cultural heritage of three of the most magnificent islands in the Caribbean. I honor your work and I hope I have been able to tell your stories as you have recounted them to me. I thank the fishery cooperative, PISKABON for informing me, guiding me, and showing me the knowledge, cultural dynamics, and complexities that gave the depth my research needed. The World Wildlife Fund – The Netherlands trusted me and provided me with the opportunity to work with PISKABON which made my dissertation engaging, relevant, and valuable.

Re-entering academia was no easy task. I am grateful for my supervisors: Prof. Dr. Gert Oostindie, Prof. Dr. Gerard Persoon, and Dr. Henk Staats. Gert, thank you for always having an open door, for advising, and for your guidance. You allowed me to stay close to my interests, while ensuring that my work is valuable. Gerard, thank you for encouraging me to think broadly and critically. Your critical questions and constructive feedback made my writing more insightful and interesting. Henk, thank you for your determination, persistence, and guidance in making my chapters scientifically sound. Lastly, I want to thank all three of you for your patience and confidence in me that allowed me to finish my (*our*!) project.

My project was part of the NWO-funded research program Confronting Caribbean Challenges, and I shared an office with an extraordinary group of researchers: Jessica Roitman, Wouter Veenendaal, Sanne Rotmeijer, and Malcom Ferdinand. Jess, I completed my dissertation confidently because of your brilliant editorial work. Wouter, you always cheered me on, and your drive inspired me to keep going. Malcom, our discussions about Caribbean environmental justice and inequalities were refreshing. I am happy we are still working together. Sanne, my best companion and the most critical and passionate researcher I know. We started together, and we are finishing together. Thank you for ensuring that I *am* an academic. Our chats, texts, and calls pulled me through, and I am eternally grateful. No hocus pocus, focus!

To my colleagues at the KITLV –the lunches, entre nous, 'under construction' sessions, drinks, boat rides, and coffee machine chats were enlightening, fun, and inspiring. To all the PhDs – we've got this. To the TCH team: Thank you for including me in your exciting work and providing me with platforms to share my work.

To my dearest friends: Femi, Natalie, Daniella, Gillian, Kyara, Cleo, Tirza, Farleyna, Fayola, Gigi, Dichi - you are superwomen who inspire me every day. Thank you for listening, discussing, and believing in me. I believe in you! To Tim - I am happy we met on St. Eustatius in 2016. Thank you for daring to start a business with me in the middle of my dissertation. I blame you for my magnificent delays (kidding!). Thank you for the laughs and support. To John and Daniel: thank you for your encouragement and giving me and my work a platform. I am also grateful for the support I received through my social media network. I can be quite the 'over-sharer', but am thankful for all the direct messages, emails, postcards, and supportive comments. My dream to obtain my doctorate was ignited by a dear friend and his family: Phillip, Melinda, and Maarten. They have believed in me more than I did in myself. For that, I am eternally grateful.

To my family. A very big thank you to my mama and papa, my sisters, Debbie and Shanna, and my brothers Michael and Sander. You have supported me and cheered me on throughout this journey, despite not always understanding what I was saying or doing. To the rest of my family (Oma Helga, Oma Sonja, Ray, Ingrid & Ro Astrid & Hein, Jeremy, Rachel & Dean, Dave & Antoinette, Lilian, Amy, Kathleen & Walter, Victor & Jeannette, Chey, Serge, Robert, Lenny, Melissa, Dominique, Laurence, Ben, Ria, and Alicia): thank you for the support and accepting my absence from social engagements during the past years. I look forward to being more present from now on!

Lastly, to Eric, my love, for sticking around. We met when I started my Ph.D. journey and you have been by my side until the very end. We have both grown so much. Thank you for your endless support and patience. You have seen and loved the very worst and best of me. Now, let us celebrate!

CONTENTS

Part 2: A Case Study Of The Fishery Sector Of Bonaire

LIST OF FIGURES

LIST OF TABLES

PROLOGUE

"white worries about coral riffs
not black women & men locked up
that can't feed their kids.
animal & environmental activisms,
don't care about the violations of
rights of Caribbean children
To them: Black cadavers behind
bars
To us: dutch white politics & human
whites NGOs
capsized carcasses in The Hague…."
(Excerpt from "Unhuminizers", by Jermain Ostiana)

While I was in the midst of setting up a research collaboration with the World Wide Fund for Nature - The Netherlands (WWF-NL), concerning the fishery sector on Bonaire, Sint Eustatius, and Saba, a colleague shared a poem with me called "Unhuminizers" written by working class social and media critic and blogger Jermain Ostiana from Curaçao. At first, I was annoyed and then I started feeling angry. Despite the fact I had some knowledge of the author's background and negative feelings towards the relationship between the Netherlands and the Dutch Caribbean, I felt offended. Here I was, born and raised on Curaçao, working my hardest to protect the natural environment of three Caribbean islands and this activist criticized my actions and those of people like me. But once this initial flood of emotions had passed, I realized that this poem illustrates several themes and highlights the complex dynamics around nature conservation in the Dutch Caribbean that are central to my research.

The poem reflects on environmental conservation efforts in relation to poverty, inequality, and the legacies of colonialism and slavery. Particularly relevant to my research is the way in which this poem expresses negative sentiments towards the Dutch (government) and addresses white privilege and ignorance, history, culture, human rights, and identity in relation to environmentalism, loosely defined as concern about and action aimed at protecting the natural environment. Even though it is not clear which specific Dutch Caribbean island the author is referring to, his critique could apply to all six islands. In this thesis, I look at environmental conservation and management efforts on three Dutch Caribbean islands: Bonaire, Sint Eustatius, and Saba; henceforth referred to as the Caribbean Netherlands, where, indeed, sentiments like the ones expressed in the poem are strong.

As is the case elsewhere in the Caribbean, economies in the Caribbean Netherlands depend heavily on the state of the natural environment, as tourists who visit the

islands for their "pristine and unique" environment (a.k.a. "Paradise") are one of the main sources of income. Thus, aside from the intrinsic importance of having a healthy, biologically diverse, environment, the natural environment of the Caribbean Netherlands is important to protect for economic reasons as well. But tourism brings with it ecological challenges. In addition to these issues, islands all over the world are increasingly susceptible to the consequences of global climate change such as destructive hurricanes, rising sea-levels, ocean acidification, and degrading ecosystems (Kelman, 2018; McGregor, Dodman, & Barker, 2009). These very real threats only serve to increase the need to act on environmental issues.

Since the three islands became special municipalities within the Netherlands on the 10th of October 2010, they have been experiencing rapid change on many fronts: political, economic, sociocultural, ecological, and psychological. Like many other policy domains, environmental management has been directly impacted by the increased involvement of the Dutch government and its adherence to international policies and agreements such as the UN Sustainable Development Goals in 2015 (IES GS, 2017). Moreover, long standing international agreements such as the Ramsar Convention or Convention on Wetlands (1971)[1] and the Convention on Biological Diversity (1992)[2] are now receiving more attention with a greater emphasis on their implementation. These developments put pressure on Dutch and island government authorities to take the required measures to safeguard the environment of the islands (Debrot, Henkens & Verweij, 2017).

Beyond these developments in the realm of environmental protection, changes are also taking place in the composition of the people residing in the Caribbean Netherlands (Van Duin, van der Gaag & Ekamper, 2019). Following the constitutional reforms enacted in 2010, a larger number of European Dutch have settled on the islands. Notably, a public opinion poll executed in 2015 found that residents of the Caribbean Netherlands feel there are too many "foreigners" residing on the islands (Veenendaal, 2016a). While the number of new migrants from the Netherlands is not necessarily greater than the number of migrants coming from other islands in the Caribbean region, there still exists a strong sentiment of "the Dutch taking over" (Evertsz-Ipcedencia, 2020). This is likely because of the small scale of the islands and the fact that the presence of white Dutch migrants is particularly visible due to the positions they hold on the islands, for instance as representatives of the Dutch government. Their visibility is made greater by (perceived) differences in color, culture, norms and values, and economic status, with European Dutch people often being wealthier than the "local" population.

---

1 Named after the city of Ramsar in Iran where it was signed in 1971, the Ramsar Convention is an international treaty for the conservation and sustainable use of wetlands. The convention aims to halt loss of wetlands and conserve existing wetlands through proper management. (Source: www.ramsar.org).

2 The United Nations Convention on Biological Diversity (CBD) is a multilateral treaty. The Convention's objective is to develop national strategies for the conservation and sustainable use of biological diversity.

When it comes to nature protection, the active group of individuals who try to protect the environment is usually comprised of a majority of migrants (non-locals), with only a minority of locals taking part. Their initiatives to clean up plastic from beaches, help save and protect sea turtles, rescue iguanas, or restore nature trails and coral reefs, are not always broadly supported by the local population. Jermain expresses this in his poem, stating that there is a discrepancy between the worries of "whites" and the concerns of the "blacks" ('white worries about coral riffs, not black women & men locked up that can't feed their kids'). Previous researchers have, indeed, observed and studied the racial and class composition and divisions of people involved in environmental conservation efforts (Jaffe 2016, for Curaçao).

Figure 1. Green Iguana disguised against the cliffs on Bonaire, starkly contrasted by the turquoise waters housing Bonaire's coral reefs.

Not all sentiments towards environmental protection on the islands are by default as negative as the one expressed by Jermain. Others are much more nuanced and more positive. I came across a clear example in a column in the Dutch magazine *FD Persoonlijk* about Jossy, a Bonairian photographer who returned to Bonaire fifteen years after leaving his place of birth at the age of eleven. The column starts with a nostalgic description of the Bonaire Jossy remembered from his youth: bare, wild, and thorny, and how he played in the *mondi* (dry forest or wilderness), chasing iguanas and herding goats – poor but colorful. This is followed by Jossy's more recent observations after his return to the island,

in which he observes the physical and socio-economic changes brought by the arrival of newcomers (i.e., the Dutch). "Bonaire is still, poor, but also became very rich (…). Hills are bulldozed and sacrificed for an ocean view. (…) Madagascar palm trees and strange blue Agaves replace the *cadushi* (local cacti) and thorny bushes (…)". What he shares next are the shifting social interactions and sentiments that accompany these changes. The author of the article writes, "He [Jossy] did not expect it, but it is often precisely the newcomers who are very involved with the island. They build their environmentally friendly houses or set up an animal ambulance for the many ran over stray dogs. They learn Papiamento, the main creole language." Jossy does make a distinction between the different newcomers or European Dutch residents. Namely, that the efforts to integrate into the community are made significantly less by the last group of Dutch migrants who came to Bonaire after the constitutional changes in 10/10/10. They stick more to themselves. Lastly, Jossy shares that when he complains about the plastic bags littered in the *mondi* or the cans lying by the side of the road, "they" (Bonairians) laugh and scold at him for being a "*Makamba Pretu*" ('Black Dutchman', a derogatory term).

There are several noteworthy phenomena shared in the three-page interview with Jossy that relate to the natural environment, social dynamics, and constitutional changes of 10/10/10 on Bonaire, which is the largest of the three overseas municipalities of the Caribbean Netherlands, and the main focus of my thesis. First, the visible environmental changes: the physical transformations made to the environment, the arrival of exotic plant species replacing the natives, the building of luxury villas, but also the [increased] amounts of litter. Second, the visible socio-cultural changes: the demographic shift with the arrival of the European Dutch, and the growing gap between the rich and poor. Third: relations between the residents' experiences from his point of his view. The fact that he is surprised by the warmth with which he was received by the (rich) Dutch residents, indicates he perhaps expected a more hostile denigrating attitude with little respect for the island and its environment and culture. This negative preconception about the post-10/10/10 migrants may not have been entirely misplaced, however, considering that Jossy shares that these same migrants are, in his eyes, less friendly to, and involved with, local society, in general. This makes them less welcome as residents of Bonaire to the local population. Finally, this narrative hints at another question addressed in this dissertation: whether or not efforts to protect the environment enhance a person's sense of belonging within the community. While Jossy applauds the environmentally friendly efforts and involvement of the Dutch migrants, he also shares how Bonairians ridicule him for his discontent with environmentally damaging developments on the island. Jossy's experience highlights the complex dynamic at play underlying efforts to protect the natural environment.

So this is the situation: the crucial importance of the natural environment of these three small-scale islands for their economies and well-being; the recent demographic growth through migration; the fact that migrants tend to be more actively engaged in nature

conservation; the reality that locals who engage in pro-environmental behaviors are not always applauded by their peers. This interplay of issues and observations brought me to my main research question*: How are the efforts of conservation actors to protect the environment of the Caribbean Netherlands affected by the recent social and political changes and their (post) colonial context?* In answering this question, I hope to contribute to the development of ecological policies that seriously address local challenges and sensitivities.

Reflections: A Caribbean Researcher in the Caribbean

My academic background is in social psychology. I have gone beyond my disciplinary boundaries and the methods in which I was initially trained to understand the problems and dynamics of environmental protection in the Dutch Caribbean which I described above. While reflexivity about the position of researcher is a common and necessary practice within the discipline of anthropology, this is not common practice in psychology (Berger, 2015). However, because I was using insights from both disciplines, I needed to reflect upon my own position in the field and the ethical issues I encountered prior to, during, and after my fieldwork. Using multiple methods meant I had to be aware of the ways these different methods affected my position in, and relationship with, the respondents, and the field in general, as well as the way I interpreted my findings.

As a researcher who is, herself, originally from the Caribbean, I had the advantage of being able to relate to many people I encountered during my fieldwork. When people ask me who I am, where I am from, or what I consider myself to be, I used to jokingly say I have an identity crisis. This is how I used to describe myself: "I was born and raised on Curaçao. However, my upbringing was very much coloured by Surinamese culture. My father was born in Suriname but moved to the Netherlands around the age of twelve with his parents and five siblings. His parents were born and raised in Suriname just like my mother's parents. My mother, however, was born on Aruba, but also moved with her family to the Netherlands when she was about 11 years old. My parents met each other in the Netherlands and had their first daughter together, my sister, in the Netherlands. Because my father longed to move back to Suriname (I believe especially because he hated the Dutch cold weather and longed to be more in touch with his Surinamese roots) and my mother always felt like she was Surinamese (despite the fact she never lived in Suriname herself), they decided to migrate to Suriname. However, at the time there were no job opportunities in Suriname. My mother had family living on Curaçao who offered them a place to stay, and my father was able to work there as a physical therapist. Therefore, they decided to make what was supposed to be a pit stop on Curaçao before migrating to Suriname. My dad was successful in his job and was able start up his own physiotherapy practice. My mother had two more children, my brother and me. Moreover, quite a large Surinamese community lives on Curaçao, some of whom were friends or acquaintances from the past they (re)connected with. This community helped in my parents' feeling of belonging on the island. Because there was no urgency to move

to Suriname, my sister, brother, and I grew up on Curaçao. Like most children on the island, my sister, followed by my brother and I in 2007, migrated to the Netherlands to continue our studies after graduating from high school. Today, my mom still lives on Curaçao, my dad eventually did migrate to Suriname, and I currently still (with a short intermission in Curaçao) live in the Netherlands as do my siblings.

My story is not unique, but it illustrates the complexity of (Caribbean) identities. There is no clear-cut answer to the "where I am from" question. However, during this doctoral research I have come to realize that I actually know who I am quite well. Above all, I learned that who I am is heavily dependent on where I am, and with whom I am surrounded. During my research I came to understand that I can also use my identity is as a strategic tool.

Growing up on Curaçao I always felt more Surinamese (and at times even more Dutch) than Curaçaoan due to my upbringing. I only learned the local language, Papiamentu, in high school and was never exposed much to the local Curaçaoan culture. Yet, I noticed on a trip to Suriname that I identified myself more as Curaçaoan than Surinamese. When I moved to the Netherlands, I noticed I was not typically Dutch either, even though this was never obvious to other members of Dutch society. I was familiar with many things considered Dutch, such as being on time, cycling everywhere, and always being in a hurry to catch the right train. The most illustrative was my ability to speak Dutch fluently with hardly any accent, which is somewhat uncommon among people from the Antilles. This was something I already mastered while growing up on Curaçao to the extent that my mother used to tease me and ask from where I got my posh Dutch accent. I remember the first classes and working groups at university when we would have introduction rounds during which all the students would briefly introduce themselves. Whenever I would say that I was from Curaçao, they would look somewhat surprised and then ask or presume that I moved to the Netherlands at a very young age. Their surprise was not necessarily directed towards my brown skin tone or curly hair, but because of the absence of a foreign accent. Whenever I shared that I had only just moved to the Netherlands a couple of months before, they would be shocked and say something along the lines of "...but you have no accent! Your Dutch is so good!".

For the entirety of this project, I was inspired by writer Taiye Selasi's TEDTalk titled: "Don't ask where I'm from, ask where I'm a local", filmed at TEDXGlobal 2014. Taiye spoke on behalf of "multi-local" people, who feel at home in the town where they grew up, the city they live now, and maybe another place or two. "How can I come from a country? How can a human being come from a concept?" she asked. In her talk, Taiye touches on a subject central to this dissertation, arguing that it is possible for people to have a sense of connection with many places. She explains that a person does not have to be a local according to the typical standard to have a bond with a place. People can be "multi-local", and that a person's bond with a place depends heavily on the interaction

with that place. Having a mixed background or being "multi local" does not mean I have an identity crisis, after all. Nor does it mean that I don't know who I am. It means exactly what it says: I am "multi-local". I am local in multiple places. This has both its advantages and disadvantages.

How did my multi-local identity affect my research? As I mentioned previously, throughout my research I believed my identity mainly served a strategy and I have used it to my advantage as much as possible during my research. However, and naturally, my identity also affected my research – both in how I approached the topic, how and what information I received, and how I interpreted this information. Being from the Caribbean allowed me to easily gain access to organizations and recruit respondents. During my fieldwork, I always introduced myself as a researcher based at the Royal Netherlands Institute for Southeast Asian and Caribbean Studies (known by its Dutch acronym KITLV) but was sure to make it clear that I was born and raised on Curaçao. I also mentioned that I have Surinamese parents, when asked about my lack of knowledge about the local culture and as an explanation for not being perfectly fluent in Papiamentu. Another important reason to mention my parents' background was to lessen my "Curaçaoan" identity to some extent. Because the Netherlands Antilles government headquarters was based on Curaçao when the Dutch Caribbean islands were still the Netherlands Antilles (see Chapter 1 for more details on the complex series of administrative structures that have governed the islands since colonial times), the other islands often felt dominated by, and were therefore resentful towards, Curaçao.

Mentioning all these aspects of my identity, such as Curaçao being the island on which I was born and raised, my Surinamese background, and being able to speak Papiamentu, English, and Dutch, seemed to reduce the barrier between me and my informants. Even though I was not from the same island as my informants, we did have things in common which, from my perspective, led to easier and more open conversations. While being from one of the islands of the Caribbean Netherlands could have possibly removed the barrier between my informants and me completely, I felt that not being from their island ensured that I was able to keep some distance and could at least try to make more neutral observations and analyses. Despite this distance, I had to remain aware of the fact that I still risked having blind spots or becoming too personally involved with my informants. In addition, my respondents and I did not always share the same social class which can also have implications for the ways we experience, view, and interpret our surroundings. Being aware of these differences and being based in the Netherlands, however, allowed me to keep the necessary distance from my informants to process, reflect on and analyze the information I had gathered.

As a presumed "local", I was able to address certain more sensitive topics more easily than a researcher with a different background. And, of course, being able to converse in Papiamentu (or all three languages) made the respondent feel more comfortable and

it was easier for them to express and share information. However, simultaneously, this brought with it a pitfall - during interviews informants would often end their sentences by saying "… you know" or "you understand what I'm saying, sister", assuming that I understood immediately what they meant. In order to prevent this assumption, I would rely on my own interpretation or knowledge and also knowing that informants would be likely to withhold information, I prompted respondents to elaborate on their responses to my questions. Overall, my positionality in terms of ethnicity, gender, and place of birth has been beneficial to my research in terms of gaining access and building trust. I was able to relate to my respondents because of our shared personal roots on the Dutch Caribbean islands. However, I was, and still am, an outsider, as well. I am not from the islands in the same way as many of the respondents, which made it easier at times to pose critical or non-apparent questions. In the concluding chapter of this dissertation, I will reflect extensively on the ways in which my positionality shaped (the process of) this research, the findings, and conclusions.

My research is part of the broader Dutch Organisation for Scientific Research (NWO) funded project titled "Confronting Caribbean Challenges: Hybrid Identities and Governance in Small-scale Island Jurisdictions"; hereafter known as the CCC-project. Due to the NWO's regulations for this funding, this research had to be based at an institution located in the Netherlands, and, therefore, all the researchers who were part of this project, myself included, were based in the Netherlands. In addition to our individual positions in relationship to our own research, we have all had to face the challenge of the ambiguity and, sometimes, controversy, associated with the CCC-project.

I experienced some problems regarding the fact that I was working at the KITLV, an institute founded in 1851 to gather scientific knowledge about the Dutch colonies (Kuitenbrouwer, Poeze & Granger, 2013), though less so than some of my colleagues from the European Netherlands. I was directly confronted with this issue when an informant on Sint Eustatius warned me that people might be wary of answering my questions. He explained that this is because, according to him, locals do not want foreigners to understand them because they do not want to be controlled by others. Not only did he refer to me working at a Dutch research institute that has a specifically colonial focus and past, but he also referred to the fact I have a background in psychology, which carries with it the stereotype of being able to "read people's minds". This preconception about psychology was one that I would encounter more often. Whenever I would introduce myself to informants people would shy away when I said I was a psychologist. I only stressed the fact that I conducted my research based at an independent, Dutch scholarly institute to highlight the academic, professional, and credible character of my project. Overall, I felt informants were pleased to see a "local" conducting research and approaching the topic by emphasizing the individuals who are actively contributing to the development and conservation of the islands, instead of focusing on all that is not being done.

Aside from the benefits that being a "local" accorded my research process, I do feel that "being local" placed a certain degree of additional pressure on me, as well, because residents expected promising outcomes very quickly. Informants often expressed their frustration with the myriad researchers who had come before me from whom they never heard anything after they had left the islands. I was very aware of this fact, and I ensured respondents that I would share all my findings with them as soon as they were ready, but, in the process, I also learned that communication and managing expectations were key to gaining and maintaining trust.

Gender is an interrelated aspect of the research and it's necessary to understand how this played a role in my research and in my overall position in the field in relation to gender-based relations in Caribbean communities. I am familiar with the "machismo" cultures of Caribbean communities (Marcha & Verweel, 2009), but I did not initially realize the impact being female would have on my research. Except for several sexually tinted remarks directed at me, in particular during my collaboration with WWF-NL, I did not experience any explicit backlash or discrimination as a woman while doing fieldwork. In fact, during my work with the fishers, I experienced that being female was often a big advantage. The fishers I worked with took a protective role with me and made sure I was safe. Perhaps because I was not seen as a threat because I was a woman (clearly a very gendered understanding and expectation in and of itself) they trusted me, which gave me exclusive access to insightful conversations and debates. At the same time, I am aware that being female also excluded me from certain discussions and conversations. Despite this gender-based exclusion, however, I know that others would not have gained access to certain information that was entrusted to me. Caribbean scholars have argued that the subordinate position of women in the region intertwines with race, imperialism, and an existential experience of colonialism (Hume & Kamugisha, 2016; Rodriquez, 2015). Race and racism continue to play a negative role on the Dutch Caribbean islands' as is shown by expressions like *drecha koló* ("improving one's color" by looking for a partner with a lighter shade of skin) and "good" and "bad" hair (indicating the degree of coarseness, with "bad" hair being coarser and "blacker") (Roe, 2016). The recent debates around the Black Lives Matter (BML) movement in 2020 emphasize that racial legacies are still very present. However, I believe that precisely because I am black and from the region, many barriers to informants sharing their knowledge and experiences with me were removed. I was not seen as just "another white researcher coming in and telling people what to do". I also believe that being black helped to remove some boundaries that might otherwise have been erected regarding social class, especially during my work with the fishers on Bonaire who are generally from a lower class.

Not only did my personal characteristics affect my research, but also my professional identities and disciplinary backgrounds strongly shaped my work. I come from a positivist tradition of social and environmental psychology. I am used to viewing and researching the world in a particular way following specific research methods. Even

though the limitations of the more traditional quantitative research methods with which I was accustomed became apparent immediately, I remained hesitant to deviate from my training. I was dead set on identifying universal and quantifiable psychological factors to answer my research questions, so I developed an online questionnaire prior to conducting my fieldwork. However, my survey was not ready upon the start of my fieldwork. Therefore, instead, I decided to conduct a series of interviews. I did this with two purposes in mind: on the one hand to gain goodwill among potential survey respondents and increase the chance of them filling out my online survey later; on the other hand, to gain an in-depth understanding of the experiences and perceptions of residents' efforts engaging in conservation action. Despite my own insecurities about, and hesitance to, employ a research technique I was less familiar with, the interviews proved to be much more fruitful for, and appropriate to, answering my research question. This was not only because of the richness of the data I garnered, but because the survey did not bring in the number of responses required to be considered scientifically valid within the field of (environmental) psychology. Happily, including and analyzing my qualitative data and fieldwork observations and, thereby, making it a multiple method research, allowed me to make a valuable contribution to the tradition of research in psychology. This contribution was enriched even further during the second phase of my dissertation, described below.

Halfway during the third year of my PhD work, WWF-NL came to me with a question regarding the fishery sector of Bonaire, Saba, and Sint Eustatius. WWF-NL took on a more direct role in conservation efforts on the BES-islands (the acronym for Bonaire, Sint Eustatius, and Saba – BES – is commonly used in writings about the islands that would become so-called "special municipalities" after 10/10/10, described at greater length below) since the constitutional change in 2010, mirroring the shift in the Dutch government's involvement. Because the government of the Netherlands has international accountability concerning fisheries, such as contributing to global monitoring of fish stocks, more pressure has been put on the management of the fisheries sector of the three islands. WWF-NL has worked on Bonaire, Saba, and Sint Eustatius for many decades and is interested in developing economically viable and community-supported sustainable fisheries. As WWF-NL learned about the difficulties present on the islands regarding the fisheries sector, they also became more involved in attempting to realize sustainable fisheries management on the islands. However, they soon came to the conclusion that every fishery directed project or initiative, whether these were for (economic) development or conservation, tended to end up as failures. WWF-NL was keenly aware of the fact that managing the fishery sector is as much a social as an ecological issue. Therefore, they asked me to assist them in identifying the social bottlenecks that lead to the failure of these projects, and to help them come up with solutions for these issues. The goal was to develop a roadmap for the Dutch Ministry of Agriculture, Nature and Food Quality, the local island governments (public entities) of Bonaire, Saba, and Sint Eustatius, other interested parties, and the WWF-NL itself. This roadmap was meant

to help all these organizations and groups break through the current impasse related to participatory fishery management, with an eye towards the creation of joint fishery management.

This question led to me entering the world of action research and working on Bonaire with the fishery community for three months. The goal of action research is to facilitate change within a community regarding a shared social issue. This is different from more traditional forms of scientific research, which is very much focused on surveys, interviews, and observations with a focus on perceived objectivity or "distance". In this case, my action research was centered on the overarching goal of establishing a fishery-co-operative on Bonaire. Throughout the project, I had to remain alert to the fact that I was playing multiple roles: a researcher based at a Dutch Institute, who was executing a consulting project for WWF-NL assisting fishers on Bonaire. I was aware of the opinions and sentiments about past research on the fishery community on Bonaire, so I focused on remaining transparent throughout the process. From the onset of my research, I stated to my respondents that indeed I was fulfilling many roles, but that all the support I gave to the fishers was based on their expressed needs.

In addition, I emphasized that I did not have any expert knowledge about the marine ecosystem or fisheries. To ensure full and meaningful participation from the fishers, I continuously demonstrated that I was willing to put in the extra hours and effort needed to support the cooperative in achieving its goals. This was necessary because of the, at times, conflicting roles I held. On the one hand, I had to present myself as a WWF-NL partner in order to gain access to nature conservation-oriented organizations and government departments so that I could create credibility and ensure the relevance of my work. However, WWF-NL does not have a positive reputation among all the stakeholders, especially among the fishers, meaning that, in some instances, I was more inclined to stress the independent role I was playing and focused on the relevance of the project for the (fishery) community of Bonaire.

Finally, and directly relating to Bonaire's fishery sector, was the history of failed fishery projects that loomed over the assignment from the start. Especially in the beginning, but also during the entirety of the project, people were apprehensive and skeptical about the effectiveness of setting up a lasting cooperative. Past failures negatively affected their perception of the project and, at times, their willingness to collaborate with, and contribute to, its success. It also affected my own position and outlook on the entire process, resulting in me choosing to "side" with the fishers to strengthen their representation with the various organizations involved. Lastly, this skepticism expressed by so many stakeholders affected my involvement and commitment enormously. No matter the cost, I wanted to prove that, if done correctly, the fishers could in fact be a strong, professionally organized stakeholder with a prominent voice in, and invaluable

contribution to make to, fishery management. I will reflect more extensively on this role and my (over)involvement in the conclusion of this dissertation.

The fieldwork I conducted, the participatory action research in particular, implies biases and raises concerns about the objectivity of the analysis in addition to myriad ethical considerations (Löfman, Pelkonen, & Pietilä, 2004; Persoon & Minter, 2011; Finnis, 2004). Some scholars may argue that this form of research can lead to unethical scientific conclusions and tamper with the objectivity of the analysis. Indeed, after my fieldwork, during the analysis of the collected data, I had to be wary of my own prejudices when interpreting and placing value to the information I collected from the different informants. I noticed I was tempted to place higher value on information received from informants who I felt carried similar values and beliefs as my own. For example, I noticed that when I interviewed a Curaçaoan civil servant working on policy issues for the Dutch government, I felt whatever he shared must be true and that his views most likely represented the complete story. However, I was aware of this, and I was able to consider and evaluate all perspectives and make sure I did not leave certain voices unheard. Therefore, I argue that similar to my dual identity of being somewhat local, being both a researcher and facilitator of change can be enriching and help in gaining insights that might be lost were other research methodologies to be employed. In addition, this approach allowed for the active participation of people who would in other cases perhaps be dismissed, excluded, or avoided (Stringer & Genat, 2004; Eelderink, Vervoort, & Laerhoven, 2020). This is perfectly illustrated by my work with the fishers, who tend to be considered a "difficult" group to conduct research with and are, therefore, avoided by other researchers. Moreover, I argue that the need to address environmental challenges by directly engaging in finding solutions to pressing social challenges is more ethical than being a "simple" detached observer in communities where these social challenges are so prominent.

Throughout my fieldwork and interactions with governments, and with those who I define as conservation actors, and fishers, I have been transparent about my objectives and intentions with my research. I ensured that everyone voluntarily agreed to be interviewed, to engage in conversations, and take surveys. Individual respondents were never faced with repercussions when they disclosed sensitive information, such as using illegal fishing methods. I ensured that informants had their anonymity maintained unless they requested otherwise. I made no payments for information, with the exception of two cases. The first case was a small raffle incentive attached to the online survey distributed among conservation actors of the Caribbean Netherlands to encourage participation in the survey. The second was the mandatory compensation given to the survey respondents acquired through Prolific (See Chapter 3). Ethical approval was granted by the Leiden University Psychology Ethics Committee. In addition, I gave respondents access to presentations and reports in which I shared my research findings. This gave the respondents the opportunity to share their views, ask questions, and provide

additional input. It helped us to step over the barrier that can sometimes be experienced in the interaction between academics and non-academics (Löfman, Pelkonen & Pietilä, 2004; Blake, 2007). Overcoming this perceived distance was especially relevant and helpful during my interaction with the fishers.

In sum, the fact that I was also from the Dutch Caribbean, worked at an historically well-established Dutch institute and, finally yet importantly, was a member of an interdisciplinary research team, meant that I was able to position myself in a variety of ways in many, if not most, situations. Throughout this book, and particularly in the case study described in Part 3 and in the Conclusion, I will reflect on how I became aware of my position as a researcher and how "being me" has affected the ways in which I approached this research. My background and my family's experiences on the islands are illustrative of the overarching contexts in which this research project is situated: a history of (post-)colonial migrations between and within the Caribbean and European Netherlands and the resulting complex and multi-local identities and feelings of (lack of) belonging. Given my personal history, it is perhaps not surprising that I ended up building on the positivist foundation of my academic training in the Netherlands while incorporating insights from other disciplines to understand the intertwined, complicated intersections I focus on in this dissertation. Namely, the intersections between notions of identity and belonging, post-colonial histories, and highly differentiated understandings of place and environment.

Figure 2. Colonial ruin on St. Eustatius in Lower Town, being engulfed by trees.

1

Introduction.

More and more attention is being paid to calls to "save our planet" on a global level, and this call to action is also evident on Bonaire, Saba, and Sint Eustatius, also known as the Caribbean Netherlands. Like the rest of the Caribbean, these three islands are being confronted with changing weather patterns, leading to extensive periods of drought, more intense storms, and rising sea temperatures which affect the coral reefs. Lack of facilities and infrastructure coupled with the large number of goods that must be imported create undesirable pollution and excess waste. Not only does the deterioration of the local environment have negative consequences for the biodiversity and the health of the population, it also has major economic consequences (Debrot et al, 2017; Nature Policy Plan CN 2020).

It is clear, then, that there are pressing ecological problems that need to be dealt with. Some of these problems are not new and are present on all three islands; for example the presence of invasive species and the exploitation of resources. More recent challenges, such as the consequences of extreme weather conditions and, especially, hurricanes are particularly evident on Saba and Sint Eustatius, as the destruction wrought by Hurricanes Irma and Maria in 2017 illustrates. On Bonaire, the rapidly growing population, the lure of mass tourism, and the specter of rising sea levels pose the major threat (Debrot et al, 2017).

In addition, the islands are also dealing with some paradoxical ecological challenges related to population growth and tourism (Debrot et al, 2017). On the one hand, the tourism industry as it is, in particular the mass tourism industry, places immense pressure on local ecosystems which can lead to additional environmental degradation. This is, among other things, due to unsustainable coastal development and the mass production of waste and wastewater. The paradox is that tourism to the Caribbean is promoted by extolling the islands' pristine environment. This natural beauty makes the region an ideal place to visit on the one hand, while the same sector, if not managed properly, one the other hand, will lead to the destruction of these same environments.

The vulnerability of islands to environmental degradation and the effects of climate change necessitates policies to protect the environment in the Caribbean (Barker, Dodman & McGregor, 2009). As environmental degradation is a collective problem, it needs collective solutions, which in turn demands the participation of actors on all levels of society. While a growing number of people are getting involved in environmental conservation efforts, getting the masses to participate in environmental action remains a challenge. These challenges are rooted in historical, individual, societal, and contextual factors . This dissertation examines the efforts and motives of conservation actors on Bonaire, Saba, and Sint Eustatius, and situates these actors within the larger context of the Caribbean Netherlands. I wanted to know why some people engage in what I broadly define as conservation activities and why some do not. I was curious about the complex factors that underlie their decision making. To get at these issues, I focused on residents of the Caribbean Netherlands who do make an effort to protect local environments

from further deterioration. This research combines insights and approaches from environmental psychology, anthropology, and Caribbean studies, to investigate how and why residents engage in conservation actions.

For several reasons, the Caribbean Netherlands is an interesting context from which to examine the collective efforts being made to protect the environment. First, the three islands became so-called "special municipalities of the Netherlands" on 10/10/10, which resulted in a host of societal, legislative, and cultural changes on the islands. These reforms to the governance structure of the islands, in turn, accentuated contestations about the relationship and history the islands share with the Netherlands and prompted debates on identity and belonging (Oostindie & Klinkers, 2012; Veenendaal & Oostindie, 2018). Second, the three islands are all small in terms of geographical scale, spatial position, and population, which has implications for the development and management of the islands' environments (Baldacchino, 2014; Ratter, 2018; Veenendaal, 2017a). The intersection of governmental and administrative structures, the (post)colonial histories, and the size and insularity of these space, I posit, create a unique set of circumstances that influence the choices people make about how, where, and why (or why not) they engage in conservation activities. Though these circumstances are, by their very nature, unique to the Caribbean Netherlands, I suggest that we can extrapolate from what my research shows and learn something about nature conservation decision-making in other contexts.

Specifically, my research tackles a previously largely understudied issue at the juncture of anthropology, environmental psychology, and Caribbean Studies: how belonging is understood and manifested in conservation activities. As I will describe at greater length, below, I look at what it means to belong in these small spaces and how (perceived) feelings of belonging – or lack thereof – play into how and why people chose to engage in conservation activities. My research focused on activities that were public such as participating in a clean-up day. Because of the visibility of these pro-environmental actions, other people, I hypothesized, might respond more strongly – both positively and negatively – to these actions compared to, for example, more private behaviors such as a person using eco-friendly cleaning products in their household. This makes it more likely that these forms of pro-environmental behavior are, as I posit, indeed affected by the social, political, and geographical realities of the Caribbean Netherlands. As Lapinski and Rimal (2005) reason, "the influence of perceived norms is likely to be greater in the presence of referent others than when alone, or when people perceive those others will have access to information about their behaviour" (p. 141). Therefore, I argue that these public behaviors are particularly suited to investigate the impact of broader societal changes and developments.

An abiding tension at play in my research was that, despite the positive connotation of conservation behaviour, protecting the natural environment is not necessarily the norm

on the islands, and might even go against the ways in which people usually behave (e.g., Alisat & Riemer, 2015; Byrka, Kaiser & Olko, 2017). Therefore, engaging in a conservation action might engender reputational damage or other forms of social censure. Hence, it is of importance to also consider a variety of behaviours that fall under the umbrella of "pro-environmental". Some conservation actions might be more in line with local community norms than other behaviors, and these norms can and, as I show, do have an impact on how, why, and who engages in them. For example, not all members of the community might appreciate protesting against coastal development projects that are harmful for the environment but beneficial for the economic development of an island.

To explain the conservation actions observed on the three islands from an environmental psychological perspective, the current dissertation focuses on several of the more indirect social-contextual forces. Namely, reputational concerns; i.e. what will people think of me if I do (not) join? (e.g. Kitchell, Kempton, Holland & Tesch 2000; Niemiec, Willer & Brewer, 2019); place and community attachment, which is defined as, "(positively) experienced bonds . . . that are developed over time from the behavioral, affective and cognitive ties between individuals and/or groups and their socio-physical environment" (Brown & Perkins, 1992, p. 284); feelings of psychological ownership, understood as, "a feeling of possessiveness or being psychologically tied to an (material or immaterial) object to the extent that the possession becomes part of one's identity" (Pierce, Kostova & Dirks, 2001); and social norms – unwritten rules about how to behave. They also take into account Jossy's observations, described in the Prologue, namely that insiders' and outsiders' efforts to protect the environment are sometimes ridiculed by locals.

Capacity, knowledge, felt importance of the cause, or urgency of the problem are not the sole determinants for participation in conservation behavior. It is also, and arguably in the current contexts more importantly, determined by the social relationships between groups and peoples and their shared histories. To understand the tensions between groups and individuals regarding their participation in environmental conservation efforts, understanding the underlying, historic relationships between groups or individuals is fundamental.

1.1 DEFINITIONS AND DISCIPLINES

The major threats to the environment such as global warming, ozone layer destruction, exhaustion of fisheries and agricultural land, and widespread exposure to toxic chemicals are caused by human behavior, particularly overconsumption and overpopulation (Argyou, 2005; Oskamp, 2000; Steg & Vlek, 2009). Hence, addressing environmental problems is not just a technical problem, but equally a social one that requires changing perceptions, attitudes, and behavior. The social sciences, therefore, play a crucial role in helping reverse the damage caused by human behavior.

1.1.1 Environmental Psychology

It is from this realization about the role of the social sciences in affecting human behavior that the discipline of environmental psychology emerged in the late 1960s, largely in response to the rapid changes in, and the declining health of, the natural environment (Gifford, 2014; Kollmuss & Agyeman, 2002; Wohlwill, 1970). Environmental psychology focuses on understanding how people – as individuals and as part of groups – experience, interact with, shape, and are shaped by the natural and built environment. Environmental psychology helps to identify the differences between people who engage in pro-environmental behavior and those who do not (Gifford, 2014). Knowledge about human-environment interactions can influence policies that help promote sustainable behavior and create more livable and green built environments (Bell, Greene, Fisher & Baum, 1996; Environmental Psychology Enhancing Our World, 2017; Oskamp, 2000).

Environmental psychologists have identified many factors that determine people's commitment to protect the natural environment – including intrinsic, economic, political, health or well-being, and social reasons (for an overview see Bamberg & Möser, 2007; Gifford & Nilson, 2014; Kollmuss & Agyeman, 2002). Increasingly, studies have demonstrated the importance and relevance of social-contextual forces that are somewhat indirectly related to the environment, such as religion, norms, social class, and cultural differences for understanding and explaining environmental behavior (Gifford & Nilsson, 2014). These factors can simultaneously represent motives for, as well as barriers to, pro-environmental behavior – factors that are not directly related to the inherent (ecological) need to protect or conserve the natural environment.

Pro-environmental Behaviors

As the purpose of this dissertation is to gain a better understanding of the interplay of factors that influence why people make the choices they do in terms of engaging in conservation activities, it is necessary to define this behavior and these actions that I am researching. Kollmuss & Agyeman (2002, p. 240) define **pro-environmental behavior** as "behavior that consciously seeks to minimize the negative impact of one's actions on the natural and built world". This includes a large range of actions (conscious activities people partake in), including: reduced consumption of meat; recycling; reduced energy use; and separating waste; but also includes active involvement in environmental organizations and demonstrations, and things like petitioning lawmakers on environmental issues.

Another commonly used term used to refer to this type of behavior is **environmentalism**. Environmentalism can refer both to a perspective or study as well as human behavior or actions. Milton (1996, p. 36) provided a definition for environmentalism which is widely adopted by anthropologists, namely "any concern to protect the environment which implies a human responsibility". Like pro-environmental behavior, this too is an all- encompassing definition which includes many types of actions. Similar to the central belief of environmental psychology, it suggests that people are the cause of

environmental problems and can and should, therefore, also be part of the solution. Because both environmentalism and pro-environmental behavior are such broad terms, it is important to further specify types of actions that the actors on which I center this dissertation take part in.

There are many ways in which pro-environmental actions can be classified and categorized. One way to classify pro-environmental actions is by considering the desired outcome or goal. Here a distinction can, for example, be made between:

- Conservation;
- Preservation:
- Restoration; and
- Animal welfare.

According to the International Union for Conservation of Nature (IUCN) **conservation** is defined as, "The protection, care, management and maintenance of ecosystems, habitats, wildlife species and populations, within or outside of their natural environments, in order to safeguard the natural conditions for their long-term permanence" (IUCN). According to this definition, conservation is less rigid compared to **preservation** of nature, which refers to actions that protect the natural environment from human activities or use. This often entails that the natural environment be protected from all human use and remains untouched by humans (Passmore, 1974). In contrast, **restoration** implies repairing damaged or disturbed ecosystems through to human intervention. Thus, restoration focuses on reversing degradation whereas conservation and preservation address the prevention of such losses from occurring altogether .

Another form of behavior that could belong to this list of types of pro-environmental behavior is **animal welfare**, though there is some debate about its inclusion. Animal welfare is focused on the protection of animals and wildlife and is particularly concerned with the lives and well-being of mostly sentient animals (non-humans) (Rawless, 2003; Campbell, 2018). Advocates for animal welfare and environmental advocates such as conservationists share a common concern for non-humans. However, the basic premise of animal welfare activists and environmentalists differs greatly. From the perspective of environmentalists (i.e., those working for conservation, preservation, and/or restoration) the key is that one species must not cause damage to other species, as their overall concern is maintaining the balance of ecosystems. Advocates of animal welfare, in contrast, place the lives and well-being of animals central – a placement which can, at times, conflict with the overall balance within an ecosystem (Rawless, 2003). This desire for a balanced ecosystem is the justification used by environmentalists to exterminate individual animals. This justification and the resulting death of specific animals goes directly against the moral principle of animal welfare advocates.

A second commonly made classification of pro-environmental behavior lies in the **type of environmental issues** people focus on. A distinction is made between:

- Green environmental concerns: and
- Brown (or grey) environmental concerns.

Green environmental concerns or issues place the focus on wildlife, biodiversity, and ecosystem health and tend to have a more delayed agenda with future generations in mind (Jaffe, 2006). In contrast, **brown environmental** concerns have a more people-oriented approach. Brown environmentalism stresses the right of people to a clean and healthy environment and is more likely to focus on issues such as waste management and pollution. The problems tackled are local, more immediate, and disproportionately affect (the health of) the poor, such as waste, energy, and pollution (Jaffe, 2006).

Lastly, a distinction can be based on where and how a behavior is enacted. Stern (2000), for example, distinguishes several forms of pro-environmental behavior with each form having different determining causal factors. Table 1 presents an overview of the categorization made by Stern including several examples of actions that fall under each category. This distinction or classification can be applied to all forms of environmental preservation, restoration, and conservation behavior. Like conservation, preservation, restoration, and animal welfare, each of these types of pro-environmental behavior carries a unique set of underlying reasons or motives for engagement (Stern, 2000).

Table 1. Overview of categorization of environmentally significant behavior by Stern (2000)

	Definition / specification
Environmental activism	Active involvement in environmental organizations and demonstrations. Based in social movement literature. People are aware of their environmental concern.
Nonactivist behavior in the public sphere	Support from nonactivists of movement objectives. Includes environmental citizenship (e.g., petitioning on environmental issues, joining and contributing to environmental organizations) and support or acceptance of public policies (e.g., willingness to pay higher taxes for environmental protection). People are aware of their environmental concern.
Private sphere environmentalism	The purchase of major household goods and services that are environmentally friendly, the use and maintenance of environmentally non-damaging goods, household waste disposal, and "green" consumerism.
Other environmentally significant behavior	Influencing the actions of organizations to which a person belongs.

These different forms of pro-environmental behavior need to be distinguished as they are partially triggered by the underlying values that direct policy and form the background to possible dilemmas and disagreements among affected or involved individuals. Different points of departure are attached to the actions because they affect the perception and responses of various community members to these actions in disparate ways. In other

words, the different values underlying the forms of pro-environmental behavior can lead to conflict and dilemmas and thus affect the choice of individuals to get involved or not.

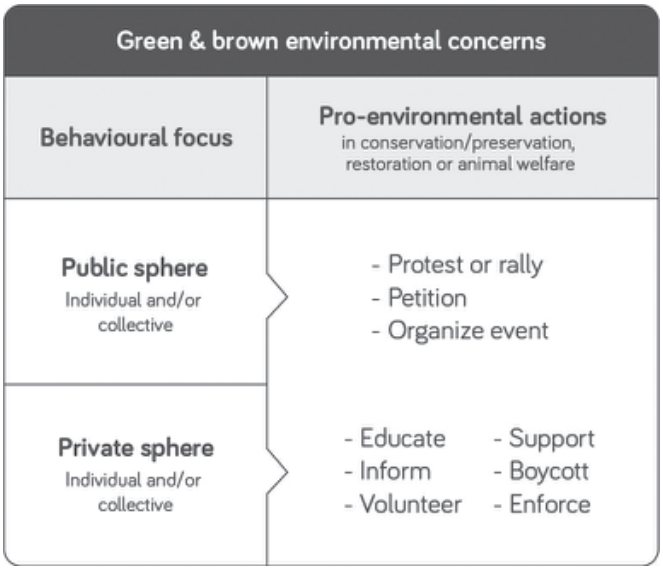


Figure 3. Overview over the different ways in which environmental behavior can be categorized

Figure 3 provides a summary of the different ways in which pro-environmental behavior can be categorized. In this dissertation, the behavioral distinction between forms of pro-environmental behavior is of greatest importance. Specifically, the focus lies on both *environmental activism* and *nonactivists' pro-environmental behavior in the public sphere*. Examples in the Caribbean Netherlands include participating in clean up events and the restoration of coral reefs, protection of endangered species such as sea turtles, iguanas, parrots, and sharks, combatting invasive species, reforestation attempts, maintenance of nature hiking trails, and promoting or campaigning for increased recycling or (plastic) waste reduction. The focus lies predominantly on conservation and restoration activities. In addition to these actions, however, I also considered some cases that were closer on the spectrum to animal welfare. This was only done when the respective informants argued that their efforts to care for animals are beneficial to the environment as well. For example, fewer roaming cats and dogs prevent the killing of birds and other small animals such as lizards which are of importance to the ecosystem/biodiversity. A similar case was made by actors advocating for the protection of donkeys, a major issue on the island of Bonaire. Namely, actors argued that in addition to their cultural value, the roaming donkeys are of importance for spreading seeds on the island. While it is heavily debated if donkeys really do spread seeds and most (if not all) environmental scientists dispute or dismiss this argument because it is not likely that this benefit outweighs the overgrazing damage caused by the roaming donkeys, the fact remains that these actors argue that their efforts include environmental considerations. Moreover, whatever the

scientists say, the actors themselves viewed their actions on behalf of the donkeys as being part of their conservation and restoration activities. Therefore, I chose to include these activities in the overarching study.

Conservation Actors and Actions

From here on out, I will refer to the behavior I examined in this research as *conservation actions* because this formulation captures the focus on protecting the environment and the active and visible nature of the behavior. In addition, I refer to *conservation actors* as the group of individuals who are the focus of this research. They represent non-government organizations, government departments, as well as individuals who are not directly affiliated with any (environmental) organization. They have in common that they make an effort to partake in projects directed towards the protection of the natural environment of the islands in a way that is clearly visible to the broader community of the islands.

1.1.2 Research Landscape

While interdisciplinary research is stimulated within and between the fields of the humanities and the social sciences, the research done over the past decades on the former Netherlands Antilles has remained highly compartmentalized. This dissertation attempts to overcome this fragmentation by bringing together research questions and strategies as well as expertise and informants from a range of disciplines within the humanities and social sciences. Governance (Clegg, Pantojas García, 2009; Nauta, 2011; Roitman & Veenendaal, 2016), sovereignty (Grenade, 2008; Veenendaal & Oostindie 2018;), culture (Hall, 2001; Römer, 1977) and identity (Allen, 2010; Hall, 2001; Razak, 1998) have all been examined by different scholars in the (Dutch) Caribbean, but these topics in specific relation to environmental issues have received less attention, particularly in the three smallest islands that were part of the former Netherlands Antilles. Therefore, this dissertation contributes to a better understanding of nature conservation in the Caribbean Netherlands contextualized within contemporary issues facing the islands and keeping in mind the complicated social dynamics at play in these small-scale, (post-) colonial communities.

Originally, this research focused not only on understanding the motives behind individuals' actions to protect the natural environment, but, equally, their preservation of the cultural heritage of the three islands. During the project the focus shifted to solely the conservation of the natural environment. Nevertheless, the ways in which individuals relate to the natural environment is culturally patterned (Milfont & Schultz, 2016). Culture, and, hence, ideas about nature, are socially constructed, which has implications for understanding environmental actions and management (Castree & Braun, 1998; Brosius, 1999; Cronon, 1995; Milton, 1996). Therefore, the role of culture

in influencing conservation behavior remained central throughout the research in two prominent ways.[3]

First, from the perspective of psychology, the cultural background of individuals and the norms, values, and beliefs originating from their cultural background are looked at in relationship to each other. Environmental psychologists have studied the fundamental role of culture in prescribing the relationship between individuals and the natural environment (for an overview see Kashima & Margetts, 2014; Milfont, 2012). Psychological factors – such as levels of concern, psychological distance from the problem, values, and norms and emotions – are culturally defined and shape beliefs about how nature works, how individuals interact with nature, and affect the extent to which individuals perceive and act to solve environmental problems (Milfont & Schultz, 2016). Cultural differences in perceptions and attitudes can lead to misunderstandings and conflict regarding the management of natural resources (Head, Trigger & Mulcock, 2005). Thus, I had to address the cultural perspectives through which people frame their interaction with the environment (Milton, 2003; 1996).

Although scholars acknowledge the importance of considering culture when examining human-environment interactions (Milfont & Schutlz, 2016), the work of environmental psychologists investigating cultural differences remains somewhat superficial. That is because scholars have tended to generalize the cultural differences in the concepts considered in their analysis – such as "Western versus Eastern" or "individualistic versus collectivistic" cultural differences. Consequently, they do not question the origin of cultural differences. Hence, the approach of "generalizing" culture and thus cultural differences in such broad ways ends up limiting the extent to which culture is taken into account when explaining something like pro-environmental behavior. This is particularly problematic in the Caribbean context, where the "common" understanding of culture is thoroughly creolized and so-called traditional boundaries when defining cultural groups (e.g., "Western" versus "Eastern") become irrelevant. Specifically, Caribbean creole cultures are a mixture of "Western" and "Non-Western" cultures, containing elements with European, American, Latin, African, and Asian origins. Moreover, these cultures mix and merge in the Caribbean which makes the determination of whether a person falls under either one or the other near impossible.

As Uzzell and Rathzel (2009) argue in their plea for a transformative environmental psychology, "our perceptions, attitudes and actions are not formulated in an instance but have history. Capturing that history, that is the time dimension of people's lives through their life histories, is another way of understanding where they are now" (p. 348). Thus, to understand the tensions between groups regarding environmental

3 In this dissertation I employ the broad definition of culture provided by UNESCO, namely that culture "… is that complex whole which includes knowledge, beliefs, arts, morals, laws, customs, and any other capabilities and habits acquired by [a human] as a member of society" (Tylor, 2010).

conservation, it is of fundamental importance to find out who participates and why, through an understanding of the underlying historic relationships between groups or individuals. This brings me to the second way in which culture is integrated in this research. In the Caribbean, it is of particular importance to consider historic events that shaped local culture when examining how individuals perceive and act to solve environmental problems.

This is because there is no other place in the world that has been shaped by its colonial history as much as the Caribbean and every social and cultural trait exists in relationship to colonialism (Trouillot, 1992). Rabess (1998) described the Caribbean as "an artificially created society made to fit the design of colonial expansionism and economic imperatives. It is still in the process of decolonialization, identity formation or consolidation" (p. 453). Similarly, Jaffe, de Bruijne & Schalkwijk (2008, p. 1) pointed out that "Global flows and colonial powers that shaped the Caribbean in the past are continued in the form of present-day dependencies". Consequently, just like it is not possible to categorize Caribbean culture as either "Western" or "Non-Western", the distinction between global versus local processes is not clear-cut in the Caribbean due to its history. Specifically, the Caribbean region and societies are a creation of globalization and migration (Slocum & Thomas, 2003). In contrast to environmental anthropologists (Barton, 2002; Grove 1997; Jaffe, 2016; Murphey, 2009), and archaeologists (Wallman, Wells & Rivera-Collazo, 2018), environmental psychologists have not taken into account the environmental legacies of colonialism, particularly the long-term socioecological and psychological consequences of human interactions with the environment during the colonial era that continue to shape modern social and environmental challenges. Yet the specific history that shaped the culture of the three islands I examine in this research is essential in explaining why certain people are more engaged in environmental actions than other as well as the different ways in which the various efforts to protect the environment are received by the community.

Situated in social history, cultural and environmental anthropology, public administration, and environmental science, this research aims to create a broader, less compartmentalized, picture and will also address societal concerns. Because of its multidisciplinary and multi-method character, this dissertation produces information that I hope will be useful in engaging more people in environmental conservation in the (Dutch) Caribbean. In other words, this research aims to contribute new insights and practical recommendations to the debate on how to act upon or even solve some of the urgent environmental challenges while also remaining sensitive to (post-)colonial realities.

1.2 RESEARCH AREA: BONAIRE, SABA, AND SINT EUSTATIUS

The setting in which this study takes place are three non-sovereign, small-scale Dutch Caribbean islands: Bonaire, Sint Eustatius, and Saba, also referred to as the Caribbean Netherlands. Prior to the European colonization, the three islands were inhabited by Arawak and Carib indigenous groups (Amerindians) who were almost entirely exterminated with the arrival of the Spanish in the early 16th century. In the 1630s, the Netherlands gained colonial rule over Aruba, Bonaire, and Curaçao (ABC-islands) located off the coast of Venezuela, and Saba, Sint Maarten, and Sint Eustatius (SSS-islands) located in the northern arc of the Leeward Lesser Antilles, over 800 km north of the ABC islands. Curaçao and Sint Eustatius were developed as maritime economies, dependent on the forced immigration of enslaved Africans along with the settlement of some Europeans. Slavery was only abolished in 1863.

The islands were ruled in several colonial configurations, first under the First and Second Dutch West India Companies, later under the Kingdom of the Netherlands. After the tumultuous Napoleonic period in which territories in the Caribbean changed hands several times, a Dutch Colonial governance structure was set up in which administration was based on Curaçao. In fact, after 1815, the islands became known as "Curaçao and Dependencies" (1815-1828) with Curaçao governing Bonaire and Aruba. Sint Eustatius was also briefly in charge of Saba and Sint Maarten under the short-lived construction of "St. Eustatius and Dependencies" (1815-1828). In an effort to save money, in 1828 all the colonies, including Suriname, were merged into a single West Indies colony ruled from Paramaribo, in Suriname. This move was reversed in 1845, when the islands reverted to being governed from Curaçao, and Suriname remained separate. One of the legacies of this series of administrative arrangements was that there was often ill will between the islands themselves, as well as between the islands and Suriname and/or the European Netherlands. The other islands resented governance from Curaçao, which, especially for Saba, Sint Maarten, and Sint Eustatius, was nearly 800 kilometers away and conducted in Dutch rather than English. (Creole) English is and since the 18th century has been the language spoken by the people of the Leeward Islands, including Saba, Sint Maarten, and Sint Eustatius.

Despite the challenges inherent to this governance structure, it lasted until 1954. In that year, the political structure of the Kingdom of the Netherland was newly defined and theoretically decolonized in the Charter (or *Statuut*) for the Kingdom of the Netherlands. The Kingdom comprised three nominally autonomous countries, namely the Netherlands, Suriname, and the six Caribbean islands of the so-called Netherlands Antilles. Ostensibly, this arrangement lasted until 2010. In reality, the situation became even more complex as the decades went on. In 1975, Suriname seceded from the Kingdom and became an independent republic. Membership of the Kingdom changed

once more when Aruba, after decades of struggle to separate itself from the six-island entity and, particularly, the perceived historical domination by Curaçao, became a separate autonomous country within the Kingdom in 1986. Over the following years, Sint Maarten too became increasingly dissatisfied with its perceived subordinate place in the Netherland Antilles, particularly the fact that the central governance was administered from Curaçao, again a long-standing historical gripe within the Dutch Caribbean (Oostindie & Klinkers, 2012; Veenendaal, 2016b).

Figure 4. Downtown Kralendijk, Bonaire. Dutch influences are clearly visible in the facades of the buildings.

This led to so-called "status referendums" in the first years of the new millennium in which residents could vote on what the actual administrative status of their island would be. These referenda ultimately led to the full dissolution of the Netherlands Antilles. Except for Sint Eustatius, all of the remaining islands desired a new position within the Kingdom of the Netherlands. At the end of a long round of negotiations, Curaçao and Sint Maarten became autonomous countries within the Kingdom, just like Aruba

and the Netherlands. Bonaire, Sint Eustatius, and Saba were given the status of "public entities"[4], a sort of overseas municipality of the Netherlands. This meant that three islands were constitutionally integrated into the European Netherlands and are now known as the Caribbean Netherlands.[5] In effect, this means that they operate, in theory at least, like any other Dutch village or town. In the overseas municipalities, the former legislation of the Netherlands Antilles gradually got replaced with Dutch legislation, the American dollar replaced the Antillean guilder, and the Dutch government gained executive power over the most important policy areas. These policy areas included the natural environment, for which the Dutch Ministry of Agriculture, Nature, and Food Quality now has final responsibility. The local government of the islands was rearranged according to the governance model of Dutch municipalities. The Dutch government is represented on the islands through a shared service organization called the *Rijksdienst Caribisch Nederland* (Royal Dutch Caribbean Service, *RCN),* with headquarters on Bonaire, with the idea being that the Dutch ministries collaborate with one another within this umbrella ministry. A representative of the Kingdom (*Rijksvertegenwoordiger*) acts as the linch pin between the public entities and the Dutch government in The Hague and is responsible, inter alia, for ensuring good governance in the Caribbean Netherlands (Oostindie & Klinkers, 2012; Veenendaal, 2017b).

4 In Dutch, "*openbaar lichaam*".

5 See Oostindie & Klinkers (2012) for an in-depth history of the events leading up to the dismantlement of the Netherlands Antilles.

Figure 5. Bonaire, Saba, and Sint Eustatius in the Caribbean region. Source: Wikimedia Commons.

Although the three islands share a Dutch colonial history and their current political status, they have quite different cultural, economic, geographic, and demographic profiles. In terms of population and territorial size, Saba (population circa 1,900 anno 2019; land area: 13 km^2), Sint Eustatius (population circa 3,000 anno 2019; 21 km^2), and Bonaire (circa 20,000 anno 2019; 288 km^2) are the smallest of the six Dutch Caribbean islands, but Bonaire dwarves the two others. All are situated in the Caribbean Sea. Saba and Sint Eustatius are about 810 kilometers north of Bonaire, which lies 90 kilometers off the coast of Venezuela. Sint Eustatius and Saba belong to the Dutch Windward Islands (Leeward or Lesser Antilles), along with Sint Maarten (See Figure 5). In contrast to the islands of Curaçao, Bonaire, and Aruba, hurricanes regularly hit the Lesser Antilles creating additional environmental pressures. Another very important difference is linguistic, as was mentioned above. Historically, (creole) English is the language spoken on Sint Eustatius and Saba, just like on the rest of the Leeward islands. This linguistic affinity, as well as the close geographic proximity of the other islands in the chain, have meant that they often have more in common with, and feel closer kinship with, people on neighboring islands such as St. Kitts (British) or St. Barts (originally Swedish, now French) than they did with the Netherlands (Mulich 2020; Roitman 2016, 2019) where

colonial rule was distant and exerted in a language many on the islands did not speak. Likewise, on Bonaire, Papiamentu is the primary language spoken, and as I explore at greater length in Chapters 5 and 6, many people have only an imperfect grasp of the Dutch language, as well as little feeling of identification as "Dutch".

Figure 6. Map of Bonaire. Source: DCNA.

These large distances shaped the geographical and cultural differences between the islands. Some of the most striking differences are the languages spoken and physical appearance of the islands. Bonaire (Figure 6) is comprised of a core of old igneous and sedimentary rock (coral limestone) which was formed by underwater eruptions over a hundred million years ago.

Figure 7. Bonaire's pink Salt flats. Source: Kenny Ranking.

These geological processes created an island with a hilly landscape (with the highest point of 241m called "Brandaris") in the northwest, a terraced landscape in the middle and a rather low and flat saltpan in the south (Westerman, 1949). Having one of the most beautiful reefs in the Caribbean, diving – and tourism in general – is the most important pillar for the economy of Bonaire.

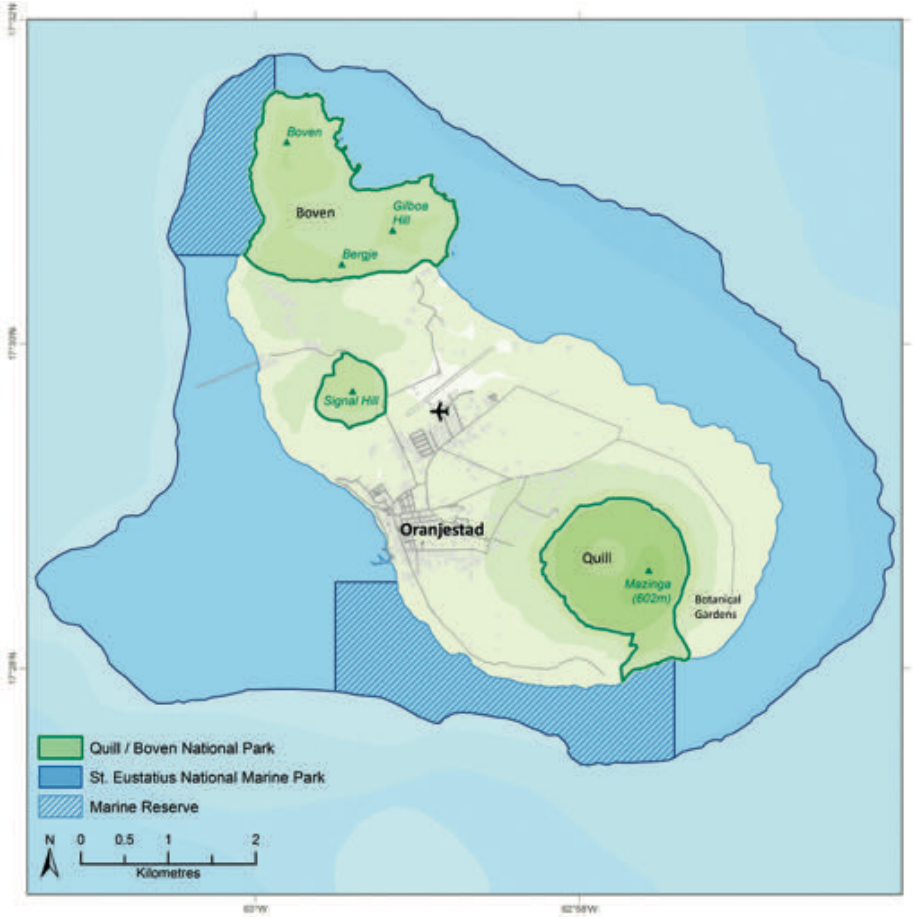


Figure 8. Map of Sint Eustatius. Source: DCNA.

Sint Eustatius (Figure 8) is a volcanic island and features two very different landscapes, as well as black sandy beaches instead of the typical Caribbean white ones. The southeast end of the island is dominated by a 600 meters high dormant volcano, the Quill, full of dense forests and clouds that bring rainforest conditions, while the lower northern hills that formed from an eroded extinct volcano have a savannah-like vegetation and fauna (Westerman, 1949).

Figure 9. Historical building in Oranjestad, St. Eustatius.

The island's only town, Oranjestad, is built near a famous historical harbor that once made Sint Eustatius a thriving center for trade in the Caribbean (Figure 9). The storage of oil products (for the company Nustar) on the island makes it one of the largest facilities in the Caribbean region, as well as of the Netherlands in terms of transit. Besides Nustar, few other economic activities take place on the island and the government is the island's largest employer. However, tourism is an up-and-coming sector.

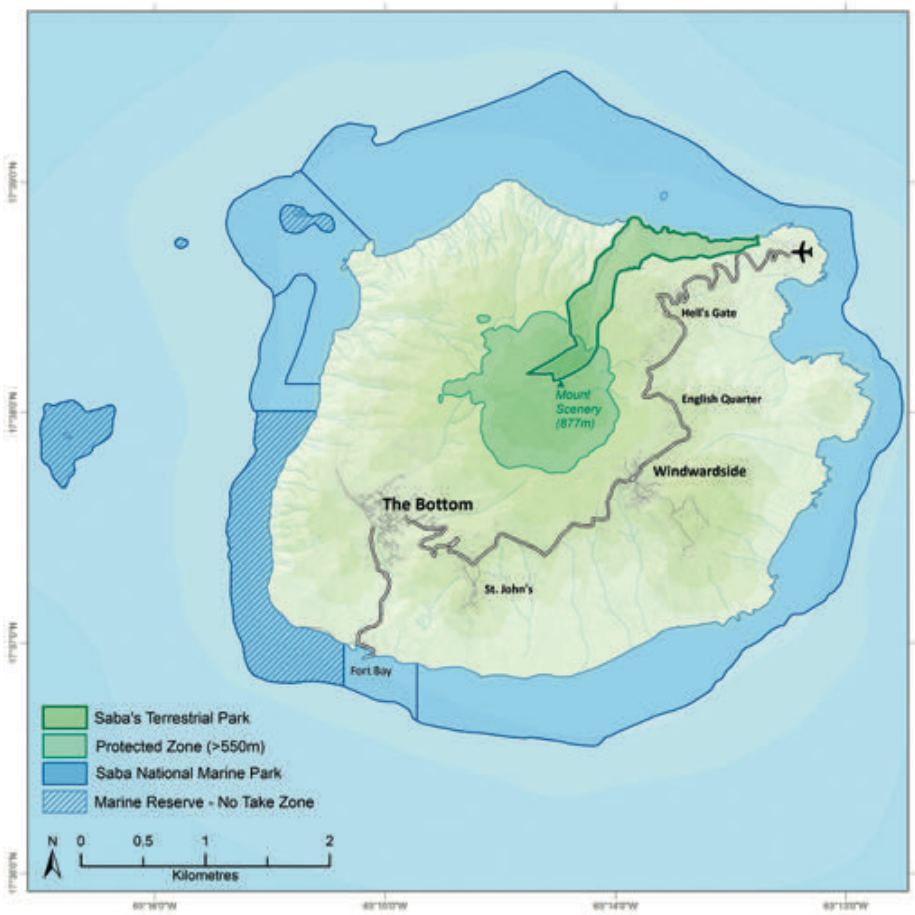


Figure 10. Map of Saba. Source: DCNA.

Lastly, Saba (Figure 10) is the peak of a 500,000-years old inactive volcanic cone. The island's highest point is the 877 meters-high Mount Scenery (Figure 11), which also holds the title of highest peak in the Kingdom of the Netherlands. Guarded by steep cliffs on all sides, Saba has no permanent natural beaches and only one landing point. Much of the island is covered with lush rainforest that harbors an abundance and diversity of nature (Westerman, 1949; Rojer, 1997). During colonial rule, Saba was of little to no economic relevance to the Netherlands due to its inaccessible and rugged environment. Besides tourism, the American Saba University School of Medicine, fisheries, and agriculture, there are very few business activities on the island.

Figure 11. The Level on Saba - all houses and buildings are white, with green trimmings and red roofs and Mt. Scenery in the background.

The cultural differences are not only due to the geographical differences and distances between the islands, but also to the diverse populations residing on the islands. There are over 50 nationalities residing in the Caribbean Netherlands, but the composition of the population differs on each island (see Tables 2 and 3).

Table 2. Country of birth inhabitants, 1 January 2017 (CBS, 2017).

	Former Netherlands Antilles and Aruba	European Netherlands	US and Canada	South and Central America	Other
Bonaire	60 %	16 %	2 %	20 %	5 %
Saba	46 %	6 %	15 %	21 %	21 %
Sint Eustatius	55 %	6 %	3 %	30 %	6 %

In addition to (Dutch Caribbean) locals, on Bonaire a substantial percentage of residents are natives of the European Netherlands, which is not the case on Saba and Sint Eustatius. Saba holds the largest percentage of US and Canadian residents of the three islands, whereas Sint Eustatius houses the largest percentage of South and Central Americans (CBS; Trend Caribbean Netherlands, 2017). These differences are also visible in the languages spoken. On Bonaire, the main language spoken is Papiamentu, the creole language shared with Aruba and Curaçao, followed distantly by Dutch, whereas the first language of most residents on Saba and Sint Eustatius is (Caribbean or creole) English (CBS, 2012; 2013).

Table 3. First nationality of inhabitants, 1 January 2017 (CBS, 2017).

	Dutch	US and Canada	South and Central America and the Caribbean	Other
Bonaire	82 %	2 %	13 %	3 %
Saba	58 %	21 %	15 %	7 %
Sint Eustatius	78 %	3 %	14 %	5 %

The Caribbean Netherlands are now more intensively integrated into the Netherlands than ever before, which provides opportunities as well as tensions. In contrast to regular Dutch municipalities, political power on the three islands of Bonaire, Saba, and Sint Eustatius is shared between local island institutions and the central Dutch government. The interplay between these two political executives is complex and fascinating as "local government" on the three islands now by definition involves both domestic and metropolitan structures and players. However, the inherent inequality in political power and administrative capabilities (primarily in terms of financial resources) means that the relationship between these institutions is characterized by asymmetry. Furthermore, and related to the small population of the islands, the significant influx of Dutch bureaucrats and citizens has a social and political impact that should not be underestimated, and clearly generates tensions.

Since the political reforms, several (in-depth) studies have been conducted regarding the success and local feelings towards the new status (CurConsult, 2012; Spies et al, 2015; Veenendaal, 2016a). While clearly not all the intended results of the reforms were achieved after five years (Spies et al, 2015), these studies do indicate that Bonairean, Saban, and Statian residents are positive about developments regarding education, health care, immigration services, and the police. In contrast, they are generally negative about the rising cost of living and the increased levels of poverty. The studies also found that there is a serious resistance to the strong influx of Dutch residents as well as Dutch administrative dominance on the islands.

Many islanders regret the decreased autonomy and the fact that the Netherlands can unilaterally implement policy on the islands. While the Antillean government was always somewhat reluctant to intervene in the political affairs of individual islands, the political reforms have established a very powerful Dutch administration that does not hesitate to do so. Complaints are often expressed about the loss of identity and culture, the influx of European Dutch citizens, and the fear that local islanders will have less say in what happens on their islands (Duijf & Soons, 2011). As a result, some islanders now talk about the 2010 reforms as constituting a process of Dutch "recolonization". These sentiments are rooted in the growing presence of the Dutch on the islands through both migration and tourism and the continued financial dependence on the Netherlands (Veendendaal & Oostindie, 2018). This growing presence of Europeans on the islands over the past decades also created more racial tensions, particularly on Bonaire and Sint Eustatius (de Geus, Mac Donald, Oostindie, van Stipriaan & Vermeer, 2020). Based on comparative

surveys conducted in 1998 and 2015, Veendendaal and Oostindie (2018) found that residents on the Caribbean Netherlands feel significantly less respected and understood by the Dutch in 2015 than they did two decades earlier. Finally, the 2010 reforms have also affected internal relations on the islands, as well as between them. On Sint Eustatius and Saba, there are feelings that the previous subordination to Curaçao and Sint Maarten has been exchanged for undue dependence on Bonaire, the Dutch administrative center of the Caribbean Netherlands. Overall, the constitutional reforms have clearly not led to all the improvements in the governance of the Caribbean Netherlands anticipated in 2010 (Veenendaal, 2017a; 2017b).

1.3 SITUATIONAL FRAMEWORK

Nature conservation in the Caribbean has always been a contested topic. The dominant players are politically and historically determined, and these politics and this history have a clear impact on nature conservation. In the Dutch Caribbean, this is further complicated by two factors: on the one hand, the extreme small scale of the islands, and, on the other hand, the fact that the constitutional reforms led – unintentionally – to the reproduction of colonial inequality and thus resentment of a perceived "re-colonialization". This creates local resistance towards environmental activism as pro-environmental behavior is experienced as "Dutch" and, thereby, negatively, by some locals.

The small scale of the islands also has implications that need to be taken in account in terms of environmental conservation and management. First, the effects of environmental degradation are likely to be clearly visible, which can trigger the perceived need among residents to take action. This brings me to the second point, namely that while the need for action is evident, the small scale of the communities means that there are a limited number of stakeholders involved in the management process. While this could make governance of the environment easier (Debrot & Sybesma, 2000; Polman, Reinhard, van Bets, & Kuhlman, 2016) because actors know each other which enables quick collaboration and sharing of knowledge, there are also downsides. Although knowing each other can be positive, Veenendaal (2017a) concluded that in terms of politics and governance, this phenomenon also has negative implications such as clientelism, patronage, and strong polarization. In terms of environmental management, the fact that everybody knows each other can exacerbate already existing tensions and conflict of interests among the different stakeholders (Polman et al, 2016). In addition, the limited number of actors also implies there are few people with the required skills and tools to take environmental action. Moreover, the islands also deal with a phenomenon called the "brain drain", meaning that often the highly skilled or educated people leave the islands to pursue their education and careers abroad. This contributes to the limited pool of available people on the islands required to effectively govern the local resources. Another issue, as I already mentioned, is that small islands are generally economically vulnerable as they rely heavily

on only few economic sectors. In the case of the Caribbean Netherlands, these are indeed tourism and fisheries, in addition to government services. On Bonaire and Sint Eustatius, oil storage, and the medical university on Saba, also play significant roles. This limited number of economic activities makes the islands vulnerable, as a decline in income from tourism can have detrimental socio-economic effects (Kelman, 2018). In addition, and related to the limited but highly valuable environmental resources, competition for these resources is inevitable, e.g., tourists versus fishers, both of whom make use of the marine ecosystem (Polman et al, 2016)[6]. Lastly, small-scale is also related to the aforementioned non-sovereign relationship between the islands and the Netherlands. According to research conducted by Veenendaal and Oostindie (2018), awareness of the small scale of the islands is one of the main reasons that the island residents chose to maintain a close relationship with the Netherlands, despite the concerns about the loss of the islands' culture and identity.

In addition to the scale issue, it is important to understand the run-up to, and the consequences of, the three islands becoming special municipalities of the Netherlands in relation to environmental conservation. Colonial history and the present constitutional imbroglio, meaning the complex governance structure of the Caribbean islands within the Dutch Kingdom and the Netherlands, have deeply impacted the population and culture on the islands. This "head vs heart" dilemma in which the economic and other benefits of a non-sovereign status collides with a desire for greater autonomy from the European Netherlands (Oostindie & Veenendaal, 2018) is deeply interwoven in the fabric of these societies. Therefore, this influences many of the ways in which residents face the contemporary environmental challenges on the islands, and it certainly impacts the perceptions and views on nature conservation that people have.

While environmental transformation already took place in the pre-Columbian era, the colonial period was decisive for the human-environment relationship on islands due to the extinction of indigenous peoples. The Spaniards introduced many invasive plant and animal species to the islands, such as goats, sheep, and donkeys and deforested areas in order to set up the plantation monocultures (O'Toole, 2014). On islands where plantation agriculture was much less significant, such as on the Dutch Caribbean islands, (Dutch) colonists displayed a similar eagerness to exploit the islands' natural resources for the benefit of the metropole (Jaffe, 2016). Paradoxically, the origins of the contemporary environmental movement also lie in these colonial events, as this was also the period in which environmental awareness emerged. The ecological degradation that took place as a result of colonial practices triggered the debates on the ways the land was being

6 It should be noted that there are also arguments that highlight the positive implications of small scale when dealing with environmental stressors, including climate change. Here, scholars emphasize the resilient character of these islands and their communities in dealing with the impacts of climate change. For an overview of these debates see, for example, Walsche & Stanchioff (2018); Kellman (2018); and Chandler & Pugh (2020).

exploited (Adams & Mulligan, 2012; Jaffe, 2016; Grove, 1997). In other words, "both the exploitation of nature in the colonies and the impetus to conserve nature for longer-term human use were a product of the colonial mind-set", a reality that remains to this day (Adams & Mulligan, 2012, p. 5; Barton, 2002; Grove, 1997; Jaffe, 2016; Murphy, 2009).

Figure 12. Canons in Fort Oranje in Oranjestad, St. Eustatius.

Many of the legacies of colonialism have implications for the way society understands and responds to contemporary environmental challenges (Murphy, 2009, p. 23). Or as accurately summarized by Jaffe (2016, p. 47): "The Caribbean natural and built environments, which are products of the inequitable relations of power under colonialism, continue to shape contemporary social relations: they enable certain types of encounters, interactions and connections, while frustrating others". Jaffe (2016, p. 47) argues that in the Caribbean "the material and social production of [urban] pollution cannot be seen outside of histories of colonialism and institutional racism". In this dissertation, I make a similar argument, and posit that in the Caribbean Netherlands the social dynamics shaping efforts of environmental conservation and management can only be understood within islands' histories and an understanding of the lingering impact of colonialism.

In addition to these colonial legacies, the constitutional reforms led to changes in the formal responsibilities regarding the management of the environment. What was previously centrally regulated through the government on Curaçao and the governments of the islands, is now distributed through a division of roles between the Dutch government and the authorities within the public entities. This, in turn, led to

changes in the availability of resources, but also to an increased pressure to meet the requirements stipulated by international environmental agreements. While a similar division of roles and responsibilities between the Dutch government and the islands' authorities is maintained as when Curaçao functioned as the central government for the Netherlands Antilles, the big caveat is the fact that, compared to Curaçao, the Netherlands is farther removed from the island realities but at the same time more prone to act. Consequently, changes are implemented that at times are not deemed desirable nor feasible for the islands (Spies et al, 2015). Again, these events feed into the sentiments about re-colonization on the islands, straining the relationship between the European (Dutch) migrants and the locals.

While all these factors play into the unique contexts in which conservation actors make their decisions on the islands, there is therefore an obvious need to take drastic action to address the myriad environmental problems which requires a collective effort by multiple stakeholders. And, indeed, there is a growing group of residents taking action. Thus, I want to better understand who these people are and why these people choose to become and remain active in the field of nature conservation on the islands, especially within the context of the colonial legacies and present-day cultural, social, and political sensitivities.

This brings me to a third and final concept I take into consideration throughout this dissertation, namely the notion of belonging. The need to belong is one of the most persistent motivations of behavior (Baumeister & Leary, 1995). Fulfilling this need gives people a sense of meaning and identity and strengthens their self-esteem and overall well-being. One way to fulfil this need is to engage in behavior that is approved of by the community or group a person wants to belong to. Conserving the environment can be considered such a behavior (Batson, 1998; Clayton et al, 2016; Nolan & Schultz, 2013).

Considering the dire need to protect the environment of the Caribbean Netherlands on the one hand, and the ambivalent views people on the Caribbean Netherlands have towards environmental conservation on the other hand, creates an interesting context to further examine the relationship between belonging and conservation efforts. Moreover, and as I mentioned previously, the constitutional reforms also led to debates on identity and cultures within the island communities of the Caribbean Netherlands (Veenendaal & Oostindie, 2018). Specifically, islanders often express their fears that the strong Dutch presence might lead to a loss of the traditional local culture and identity of the islands (de Geus, Mac Donald, Oostindie, van Stipriaan & Vermeer, 2020). In addition, the small scale of the islands creates an environment where the conservation actors are easily made subjects of criticism by the community, which can have consequences to one's reputation. These factors may help to explain why some residents tend to be more engaged than others in certain types of behavior. In other words, the implications of the constitutional reforms and the overall (post) colonial history of the islands, coupled

with the islands' small scale, and people's sense of and desire to belong might affect the decision to engage, or not, in certain types of environmental conservation behavior.

1.4 RESEARCH QUESTIONS AND METHODS

What does all of this mean for the conservation landscape on the islands, specifically the residents who actively make an effort to protect the environment? Based on the aforementioned contexts, I formulated this main research question:

What role does the perception of belonging (or self-identification) have in how or why people engage in conservation activities in the Caribbean Netherlands?

This research question is split up in several sub-questions, which I explore in the two parts of this dissertation. Part One has a social psychological focus and addresses the following set of sub-research questions:

- *What are the motives and challenges of the individuals protecting the environment on the islands of the Caribbean Netherlands? (Chapter 2)*
- *How are the motives of individuals for protecting the environment on the islands of the Caribbean Netherlands affected by the historical/cultural, political and small-scale context of the islands (Chapter 3)?*
- *Do people protect the environment partly or even primarily as a means to create a sense of belonging within their (island) community (Chapter 4)?*

Part Two presents a case study of the fishery sector of Bonaire, which provides in-depth insights that include perspectives and experiences of a more diverse set of stakeholders affected by nature conservation efforts. The two sub-questions addressed in Part Two are:

- *What does Bonaire's fishery sector look like and how has the sector been managed through time? (Chapter 5)*
- *Can a fishery cooperative help resolve the existing (co-)management challenges present in the fishery sector of Bonaire, and how is this affected by notions of belonging, the small scale of the island, and the constitutional reforms of 10/10/10 (Chapter 6)?*

Through my use of multidisciplinary methods, I seek to understand the impact social and political changes have on the conservation efforts of residents of Bonaire, Saba, and Sint Eustatius. Most (real-life) problems are multifaceted, in that they have multiple types of causes and determining factors (Menken et al. 2016). By approaching the problem from different perspectives and disciplines, using different methodologies, I aim for a more holistic understanding of the identified problem. I combined quantitative and qualitative anthropological and social psychological research methods. I briefly describe

the three methods I used throughout this research during two periods of fieldwork, below. I present these more extensively throughout the chapters of this dissertation. Here it should be noted that truly combining the multiple disciplines on which this dissertation is based is a complex process, because of the diverging epistemological underpinnings and methods of social psychology and anthropology. Where psychology leans towards positivism and quantitative methods (i.e., there exists an objective reality, and objective knowledge which can be measured), (cutltural) anthropology is in general more reflective and constructionist in nature relying on qualitative methods (i.e., reality is subjective, and knowledge depends on beliefs, values, and experiences). Even though both disciplines stem from social sciences, these differences presented challenges in terms of combining them while answering my main research question.

I completed the first period of fieldwork from April until June in 2016, during which I visited all three islands. Sint Eustatius (11th April – 27th of April) and Saba (28th April – 13th of May) each for a period of two and a half weeks, followed by Bonaire for the duration of one month (14th of May – 17th of June). During this first field visit, I conducted semi-structured interviews and conversations with more than 90 residents of the Caribbean Netherlands (37 Bonaire, 27 Sint Eustatius, 26 Saba). These residents were individuals who actively protect the natural environment of the three islands, as well as local government officials, nature park rangers, politicians, conservationists, and scientists. I spoke with them to gather information on their views of, and experience with, environmental protection on their island of residence. I almost always (video) recorded the interviews, if consent was given. Otherwise, I recorded the interviews in notebooks. The recorded interviews were transcribed and analyzed post-fieldwork.

I developed and pre-tested an online survey among the residents of each island during the first field trip, which I launched after this first visit to the islands. The final questionnaire covered a number of issues, ranging from a detailed demographic description to a number of social psychological measures. The questionnaire allowed residents who actively protect the natural or cultural environment of the islands to reflect on their motives behind their engagement. I collected this data from June through September 2016.

My second fieldtrip, in 2017, came about through collaboration with the World Wide Fund for Nature – The Netherlands (WWF-NL). For a period of three months (October 2017 – December 2017), I conducted action research on Bonaire. To illustrate the interconnections between community, environmental (mis)management and how this is affected by societal changes, I present a case study on the fishery sector of Bonaire. This case study helped to develop insights in the social complexities behind environmental protection both from a top-down and bottom-up a perspective. I discuss the specific research methods and techniques that I used in greater detail in the subsequent chapters.

1.5 STRUCTURE OF THE BOOK

This dissertation is divided into two parts that provide different insights and perspectives on the realities of environmental protection on the three islands. Table 4 presents an outline of the empirical chapters of this dissertation, including the research questions, data sources, (key)informants, and design used. Part One centers on the discipline and methodology of environmental psychology. Part Two presents the case study about fishery management on Bonaire, Saba, and Sint Eustatius. I conclude the dissertation in Chapter 7, where I summarize the research findings and answer the main research questions I posed for this research. In addition, I make suggestions for future research and contemplate possible implications for policy development.

Table 4. Outline of empirical chapters.

	Chapter	Research Question(s)	Data source	Informants	Design	Year	Author
Part 1	2	What are the socio-psychological drivers of conservation actors in the Caribbean Netherlands to actively and publicly protect their island's natural environment?	Recruited sample of residents of the Caribbean Netherlands	Conservation actors Caribbean Netherlands	Semi structured interviews	2016	Mac Donald
	3	How does the political-historical and geographical context of the Caribbean Netherlands affect conservation actors? How does this context affect the relation between belonging and conservation actors' motives to protect the Caribbean Netherlands' natural environment?	Recruited sample of residents of the Caribbean Netherlands	Conservation actors Caribbean Netherlands	Semi structured interviews	2016	Mac Donald
	4	Do people protect the environment to fulfil their need to belong within their community?	Study 1: Online recruited sample of residents of the Caribbean Netherlands	Conservation actors Caribbean Netherlands	Online questionnaire	2016-2017	Mac Donald & Staats
			Study 2: Prolific Academic online database	Conservation actors Residents rural U.K.	Online Questionnaire	2020	
Part 2	5	Who are the fishers of Bonaire and what does Bonaire's fishery sector look like? How has the sector been managed through time? How has this affected the role of the fishers in management effort?	Recruited sample of residents of Bonaire Archival sources	Fishers & fishery stakeholders Bonaire	Archival research & Semi-structured interviews	2018	Mac Donald
	6	How are the management challenges of the fishery sector of Bonaire amplified by three specific characteristics of the local context of Bonaire, namely its small scale, the constitutional reforms of 10/10/10, and the island's colonial past and, how do these challenges relate to notions of belonging? Can a fishery cooperative alleviate or resolve the management challenges the fishery sector on Bonaire faces? Do the fishery co-management strategies on Bonaire adhere to the CPR design principles?	Recruited sample of residents of Bonaire	Fishers & fishery stakeholders Bonaire	Participatory Action Research Semi-structured Interviews	2018	Mac Donald

1

PART 1

A Social-Psychological Understandings of Environmental Conservation in the Caribbean Netherlands.

We are all living in the midst of environmental problems caused by humankind. Therefore, it is not only of importance to understand the drivers of behavior that caused the harm, but also to understand the drivers and motives underlying the behaviors of people attempting to reverse the damage caused by humans. Using theories, methods, and findings from the discipline of environmental psychology, this section of my dissertation explores the motives of residents of the Caribbean Netherlands who protect the natural environments of the three islands of Bonaire, Sint Eustatius, and Saba. I pay specific attention to the assumption that their efforts to protect the natural environment are indeed related to their need to belong within the island communities. This hypothesis emerged from several observations made regarding the historical, socio-political, and geographical context of the Caribbean Netherlands.

There are many ways in which people can contribute to reversing or minimizing the harm caused to the environment. The majority of studies in environmental psychology consider general household behaviors, such as energy use, meat consumption, or recycling on the individual level, as well as looking at technological developments, and (international) policy making (Stern, 2000; Hertwich, 2005; Hertwich & Peters, 2009; Tukker & Jansen, 2006; Steg & Vlek, 2009). However, behaviors like active involvement in environmental organizations and taking part in demonstrations or participation in public environmental events are also important to consider, as the effects of these actions can have great influence on policies which affect the behaviors of entire societies and organizations (Stern, 2000). This is especially the case in small communities where the impact of collective efforts quickly becomes tangible and visible to its members. As these types of conservation efforts are clearly visible to other individuals (or community members) those taking part in them are also more susceptible to the opinions and views of others. Considering the susceptibility of these types of people involved in these public pro-environmental actions to the opinion of others, the current segment investigates the social-psychological implications of the context of the Caribbean Netherlands on conservation actions.

These social-psychological experiences are explored in three chapters using different research methods. Chapter 2 presents a deductive content analysis of semi-structured interviews held with residents of the three islands who protect the islands' natural environment. This study identifies and quantifies the socio-psychological drivers of conservation actors on the Caribbean Netherlands for conserving and protecting the environment. This analysis based on existing psychological theories and concepts. Chapter 3 presents a qualitative thematic analysis of the same semi-structured interviews but delves deeper into implications the context of the islands has on the motives and behaviors of conservation actors through a reflexive thematic analysis approach. This analysis is focused on identifying patterns and linkages between the implications the context of the islands has on the relationship between the need to belong and the sense of belonging of conservation actors and their efforts to protect or conserve the local natural

environment. Chapter 4 builds on the findings of Chapters 2 and 3 and investigates the notion that people's engagement in conservation actions is related to their need to belong within their (island) communities based on an online questionnaire study. The hypothesis addressed in this chapter is that individuals engage in actions to protect the natural environment at least partly to improve their sense of belonging to their community. Chapter 4 was co-authored with Dr. Henk Staats with the aim of publication in a scientific journal. The format of this chapter has been slightly altered for the purpose of this thesis, but the content has remained unchanged.

2

Why do you Protect the Environment?

A Qualitative Analysis of the Social Psychological Drivers of Residents in the Caribbean Netherlands to Protect the Natural Environment.

2.1 INTRODUCTION

Human behavior is responsible for causing most environmental problems we encounter today (Oskamp, 2000; Clayton et al., 2016), which would also seem to imply that humans can also reverse or prevent this damage. Hence, it is important to understand the human-environment relationship. I use a case study of conservation actors in the Caribbean Netherlands to get at my larger questions. In the current chapter, my aim is to understand the motives and behavior of residents of the Caribbean Netherlands who actively and publicly make an effort to protect the islands' threatened natural environment. I do this by an in-depth analysis and discussion of the results of semi-structured interviews I held with residents of the Caribbean Netherlands who engaged in conservation activities (Section 2.2). This current chapter focuses on the qualitative results, while the next chapter (Chapter 3) is thematic. The thematic analysis allows for interpretation of the underlying patterns and theoretically informed interpretation of meaning, proving a richer description of the interview data. In short, a thematic analysis allows for a deeper understanding of the answers provided by the interviewees, which can, in turn, provide for a more accurate understanding of how the informants' experiences are informed by their societal context.

My study was unique in that it focused on public or outward behaviors rather than private ones. It was also innovative in that it is focused not on the Global North, as most such studies do but, rather, on the Caribbean, usually defined as being part of the Global South. As the Caribbean, in particular, and the Global South, in general, are especially vulnerable to the effects of climate change, it is vital that we have a better understanding of how and why (or, equally important, why not) people engage in pro-environmental behaviors. As I will show in the following chapter, the actors' sense of belonging and identification with the places and spaces in which they lived had an impact on how, why, or if they engaged in conservation activities. Identifying oneself, or being identified by others as, a local, or, conversely, feeling that one was an outsider and needed to behave in certain ways in order to belong, were of great importance to conservation actors' behaviors.

2.1.1 Drivers of Pro-environmental Behavior

Environmental psychology is one of the scientific disciplines focused on understanding the human-environment relationship. Over the years, the discipline has defined, categorized, and classified a broad range of drivers, defined as factors that influence individuals' choice to engage in certain behavior, along with a diverse set of theories and conceptual frameworks for pro-environmental behavior.

Many studies focused on predicting various forms of environmental behavior or explaining the differences between individuals and the extent to which they engage in pro-environmental practices. The most dominant theories or theoretical frameworks used include the theory of planned behavior (TPB, Staats, 2003; Stern, 2000), the

norm-activation theory (Harland, Staats, & Wilke, 2007; Schwartz & Howard, 1981), and the value-beliefs-norms model (VBN; e.g., Kolmus & Agyeman, 2002). The self-determination theory (SDT, Pelletier et al., 1998) and the goal-framing Theory (GFT; Steg & Vlek, 2009; Steg, Bolderdijk, Keizer & Perlaviciute, 2014) are also repeatedly used.

In addition to these frameworks, many other socio-psychological factors have been identified in explaining pro-environmental behavior, including: environmental concern; environmental knowledge or problem awareness (Bamberg & Moser, 2007; Kollmus & Agyemen, 2002; Marquart-Pyatt, 2012); place attachment (Gifford & Nilsson, 2014); (self) identity (Staats, 2003); feelings of guilt, a felt responsibility, and/or past or childhood experiences (Gifford & Nilsson, 2014); habit (Staats, 2003; Steg & Vlek, 2009); sense of urgency (Kollmus & Agyemen, 2002); affect (Steg & Vlek, 2009); and demographic variables such as gender and age. These variables are usually added to the frameworks mentioned above to explain higher levels of behavioral variance. More extensive, all-encompassing models also include so-called external factors such as infrastructure e.g., the availability of recycling facilities or solar energy, social and cultural factors, including religion, social class, proximity to problem sites, but also political and economic factors (Bamberg & Moser, 2007; Kollmus & Agyeman, 2002).

A paper by Gifford and Nilsson (2014) integrates much of the research described above and provides a comprehensive overview of the various drivers that can influence a person's pro-environmental concerns and subsequent behavior, and I base my work on this framework. The authors distinguish between personal (or internal) factors and social (or external) factors. The personal factors reflect the differences between people that may impact their level of concern or response to environmental problems. The social or external factors reflect the context in which people live their daily lives (see Appendix A for a complete overview).

2.1.2 Drivers of Public Sphere Conservation Behavior in the Caribbean Netherlands

While these studies present a fair number of variables that affect pro-environmental behavior, there is still reason to keep exploring the underlying drivers of environmental engagement. For one, most of these models and studies have focused on pro-environmental behaviors in the private sphere and less on behaviors in the public arena or environmental activism (Hertwich, 2005; Hertwich & Peters, 2009; Steg & Vlek, 2009; Tukker & Jansen, 2006). As mentioned in Chapter 1, the focus of my work innovatively lies in examining pro-environmental behaviors expressed (collectively) in public spheres (conservation actions), with an emphasis on behavior directed towards protecting and conserving the environment in ways clearly visible to others (Figure 13). This includes active involvement in environmental organizations, active kinds of environmental citizenship, and support or acceptance of public policies (Stern, 2000). Thus, instead of focusing on energy or water-saving behavior or other consumption

behaviors, my focus lies on active participation in clean-up events, protesting against environmentally destructive industries, participating in nature-awareness campaigns, volunteering during reforestation events, etc. I made these choices because I hypothesize that the unique context of the Dutch Caribbean, including the smallness and insularity of the spaces themselves, as well as the particular framework of administrative authority and governance emerging from a complicated colonial history, will be especially evident in the how's and why's of public conservation behavior.

To get at this hypothesis, I needed to build on, yet go beyond, the existing literature. Most of these studies aiming to understand pro-environmental behavior, particularly within the discipline of environmental psychology, are conducted in the Global North (Baptiste, 2018; Thomas & Baptiste, 2018). Very few studies have examined environmental psychological variables in the Caribbean, which belong to the places most vulnerable to environmental threats such as climate change. Studies that have explored environmental behavior beyond these borders have found that the cultural and political context indeed accounts for motivational differences. Examining the underlying motives of people engaging in publicly visible forms of pro-environmental behavior in the Caribbean Netherlands may contribute to the still meagre environmental psychological literature on the Caribbean. The research question addressed in the current chapter is, then, is *"What are the socio-psychological drivers of conservation actors in the Caribbean Netherlands to actively and publicly protect their island's natural environment?"*.

Figure 13. Example of collective conservation actions in the public sphere: a group of volunteers participating at an organized beach clean-up on Bonaire.

2.2 METHOD

As this is an explorative study, I opted for a qualitative research approach because it can reveal new or less common experiences of residents of the Caribbean islands related to nature conservation and, thereby, add to the variables already known in environmental psychology. I conducted semi-structured interviews with island residents who engage in environmental conservation actions so that I might gain insights into their motives for environmental protection. I chose a semi-structured interview approach to ensure that all informants were asked similar questions but were also allowed the flexibility to discuss issues that were not yet predetermined.

2.2.1 Informants and Recruitment

I initially recruited informants through snowball sampling (Patton, 2002), starting with my personal and professional Caribbean Netherlands island network, followed by asking my network to refer me to any other island resident who met the research selection criteria. My selection criteria were that the informant had to be publicly and visibly engaged in conservation behaviors on their island of residence. This refers to the activities a person does (alone or in a group) that are clearly visible to other people to help preserve, protect or repair and restore the natural environment (e.g., participating in, or organizing events such as clean up events or restoration of coral reefs, attending meetings on, or educating others about, the preservation of the natural environment, leading recycling campaigns, protesting against environmentally destructive activities). Also, I directly contacted nature conservation-oriented organizations, informed them about the study, and asked if one or more of their representatives or employees would be willing to participate in the study. I asked informants to pass on information about my research and introduce me to their professional and personal contacts, social groups, and networks.

Originally, my aim in conducting interviews with the informants was to build a network among nature-oriented people and to create goodwill among them in order for them to complete an online survey that I was, at the time, still developing. This resulted in many organizations and individuals being contacted and informed about the research and I held quite a few informal conversations. However, the in-depth, semi-structured interviews were only conducted with a selection of individuals who were willing and able to participate during my fieldwork period. Consequently, the individuals interviewed are not an exhaustive list of "nature activists" residing on the three Dutch Caribbean islands. While this sample does not represent the entire population of the Caribbean Netherlands, the informants represent individuals with different cultural and socio-economic backgrounds. They, therefore, cover a considerable spectrum of views, perspectives, and experiences. In total, nineteen residents of Bonaire, seven Saba residents, and nine people residing on Sint Eustatius, who can be classified as conservationists (N = 35), participated in this study (Appendix B). Their ages varied from 20 to 75 years, and informants represented people from a range of different ethnic and

cultural backgrounds.[7] This broad range provided different perspectives and enabled me to draw inferences about how social pressures affect conservationists of different ages and backgrounds. Informants were predominantly middle and upper class and obtained some advanced level of education. Sixteen informants were male and eighteen were female.

In addition to gender, the island of residence, age, and organizational affiliation, I made a local versus non-local classification of the informants (see Appendix B). It should be noted that this distinction between the informants being local, non-local, or semi-local is somewhat arbitrary as there is no evident way to make this distinction. "Being local", as I described for my own situation in the Prologue is influenced by a combination of many factors, including race, language, family history, place of birth, years of residence, and, to some degree, also love for or attachment to the island (Allen, 2010; De Jong, 2006; Cain, 2017; Boer, 2011; Razak; 1995; Guadeloupe, 2009). While it is hard to "measure" if a person is local or not, residents constantly refer to this classification and seem to have an intuitive sense of when a person can be considered local or not. Generally, locals are the residents who were born and raised on the island, preferably from a family that has lived there for multiple generations. This is particularly clear when the resident has a certain family name belonging to a family that is considered one of the founding families of the islands (Johnson or Hassel on Saba; Spanner or Berkel on Sint Eustatius; Abraham or Emerenciana on Bonaire). Next, some people would be considered somewhat or partially local. For example, people who have ties to the Caribbean region (either other Dutch Caribbean islands or the broader Caribbean or Central American region) are considered less foreign than Europeans or North Americans. For example, I, myself, would often be labeled as a "semi-local" by my informants, as they referred to my roots in the region, my knowledge of the culture, and our shared history. Lastly, (Dutch) Europeans or North Americans, particularly the newly immigrated group, but often no matter the number of years they are residing on the islands, are commonly considered outsiders or non-locals within the community. Based on these interactions and experiences, I classified the conservation actors I interviewed as locals, semi-locals, and non-locals. I made this classification based on the information I received from the informants (name and history on the island). Thus, my classification does not represent informants' accounts of whether they consider themselves local, or the extent to which they believe others consider them local or not within the island communities.

2.2.2 Interview Procedure

I constructed my interview questions based on a review of the relevant literature concerning the intersection of (motivations for) nature conservation, place, and belonging (Fishbein & Ajzen, 2010; Clary et al 1998; Lewicka, 2011). It included general questions on how informants engaged in environmentally protective actions, their

7 Because of the initial underlying reason the interviews were conducted, certain basic demographic information (i.e., age, income level, highest completed level of education) was not consistently collected.

motives, and how their social environments influenced their behaviors and motivations. While the interview framework guided the conversation, informants were encouraged to speak freely. Topics included ways informants engaged in conservation actions, for whom they engaged in such actions, what they hoped to achieve, their motives, and support received from, or approval of, the community for their efforts. Also, we discussed the struggles and successes they experienced when engaging in conservation actions. The interviews were conducted in a location chosen by the informant and lasted between 20 and 100 minutes. All interviews were digitally recorded, and informants gave verbal consent for their participation in the research and the recording and use of the interview.

2.2.3 Procedure of Analysis

The interviews were transcribed verbatim by a professional transcription service or by me. All the transcripts were checked against the tapes for accuracy and allowed for familiarization with the data. After carefully reading and rereading the transcripts, initial complete "open" coding created the first series of conceptual labels. Complete coding means that anything and everything relevant to the research questions within the entire dataset was coded. It was fruitful and productive to adhere to a descriptive, semi-quantified, deductive content analysis. The paper by Gifford and Nilsson (2014) discussed in the Introduction was used as a general guideline to identify conservation actors' socio-psychological motives to protect the natural environment (see Appendix A). This overview was used as the main guide for the analysis of the interviews of the current study. Insights from other socio-psychological research identifying motives for pro-environmental behavior (Bamberg & Moser, 2007; Kollmus & Agyemen, 2002) were applied as well. The informants' different socio-psychological drivers were quantified according to the frequency with which the driver was mentioned across the interviews. This is presented in percentages in Table 5. In the following paragraphs, I will discuss the different generic motives identified.

2.3 RESULTS

In Table 5, I present the summary of identified socio-psychological drivers of conservation actors to protect the Caribbean Netherlands' environment. As discussed in the Introduction to this chapter, there are many ways to classify or categorize motives for engaging in nature conservation activities. During the analysis, it became clear that people reflected on their motives in two ways. They were both thinking about antecedent factors influencing their behavior and thinking about desired behavioral outcomes or goals. For example, interviewees shared a lot about how certain childhood or past experiences triggered their interest in and love for the environment. These experiences can be seen as antecedent factors that lead to engagement in conservation actions. When I asked the respondents why they made an effort to conserve the environment, they would give answers like "to prevent further environmental destruction from happening"

or "to get people back in touch with nature" and "make the community beautiful and healthy". These motives represent outcomes respondents hoped to achieve through their conservation efforts.

It is important to note that multiple drivers can simultaneously play a role and thus influence each other in terms of their effect on certain behavior. Nevertheless, this distinction between the different motives provides structure for understanding the conservation actors' reasons for protecting the environment. For example, the informants' narratives revealed that often their past experiences triggered the desire for a certain behavioral outcome. For example, as reflected by this respondent:

> *P31: When I grew up in this place… this island used to be, shall I say, densely forested. Today, more than 60% of the trees that used to be, they're gone. And they're all gone in the name of so-called progress. But progress that's killing us. When I was a boy in this island, [..] there were two kids with asthma. […] I grow to see that within the last thirty, thirty-five years, it looked like all the kids are born with respiratory problems, these things. And that's the price of progress. All kinds of development, all kinds of pollution. So […] to preserve life, the mission was to plant a thousand trees.*

This excerpt illustrates that mentioning childhood or past experiences at times would simultaneously lead to reflections on the changing environment experienced or witnessed throughout the years. Both experiences triggered a concern for the environment and thus the perceived necessity to act to protect it.

2.3.1 Anterior: Intrinsic and Extrinsic Drivers Influencing Conservation Actors

The anterior motives include both intrinsic or personal and extrinsic or social factors that influence conservation behavior.

Personal Beliefs, Values, and Interests

Firstly, 85% of informants explicitly expressed personal beliefs, values, and interests as a reason for their involvement in environmental protection actions. These factors are proven to be important indicators for the likelihood that people will also engage in more conservation actions (Gifford & Nilsson, 2014; Kollmuss & Aygeman, 2010). Informants shared various values and beliefs explaining their efforts to protect the environment, for instance:

> *P19: Because we… we think that we are doing the right thing… That's why, you know.*

Informants also shared how their personal interests affected their behavior. At times, this even seemed to be rooted in their sense of identification with the natural environment or with other groups who share the same interests and values, findings that align with the existing body of research on social and environmental identities (e.g., Clayton, 2003). As shown

in the examples below, informants made references to their personal interests (not to be confused with self-interest), the behavior being part of their belief system, and their identity:

P12: Because that's what I'm interested in.

P25: It's just like; it's in you, you know, that that's what you have to do.

P32: I have a passion for nature. So when I see a diver touching something... It's in your blood. You couldn't accept that.

Place Attachment

Place attachment was a reoccurring motive for almost all informants (85%) for their efforts, among both locals and non-locals. Many studies have shown that place attachment affects pro-environmental behavior. This is particularly the case when people are positively attached to the physical aspects of a place (Scannell & Gifford, 2017). Informants would express that they made an effort to protect the environment because of their love of, and attachment to, the island:

P27: Because this is my island and I like to see better for it.

Place attachment seemed to be both an initiator and an outcome of informants' efforts to protect the environment. Some informants decided to engage in conservation actions and make it their profession because of their attachment (or love) for the island, for instance:

P18: I first visited in 2007, and I came with my husband and we actually absolutely fell in love with the island and decided that we would do what we could to come live here [..] I looked at the nature organizations and felt that [NGO] was the right one for me and then the rest is history as they say.

Social Norms

Social norms are a proven driver for pro-environmental behavior (Farrow, Grolleau & Ibanez, 2017). Among the informants, both the influence of descriptive norms (i.e., conforming to behavior expressed by others in your direct environment) and injunctive norms (i.e., acting to conform to perceptions of what behavior is typically approved) was visible. The influence of social norms on conservation behavior was identified among 41% of the informants and was especially visible among residents of Saba and Bonaire. Locals, non-locals, and semi-locals alike referred to social norms as a driver for their behavior. Here informants would refer to social norms that exist on an island-wide level.

P24: Yeah, we called her [the island] the Unspoiled Queen [...]. We should focus on keeping it that way.

P18: Yeah, it is a few different environments and it is not perfect but really I think Bonaire, Bonaireans, people that come to Bonaire and people who live on Bonaire, they value the nature of Bonaire, they value that and we are all singing of the same sheet, if you like.

In other cases, informants linked social norms and place attachment, expressed as a sense of pride. For example, one conservation actor expressed her sense of pride while simultaneously referring to the social norms that exist on the inland:

P25: I think once you come here, you see there is no dirt on the road. You know, you see how hard they work, the streets sweepers. {laughs}. So before you flick out that wrapper or something out of your window while you're driving, you keep it in the car. And it's just pride in where you live.

Knowledge and Education

Several informants made an explicit reference to their educational background as a reason for protecting the environment of the island, for instance:

P11: My strengths are that, that's what my background is more in. My master's degree is in Environmental Studies, with a focus on Management and Engaging Communities.

Overall, 82% of respondents did not explicitly make references to their academic degrees. Nevertheless, it was clear the actor possessed substantial knowledge about the environment:

P31: But like the mission was to be able to replace the oxygen, the oxygen supply, because you know, um just as an example, if we take away all the trees from this Earth, we'll surely die in a short period. No oxygen we produce, and we producing carbon dioxide, carbon monoxide, which poisoning us. And so you look at a balance where the trees that you and your cars put out carbon monoxide, carbon dioxide, and the trees swallow eat up and give you fresh oxygen. That was the mission.

The only differences between locals, semi-locals, and non-locals was that locals tended to make more references to knowledge they acquired through experiences in nature, usually from their (grand)parents.

Past Experiences

In total, 82% of the conservation actors referred to things they experienced that inspired or triggered their conservation actions today. The conservation actors expressed several types of past experiences. Twenty-nine percent of the informants, locals in particular, shared childhood experiences that impacted their behavior today. In this example, below, one can again see a link between past experiences and the creation and adherence to social norms:

P27: When I was growing up there was a campaign called "Saba is green, keep it clean". I can remember there was a pretty picture of the island, there was shower and then a little brush, and that stood out to a lot of people. And I think that really, I remember as a young person, that was something that we all were proud of. Don't throw litter, if you saw friends doing it you would say no no no you can't do that go pick it up.

Other references to childhood experiences were more nostalgic and showed the link with the factor of exposure to nature as leading to greater levels of pro-environmental engagement (Asah, Bengston, Westphal, & Gowan, 2018):

P14: I was born in nature. Perhaps it sounds strange, but I think that is important. […] We're a family who loved nature. And right in that sentiment, during the time I was born, then was also the time when nature was everything [..] Now, we have tablets and all those kinds of things, but during that time we didn't have a lot of those things. So we would walk, we would walk everywhere and we would do everything in nature. We would pick kenepa [lychee-type fruit], we would pick shimaruku [cherry fruit], we would go swimming, we would go fishing. [..] We lived right next to the border of Rincon, right in the nature you know. So I think that stays in you.

Respondents also referred to behaviors they engaged in in the past or in other places that they now transferred to the island they currently reside on:

P20: That's actually kind of rooted in me, too. At the time a social internship in the Dutch schools was compulsory [...] We don't do that [here]. Actually, that's what I think, you know, that's part of a school. To do that.

Proximity to Problem Sites

Related to past experiences, over half of the informants (53%), both non-locals and (semi)locals, referred to their experiences with witnessing environmental decay in other places. For example, environmental changes taking place over time where they lived or on neighboring islands pushed them into action so that they might prevent the same from happing to their specific island. These references can be clustered under the factor "proximity to problem sites", which is a common motivation for people to engage in conservation behaviors, for instance:

P27: If you look at other islands in the region, particularly St. Maarten where you have a mountain for landfill, you don't want that to happen here.

Other informants shared how they witnessed the environment change over time and how their frustration in negative changes to the natural environment played a role in them getting more actively involved in conservation actions, for example:

P5: I mean, yes, the way the reef was 27 years ago, you can't compare that anymore. Sure, I mean, they [the corals] are still there, but it's no longer comparable [...] Coral bleaching, algae growth, yes it's really, really, [..] where you see the difference, you shouldn't think about that too much.

Sense of Responsibility

Lastly, all conservation actors expressed a strong sense of responsibility for protecting the natural environment. The origin of the perceived responsibility expressed by the conservation actors varied. Some conservationists referred to their profession and that the organization they work for has the (legal) responsibility to try to conserve the environment:

P9: Uhm, I mainly do the bit of nature, so I'm a policy advisor on nature. Um, that's obviously not 100% policy making. We're actually dealing with everything you can come up with around nature, from research on uh, flora fauna, to being concerned with water quality. Uhm. International treaties, you name it, what has to do with nature, illegal logging, licensing sideways, that kind of thing, well, we have to deal with it. [....] It's all changing and it's also our fault that things are not going so well within nature, so we're also responsible for tackling it.

Others were vocal about their personal responsibility regardless of their function or position:

P5: I was like, you know, change the world, start with yourself.

P30: You ask why I keep doing this? It's not for the pay for sure, but you know it's, if I don't do it really, will go to hell so somebody has to keep mopping with the faucet open. Otherwise we're swimming.

Furthermore, the sense of responsibility among the conservation actors was strongly affected by the local context, which is discussed in more depth in Chapter 3.

2.3.2 Posterior Drivers: Desired Behavioral Outcomes of Conservation Actors

In addition to the already discussed anterior factors as drivers of conservation actions, all informants spoke about the desired outcome they hope to achieve with their efforts (posterior drivers). Like the anterior drivers, the desired behavioral outcomes are often interlinked.

For the Environment

Unsurprisingly, safeguarding the environment was the ultimate goal for all conservation actors e.g., *P18: We consider ourselves advocates for the environment*. In addition to saving

the environment, informants expressed several other desired behavioral outcomes. These are discussed below.

For the Community

All conservation actors asserted that they protect the environment for the community. Some actors mentioned that they wanted to give back to the community, for instance:

> *P31: But for me, the real, my real mission was and is to preserve humanity. Um because if you look at the way the world is going, we are already over-industrialized.*

Others referred to specific members of the community with whom they have a closer relationship:

> *P12: And that's what you strive for – ultimately a better living environment for yourself, your children and for your family.*

For Future Generations

Seventy-nine percent of the conservation actors explicitly mentioned they try to protect the environment in order to safeguard the environment for future generations, with specific issues related to this such as the health of the community:

> *P31: […] my priority would be to leave a place where people can live 50, 60, 70 years from now, that people can live and do this.*

Their personal legacy:

> *P1: If I would have kids and I would bring them back in fifty years, I can say deep down in my heart together with [name] and [name], we are responsible for them still being in the wild.*

Or, alternatively, the fear that the future generations, in particular their own children or grandchildren, would not get to experience the environment as it used to be:

> *P25: And then you tell your kids and then, year whatever cause it is the same that day we were cleaning up, you try to instill it on them. Cause when we go, we don't want them to end up with a big old rubbish island.*

Non-locals tended to state that they wanted to safeguard the environment for their own future generations, specifically their (grand)children, whereas locals tended to be more concerned with the well-being of the island community in its entirety.

Figure 14. Signage with a nature conservation message made by children on St. Eustatius, placed in Oranjestad invoking the reading to protect the natural environment.

For Health Reasons

Related to safeguarding the environment for future generations, 21% of the informants mentioned the desire for improved health as a behavioral outcome they pursued with their conservation efforts. This was a particular concern among locals. Gifford & Nilsson (2014) classified health as a motive under the category "Honeybees", meaning that the main reason for engaging in certain behaviors comes from a desire to improve one's personal health and that this behavior is coincidentally and unintentionally also beneficial for the environment (e.g., choosing to eat less meat and more vegetables for health reasons or having a fear of flying and therefore decreasing your CO2 footprint). However, this was not the case among the conservation actors in this study. In my research I found that conservation actors deliberately protected the environment with the goal of improved health in mind. This desire was often linked to the anterior motive "experiences with or proximity to degrading environments", for example:

> *P31: And I ain't the kind of man who would just plant trees. We plant trees that go to produce food.*

For Personal Career or Business

For 65% of the informants, particularly among non-locals and semi-locals, their career, or the success of their business served as critical drivers for their behavior. For some, the decision to work on these issues was related to their educational background, which therefore presented opportunities to grow in their career:

P11: I was at a point in my work in the States where I was no longer happy with my job.

And finding it challenging to choose non-profits. And so, by being able to come to an organization [on Bonaire] I was already familiar with and being able to come to a higher-level position, which was unrealistic in the States, I thought it was a nice opportunity for me to see how I could develop my career and my professionalism in non-profit work.

Most of the informants made references to the importance of their efforts for maintaining their own tourism-related business or just the tourism sector, in general:

P3: Well, I mean, our whole business is having a healthy underwater environment. Because the whole reason why people come and pay us money, is to go and enjoy the Marine Park.

For Enjoyment

Whether or not informants also protect the environment because of the enjoyment or pleasure they gain from it depends a lot on the types of actions they took. Fifty-three percent of the conservation actors, non-locals especially, shared how much they enjoyed their efforts. For some, this was linked to the exact type of effort they made, for instance, the informant who gets to enjoy the environment daily:

P18: Well, I think the advantage of working on Bonaire is that it is a beautiful place to be. I think I have the best job in the world because my office is very rarely here within these walls. Usually, my office is Klein Bonaire beach […] so that is a phenomenal advantage.

Others derived pleasure from the effects of their efforts, for example:

P6: The satisfaction is the greatest benefit. Because it's my passion [..] When I talk with people or when I'm sitting here, and I see someone pick up some trash off the floor I become totally happy. […] The passion is very important and that enriches me.

P12: And that, I really like that, and also because you work with people. I like to learn from the people and that they have to tell me what's going on within them and you have to take that with you.

Lastly, it was common that informants referred to their efforts as being part of a reduction in their personal feelings of guilt for environmental issues, which ultimately makes them feel better. For example, the informant quoted below who explained how she would save up and reuse plastic bottles instead of throwing them away because recycling was not yet possible on the island. Instead of throwing them away, she would use the bottles for activities in the kids-program of the nature conservation foundation.

P25: It took a while before the recycling campaign to begin. So it seems like for years people felt very really guilty, just throwing away their plastic bottles. […] So we end up saving a whole bunch of them […] So yeah they tried and yeah you do feel guilty. If you know better.

Table 5. Overview of drivers expressed by Conservation Actors in the Caribbean Netherlands.

Motive	Type	Definition / Description	Occurrence	Typical quote
Past experiences (childhood experiences)	Anterior motive: personal	Certain childhood experiences, for example, the number of outdoor experiences or nature films watched, are strong predictors for environmental concern and behavior.	82% (29%, explicitly mentioning Childhood experiences)	*P27: When I was growing up there was a campaign called Saba's green, keep it clean. I can remember there was a pretty picture of the island, there was a shower and then a little brush, and that stood out to a lot of people. And I think that really, I remember as a young person, that was something that we all were proud of. Don't throw litter; if you saw friends doing it, you would say no no no, you can't do that go pick it up.*
Felt responsibility	Anterior motive: personal	Feeling responsible for what happens to or with the environmental effects once the level of environmental concern.	76%	*P25: Cause you have to! You know you just Have to! You can't just, the litter it not going to clean up itself. You know and if you just let it get out of control. It's just like; it's in you, you know, that that's what you have to do. And then you tell your kinds and then, yeah whatever cause, it's the same that they we were cleaning up, you try to instill it on them. Right, cause when we go, we don't want them to end up with a big old rubbish island, so yeah. It's in you, its inside of you, regardless.*
Concern	Anterior motive: personal	There are many ways in which environmental concern can be defined, however, here we refer to a broad and inclusive definition which reflects a general worldview people maintain (i.e., worrying about the state of the environment, the livability of the planet for humans, the level of responsibility and control humans have over the environment).	100%	*P29: But even the environment itself, for me you see we have a lot of cars and um how should I say, let's take a regulation that you will have in Europe, how much oil leakage you have and what have you. Now we have places where you gonna check your oil where you go in. But we don't have that yet. Some oil get on the ground, you don't see the danger right now, but in the long run. And then like I saying that, that little bit of oil it might, yeah.*
Knowledge & Education	Anterior motive: personal	Having knowledge about environmental problems and higher levels of education tend to lead to higher levels of environmental concern and behaviors.	74%	*P6: Nature is my profession. I studied management and was the director of [NGO] for twelve years. That is also where my passion for nature stems from.*
Personal beliefs & interest	Anterior motive: personal	Certain personality factors (openness, agreeableness, conscientious), having a personal relationship with the environment and the manner in which people relate with others (interdependence or interconnectedness) tend to lead to higher levels of environmental concern and behaviors	85%	*P1: I think it…just for us in your heart, you know you're doing the right thing. That's the most…better than being recognized or you know getting good feedback. It's just you know in your heart… if I would have kids and I would bring them back in fifty years, I can say deep down in my heart together with [name] and [name], we are responsible for them still being in the wild.*

Table 5. Continued

Motive	Type	Definition / Description	Occurrence	Typical quote
Place Attachment	Anterior motive: personal	The manner in which people are attached to a place affects pro-environmental behaviors in that place. Especially natural place attachment in relation to pro-environmental behaviors.	94%	*P27: Because, this is my island and I like to see better for it.*
Experiencing changing environment	Anterior motive: social	The closer people live to problem sites or the more they believe their well-being is threatened by environmental issues, the more likely they are to be concerned about that particular issue.	26%	*P29: I've seen nature disappear everywhere. But take Sint Maarten and Sint Croix. In principle I see all the ponds disappear, all the wetlands going, being replaced with concrete and garbage.*
Social norms	Anterior motive: social	Norms, also known as the things we believe are the usual or appropriate thing to do, affect our behaviors. Hence, if one believes recycling is the normal thing to do, the likelihood of doing so is large. The effect of norms is especially strong if the different types of norms (personal, social, injunctive, descriptive, local) are aligned.	41%	*P27: It's also, like I said the immigrants come from other places. And I think that's really, I remember one day I gave someone a ride and she just while we were driving, she took a bottle and threw it out of the window. And I stopped and I got really, I just screamed at her "Don't ever do that again". I might have used a few other words, but I was just so shocked that somebody could do that.*
For career/ business	Desired outcome	This motive reflects the benefits a person's engagement in conservation actions might have for their career or business.	65%	*P3: Well, I mean, the … our whole business has a healthy underwater environment. Because the whole reason why people come and pay us money is to go and enjoy the Marine Park. So, the company, -- even before I started working here – they were doing clean-up dives*
Create awareness /behavior change	Desired outcome	The desire to change behavior through awareness is a commonly expressed motive, stemming from the knowledge that it is the responsibility of people to ensure no harm is caused to the environment.	91%	*P20: The sad part is that people do not realize on what kind of island they live on and that they treat it very badly. That is the reason to create awareness.*
Enjoyment; makes me feel good	Desired outcome	This motive reflects more egoistic or self-centered rationales and reflects the enjoyment people experience when interacting with or being out in nature.	53%	*P30: It's what I love; it's what I love to do. I love nature.*

Table 5. Continued

Motive	Type	Definition / Description	Occurrence	Typical quote
For the environment	Desired outcome	This motive is altruistic in nature and reflects the desire of a person to preserve the environment for the sake of the environment with few ulterior motives. It also reflects the inherent need to protect the environment, for the sake of the planet and all that occupy the planet (especially humankind).	100%	*P18: We consider ourselves advocates for the environment, so not just sea turtles, but also advocates for keeping the reefs healthy for the sea turtles to live as a charismatic species and a key species in the Caribbean and around Bonaire. But we also recognize and are increasingly recognizing that nature and sea turtles cannot be considered just distinct from the economy and the cultural side of Bonaire, the welfare of Bonaire. We need healthy people, healthy populations in order to have healthy reefs.*
Health	Desired outcome	This motive reflects the need to protect the environment in order to improve or safeguard one's own health or the health of other people within their community.	21%	*P31: I grow (trees) to see that within the last thirty, thirty-five years, it looked like all the kids are born with respiratory problems, these things. And that's the price of progress. All kind of development, all kind of pollution. So as they start with our […] to preserve life, the mission was to plant a thousand trees.*
To contribute to the community (for future generations)	Desired outcome	This motive reflects the desire of a person to conserve the environment not only for him/herself, but for other people within his/her community as well. It also reflects the desire that future generations can enjoy or have the same experiences and interactions with nature as the person has now.	100% (79% explicitly referring to the benefit of future generations)	*P16: We got the chance to live on a farm and then we decided that if we live on a farm we can also contribute more to the island. We came here, from the Netherlands, we are intruding here on the island. Let's also mean something to the island then.*

2.4 DISCUSSION

Overall, my research showed that the motives of the conservation actors in the Caribbean Netherlands are aligned with motives that previous studies had identified for pro-environmental behaviors. Specifically, conservation actors indicated their behavior is driven both by intrinsic and extrinsic factors, including childhood and other (past) experiences with the environment, their knowledge of, and concern for, the environment, a sense of place attachment, personal values and beliefs, as well as the social norms of the island communities. The conservation actors also expressed the goals they desire to achieve with their efforts, ranging from more altruistic (the direct benefits that can be achieved for the environment) to more self-centered drivers (personal enjoyment or their career). It should be noted that the informants reflected on their motives for different types of conservation behavior, and there were often various combinations of rationales for why they made their choices. However, it was not my intention to identify patterns in or "predictors" for a single form or type of conservation behavior such as just planting trees or only participating in clean-up events. Thus, while I acknowledge the significance of the relationship between motives and specific types of behavior, this relationship was not extensively considered throughout my analysis. Instead, I identified the previously mentioned behavioral motives, regardless of the kind of conservation action informants referred to or engaged in.

While my research has demonstrated that conservation actors in the Caribbean Netherlands do not significantly differ in the reasons for their pro-environmental behaviors from actors in other spaces and places, there were some noteworthy findings that are of particular importance for understanding the Dutch Caribbean context. The analysis of my interviews showed that:

1) Locals more often referred to traditional ways of knowing about the environment, often rooted in childhood experiences;
2) Locals were more focused on health-related concerns and the community as a whole;
3) Non-locals were more likely to mention their careers or business as a driver for their activities;
4) There were no real differences between the actors on the various islands, especially Saba and Sint Eustatius.

Throughout the analysis, I also paid attention to possible differences in drivers between locals, semi-locals, and non-locals. Overall, the differences appeared to be minimal, but there were a few noteworthy differences, as I listed above. While these differences are interesting, it is important to point out that, according to my classification, the group of conservation actors who participated in this study are predominantly non-locals. Moreover, as this distinction made between locals, semi-locals, and non-locals is somewhat arbitrary, it is hard to draw a solid conclusion as to whether locals truly have different motives compared to non-locals. Despite this classification's arbitrary nature,

it seems to be a significant factor to consider when examining the motives and behavior of conservation actors in the Caribbean Netherlands. Ultimately, both locals and non-locals are concerned with the environment and protect it as they see fit.

Lastly and self-evidently, each informant's motives and behavior are affected by a combination of factors, which are also influenced by the three islands' specific context. While these motives are not necessarily unique for the Caribbean Netherlands as they have been identified in a substantial body of research, the conservation actors' motives and behavior on the Caribbean islands are affected by the three islands' contexts. There were two notable observations regarding the motives of the conservation actors that are suggestive of the context's influence on the (differences between the) drivers of conservation actors.

The first is the differences between the social norms' occurrence as a factor influencing conservation actors to protect the environment. Specifically, it seemed that this was most prominent on Saba. All conservation actors mentioned that people on Saba have a strong historical and cultural tendency to live in harmony with nature. Known as "the Unspoiled Queen", Saba and its residents have a longstanding reputation as being environmentally conscious, and this is expressed with pride by the community. On the other hand, on Sint Eustatius, several informants mentioned that people are no longer in touch with the environment, which had led to harmful practices such as littering. This apparent difference between environmental social norms on the islands is reflected in the informants' drivers. Instead of abiding by existing local norms, conservation actors on Sint Eustatius were more likely to express a need for existing social norms to change.

The second indication was in the finding that non-locals mentioned that their engagement in conservation actions for a local NGO on the islands was driven by the opportunity to occupy a leading position, which was unique and beneficial for their career. This is illustrative of the small scale of the islands, which creates a small local capacity pool for specific expertise, such as in the arena of environmental management, and thus opens up opportunities for foreigners to occupy these positions. Whereas these positions are perhaps hard to come by in larger countries and demand years of experience, the dearth of qualified local applicants creates the possibility for less experienced but educated foreigners willing to migrate to a small island to fill these positions. The implications of the context will be explored more in-depth in Chapter 3.

A Thematic Analysis of the Drivers of Environmental Conservation in the Caribbean Netherlands.

3.1 INTRODUCTION

Chapter 2 revealed that the most common social-psychological factors and motives for people's engagement in conservation actions are also evident among conservation actors in the Caribbean Netherlands. Despite these similarities, I believe that it is clear that the social, political, and cultural context in which people are engaging with the environment also has implications for people's experiences, motives, and behavior, a belief born out by the existing scholarly research. Clayton et al. (2016) defined the environmental problem as a human-environment problem and their work emphasizes the interaction between humans and their specific environments. This understanding highlights the importance of considering humans and human behavior within their environment or context. In the current chapter, therefore, I expand upon my discussion in Chapter 2. I delve more deeply into the survey results to focus on the specific context of the Caribbean Netherlands.

As "context" is a broad concept and can refer to many different levels of analysis (economic, political, historical, rural or urban, local or global) (Dilley, 2002), it is important to clarify the contextual features that I consider in this chapter. In addition to the fact that the environment is important to protect on the islands because it is a key resource for one of the main pillars of the islands' economies, the Caribbean Netherlands is an interesting case study for an exploration of the human-environment intersection. The Caribbean Netherlands' social, political, and historical context serves as a unique backdrop against which to explore the underlying motives of residents to protect the natural environment. Specifically, these contextual features create several challenges (and opportunities) that are likely to affect island residents who protect the local environments. Studies have shown that there is a relationship between people's sense of belonging and their engagement in pro-environmental behavior. However, I wanted to find out what happens when notions of belonging are contested or challenged due to specific contextual factors? How does this affect the relationship between belonging and pro-environmental behavior? The current chapter explores this question.

3.1.1 The Current Study

Not every form of pro-environmental behavior might be as influenced by the contextual factors I considered in this study and, likewise, the implications of one's sense of belonging, or lack thereof, might not have as much of an impact. As I already mentioned in Chapter 1, these dynamics of senses of belonging and overall social, political, historical, and cultural contexts are believed to be of particular relevance for publicly displayed pro-environmental behavior. This includes active involvement in environmental organizations, active kinds of environmental citizenship, and support for, or acceptance of, pro-environmental public policies (Stern, 2000). Examples of public sphere environmental behavior (from here on out referred to as conservation actions) in the Caribbean include clean up events or eco-restoration efforts, protesting against environmentally destructive industries, participating in awareness campaigns,

volunteering during annual rooster counts, or reforestation events. Stern (2000) indicated that "an important feature of public sphere behavior, including activism, is that environmental concerns are within awareness and may, therefore, be influential" (p. 409). Because of their visibility, other people within the community may respond more strongly to these types of behavior than, for example, actions occurring in the household such as reducing energy consumption. Thus, the main argument for focusing on publicly visible conservation behavior is that these actions are visible to other community members and, therefore, more susceptible to socio-contextual factors and others' opinions. Following the aforementioned reasoning and considerations, I address two research questions in the current chapter, namely:

1. *How does the political-historical and geographical context of the Caribbean Netherlands affect conservation actors?*
2. *How does this context affect the relation between belonging and conservation actors' motives to protect the Caribbean Netherlands' natural environment*?

As I will discuss at greater length in this chapter, two main themes emerged from my research. The first is that "**Nature Conservation is Political**". I use the term "political" to emphasize varying and, at times, conflicting interests conservation actors encounter when trying to protect, conserve, or manage the environment. The term "political" is also used to refer to the fact that the debates on nature conservation also occur between politicians and other people with power in the community. The debates about conservation efforts, motives, and challenges reflected on by the informants could be organized into four sub-themes. Namely:

- Conservation versus "progress";
- Nature is our culture or nature versus culture?;
- This land is my land; this land is your land;
- Acting local, acting Dutch.

The second theme is what I termed, "**Challenges are my motivation"** and reflects the heightened sense of responsibility conservation actors feel to protect the environment due to the islands' context. The challenges of the context arguably make conservation actors even more motivated to protect the environment. In the following paragraphs, I discuss in-depth the contextual features I considered and their theoretical implications on conservation actions.

3.1.2 Challenges and Opportunities of SIDS

The first contextual feature I considered is geographical and refers to the small and insular characteristics of the Caribbean Netherlands. Formally, the Caribbean Netherlands cannot be classified as Small Islands Development States (SIDS), as they are non-sovereign and one of the key aspects of SIDS is their sovereign status. As described in earlier chapters, the Caribbean Netherlands are formally incorporated into the Kingdom of the Netherlands and, more importantly are under the jurisdiction of the

government of the Netherlands. This means that unlike SIDS, the Caribbean Netherlands lack autonomy in many, though not all, instances. Some functions, as I will describe in subsequent chapters, are supervised and supported by the governance apparatus of the European Netherlands. This status is illustrated by the fact that they are so-called "special municipalities" of the Netherlands. Despite these factors, however, many if not all the characteristics of SIDS do apply to and are relevant when describing the societal features, and, more specifically, the challenges and opportunities in terms of sustainable development of the Caribbean Netherlands. Moreover, Ferdinand, Oostindie and Veenendaal (2020) argued that *non*-sovereign small, developing islands might experience the challenges of SIDS in greater extremes in particular because of their lack of autonomy. They argue that this is especially evident in issues surrounding social (and environmental) justice. Furthermore, Oostindie and Klinkers (2003), for example, argued that the dominance of the European Dutch within the Kingdom government creates a striking imbalance despite ongoing claims of equality and reciprocity. In the remainder of this section, I will discuss the common challenges and opportunities of SIDS and how they apply to the Caribbean Netherlands in relation to sustainability, development, and nature conservation as this provides a concise framework when considering the "small island" characteristics of the three islands.

Briguglio (1995) discussed a series of (economic) disadvantages and challenges of SIDS organized along with the four main characteristics of SIDS, namely: small size, insularity, remoteness, and vulnerability to natural disasters (see Appendix C for an overview). The disadvantages these places contend with include: the high degree of dependence on the import of products, services, and knowledge; high costs of living; insecurity around the availability of goods and services; unstable or impartial administrative services; and politics, i.e., "Everybody knows everybody" (Veenendaal, 2017a).

These disadvantages associated with SIDS have shaped much of the narrative related to island ecologies (Ferdinand, 2018; Baldacchino, 2014; Kelman, 2014; Ratter, 2018; Petzold & Magnan, 2019; Kueffer & Kinney, 2017; Scobie, 2019). The main argument is that small tropical islands, in particular, are rich in biodiversity, and the inhabitants are heavily dependent on their natural resources to ensure their quality of life and their economies. This emphasizes the need to properly manage, protect, and conserve the natural environment (Baver & Lynch, 2006; Ferdinand, 2018; Ferdinand, Oostindie & Veenendaal, 2020). At the same time, due to their insularity and often large and low-lying coastal areas, these small islands are also the most vulnerable to natural disasters, ecological degradation, and the implications of global warming (Baver & Lynch, 2006; Briguglio, 1995; Ferdinand, Oostindie & Veenendaal, 2020; Kelman, 2014). Ironically, SIDS contribute the least to the sources of climate change and thus these negative consequences of climate change are particularly unjust considering the disproportionate effect climate change has on these spaces (Ferdinand, Oostindie & Veenendaal, 2020). This inherently unequal position has stimulated debates on climate (in)justice (Baptiste

& Rhiney, 2016; Ferdinand, 2018). In short, this means that SIDS are forced to deal with environmental issues they are not responsible for from a disadvantaged position, geologically, economically, and in terms of capacity.

More recently, a growing group of scholars argues that SIDS face not only challenges but also enjoy opportunities (Baldacchino, 2006; Chandler & Pugh, 2018; Chandler & Pugh, 2020; Ratter, 2018; Grydehøj, 2020). Instead of only being vulnerable, islands and their communities are also seen as resilient – able to overcome whatever they are confronted with, despite their disadvantages. Islands are no longer viewed as singular, insular, and isolated, but rather as multiple, interconnected, and mobile (Bremner, 2016; Grydehøj & Kelman 2017; Hayward, 2012; Petzold & Ratter, 2015; Riquet, 2016; Chandler & Pugh, 2020). Kellman (2007) discussed how some characteristics of islands which are usually seen as a challenge also present or become opportunities. For example, islands' isolated character triggers creativity and strength through diversity and collaboration among the community for safeguarding their livelihoods. Similarly, instead of fighting the remnants of their colonial rule, islands use these connections in their favor to retain access to more resources and power, a dynamic I referenced in the previous chapter as the "head vs heart" dilemma.

Along similar lines, it has been argued that precisely because of their small scale, insularity, and remoteness, the environment of islands is (theoretically) well suited for conservation (Baldacchino, 2007; Mountz & Briskman, 2012; Krieg, 2018). Small islands are increasingly viewed as the go-to place to find new ways of thinking and approach complex issues such as climate change (Kueffer & Kinney, 2017; Chandler & Pugh, 2020; Perumal, 2018; Ratter, 2018). Lastly, while the limits in capacity and resources require island residents to wear multiple hats and knowing everybody can be challenging in certain social contexts, this also creates a social context where there is more social cohesion and citizens have better access to those in power (Veenendaal, 2017a). These characteristics can be argued to be both challenges and opportunities and is an acknowledged dualism associated with SIDS (Baldacchino, Cassar & Caruana, 2008).

The implications of SIDS on people's behavior and experiences have been examined in various ways: governance and political processes (Baldacchino, 2012; Veenendaal, 2016b; 2017b); entrepreneurship (Baldacchino & Fairbairn, 2006; Burnett, & Danson, 2017); (eco) tourism (Sharpley & Ussi, 2014; Cheng & Wu, 2015); and well-being (Bates, Coleman, Wiles & Kearns, 2019). A growing body of literature also examines the experiences and behavior of islanders with regards to environmentally related subjects, such as: climate change (Klöck & Nunn, 2019; Baptiste & Thomas, 2017; Baptiste, 2018; Kelman, 2018; Petzold & Magnan, 2019; Nunn, & Kumar, 2018): climate justice (Baptiste & Rhiney, 2016; Ferdinand, 2018); natural disasters (Mika, 2018; Heger, Julca, & Paddison, 2008; Kelman & Khan, 2013); and international conservation policies (Dahl, 2017).

A few studies have examined how (Caribbean) SIDS affect people's involvement in conservation behavior from a socio-psychological perspective (Baptiste, 2018; Baptiste & Thomas, 2017). For example, one study found that children on islands have a different relationship with the environment than children growing up on the mainland, suggesting challenges for conservation efforts (Shapiro, Peterson, Stevenson, Frew & Langerhans, 2017). Another study conducted by Rauwald and Moore (2002) found that islanders (Trinidadians and Dominicans) displayed stronger pro-environmental attitudes than mainlanders (Americans). The idea that "islandness" has implications for nature conservation was also explored by Coulthard, Evans, Turner, Mills, Foale, Abernerthy, Hicks and Monnereau (2017). The authors found that the temporal context (i.e., histories, trends, shocks, and other vulnerabilities of islands) in combination with the relative importance of social well-being to islanders, are determinants for what kinds of conservation interventions island communities engaged in and how these were received, supported, and attained.

While these studies do not investigate the reasons for these differences in-depth, they support the idea that a small island context affects people's drivers to engage in environmental conservation actions. Considering the (possible) challenges and opportunities presented by SIDS, it is possible, for example, that this affects people's sense of responsibility when it comes to protecting the environment. It could be, for instance, that the combination of the high dependence on, and vulnerability of, islands' natural resources might heighten residents' sense of responsibility for, and sense of urgency to, conserve the environment. Along similar lines, the small scale of the islands might trigger debates on land use, which can create tensions within the community regarding the conservation of the environment and affect people's decisions to participate in conservation actions. Lastly, the reality that people often know each other in small communities can also have implications for people's participation in conservation actions.

Many other scholars warned of the danger of neglecting islands' diversity and lumping them into one category and using only simple measurements (Grydehøj, 2020; Kelman, 2007; Kelman & West, 2009; Kelman & Khan, 2013; Walsche & Stancioff, 2018). Moreover, as shown by Coulthard et al. (2017), it is important to consider the temporal context when examining SIDS' characteristics. Therefore, in addition to these traits of SIDS, I consider a second temporal/socio-political contextual feature – the complicated (post-)colonial history of the islands which has, in part, led to intricate and sometimes problematic administrative and governance structures. I argue in this thesis that this complicated (post-)colonial history can have implications for the conservation efforts of residents in the Caribbean Netherlands.

3.1.3 The Experiment of the Caribbean Netherlands

The second contextual factor that I considered in relation to nature conservation efforts in the Caribbean Netherlands was the (lead up to the) constitutional reforms of the

islands on the 10th of October in 2010. Specifically, I took the following aspects into account: the colonial history the islands share with the Netherlands and the sentiments of "re-colonization" brought about by the constitutional reforms; the integration of management responsibilities for the environment into the legal and governmental administration of the European Netherlands; the increasing presence of Dutch and foreign NGOs concerned with the islands' natural environment on the three islands; and, lastly, the growing number of (European) migrants on the islands.

Oostindie and Klinkers (2012) called the political and constitutional integration of Bonaire, Saba, and Sint Eustatius into the European Netherlands as "special municipalities" following the dissolution of the Netherlands Antilles in 2010, "The experiment of the Caribbean Netherlands" (p. 262). They termed it an experiment because so much was still unclear regarding the exact changes the islands would encounter with their new status, specifically in terms of which legislation from the European Netherlands would be transferred to the Caribbean Netherlands and how this legislation would be implemented. Also, while there was a majority of votes for the islands to become special municipalities of the Netherlands, there was still much division among local politicians. Those opposed to the new status argued that the islands gave away too much control to the Netherlands and did not receive enough in return – not in terms of recognition of, and respect for, local cultural norms and values, but neither did they receive as much as they could or should have financially. This dissatisfaction was expressed by many as a leading to a sense of "re-colonization" of the islands by the Netherlands, by forcing islands to become more Dutch than they would like to have been (Oostindie & Klinkers, 2012).

In line with these divided sentiments, the islands' integration into the Netherlands had both positive and less positive outcomes, according to residents of the islands (Veenendaal, 2015). In the decade after the 10th of October 2010, several evaluations took place to get a sense of how islanders experienced their new constitutional status. A first analysis one year after the reforms revealed that residents of the Caribbean Netherlands had mixed feelings about the implementation of the constitutional reforms (CurConsult, 2012). Five years after the reforms, the divided sentiments remained. In two separately conducted evaluative studies, residents expressed that they felt that there were both positive and negative outcomes from the reforms. They were positive about improvements in healthcare and education and the execution of various smaller projects because there was finally the availability of funding and the logistical capacity to do so. On the other hand, they were disappointed by the high cost of living and growing levels of poverty. Residents were also dissatisfied with the lack of consideration of local circumstances from the Netherlands in terms of legislation and enforcement of regulations. They felt that there are now more restrictions (similar to the European Netherlands) but fewer benefits in terms of social services, again compared to the European Netherlands. The lack of progress on all fronts was partially blamed on the islands' small scale and limited capacity. In the

end, good governance comes down to individuals, making the executive councils of the islands at least partially responsible for whatever progress, or lack thereof, has occurred[8].

The residents placed much of the blame on the lack of preparations with which the changes were implemented and differences in culture, interests, and concerns between islanders and the Dutch (European Netherlands) (Spies, Soons, Thodé, Verhey & Weekers, 2015; Veenendaal & Oostindie, 2018). Moreover, more citizens of the European Netherlands have moved to the islands in the ten years or so since the constitutional reforms. In particular, this growth comes from wealthier people and those who are responding to the increasing number of job vacancies created and advertised within the growing Dutch community for positions as teachers, doctors, financial advisors, and the like. This creates a cycle of ever-increasing numbers of European Dutch people moving to the islands. The group of wealthy migrants tend to have some degree of power in the local economies by starting business, buying land, and making real estate investments, and therefore, increasingly gain a sense of ownership of the islands. This has resulted in a sense that this ownership is being removed from the local communities.

This increase in Dutch immigration, a growing group of Dutch tourists, and the greater prominence of the Dutch government, all stemming from the constitutional reforms has, therefore, led to feelings of "re-colonization" among (some) residents, particularly on Sint Eustatius (Veenendaal, 2017a) and Bonaire (De Geus, Mac Donald, Oostindie, Stipriaan & Vermeer, 2021). Overall, these developments further strained the relationship between the islands and the European Netherlands and between the islanders and the (new) Dutch migrants residing on the islands. In addition, many residents expressed that they felt too many Dutch European migrants now reside on the islands (Veenendaal & Oostindie, 2018). This was particularly the case on Bonaire, where, for example, protests took place against the integration of the island into the European Netherlands. Protest signs are scattered on the island expressing sentiments such as "*Minder Makamabas*" ("fewer Dutch people"), and *"Weg met RCN"* ("Out with the National Office for the Caribbean Netherlands") (See Figures 15 and 16).

8 The island governments (public entities) consist of an Island Council and an Executive Council. The Island Council is the highest administrative body of the public entity and all members are members of political parties directly elected by vote of the residents. Thus, the Island Council represents the public, outlines policies, and monitors the Executive Council. The Executive Council is responsible for the daily management of the public entity. The Executive Councils are chaired by aLieutenant Governor, appointed by the Dutch Crown.

Figure 15. Sint Eustatian politician Clyde van Putten speaking to a group of protesters in front of the RCN building on Bonaire.

Figure 16. Protest sign hanging on the gates of the government building of the public entity of Bonaire.

Oostindie and Veenendaal (2018) describe these debates on the experienced benefits and the drawbacks of being integrated into the Netherlands (i.e., their non-sovereignty) as the "Head versus Heart dilemma". On the one hand, remaining closely connected to the Netherlands has several pragmatic benefits, but this creates dissatisfaction emotionally and ideologically. Moreover, their analysis revealed that "the increasingly significant role of the Netherlands on these islands has resulted in augmented resistance towards the Dutch metropolis, even if the more material benefits of the constitutional link with The Netherlands remain strongly relevant to the island populations" (p. 2).

In sum, like the implications of small-scale, the constitutional reforms presented both (new) challenges and opportunities for the islands. Both of these can affect the motives of residents of the Caribbean Netherlands to protect the three islands' natural environments. In the rest of this chapter, I investigate how these contextual factors affect residents' efforts to protect the environment.

3.1.4 Belonging and Protecting the Environment

In addition to possible direct implications for conservation actors' motives on the three islands, this chapter examines how these contextual features influence the relationship between belonging and nature conservation efforts. The need to belong is one of the most important, persistent behavior motivations (Baumeister & Leary, 1995). Fulfilling this need gives people a sense of meaning and identity, strengthens their self-esteem, and their overall well-being. One way to fulfill this need is to engage in behavior approved of by the community or the group a person wants to belong to. Conserving the environment can be considered such behavior (Batson, 1998; Nolan & Schultz, 2013; Clayton et al., 2016). Indeed, several research lines examined the relationship between people's need to belong and their engagement in pro-environmental behavior.

The first body of work involves the concepts of place attachment and place identity. Place attachment represents "(positively) experienced bonds . . . that are developed over time from the behavioral, affective and cognitive ties between individuals and/or groups and their socio-physical environment" (Brown & Perkins, 1992, p. 284). The general relationship between place attachment and pro-environmental behavior is that those who have a positive and strong attachment to a place are more likely to protect it than those who feel less attached, as I demonstrated in the last chapter (Scannell & Gifford, 2017; Gifford & Nilsson, 2014; Lewicka, 2005; Lewicka, 2011; Manzo & Perkins, 2006; Mihaylov & Perkins, 2013; Hernández, Martín, Ruiz, & Hidalgo, 2010; Stefaniak, Bilewicz & Lewicka, 2017). Several studies concluded that people's engagement in conservation behavior also strengthens their bond and sense of identity with the place, and that place attachment fulfills the psychological need to belong (Manzo & Perkins, 2006; Mihaylov & Perkins, 2013; Scannell & Gifford, 2017).

The second line of research involves work on intra-group dynamics and social norms. Previous research has shown that social norms affect many kinds of behavior, including conservation behavior, e.g., littering behavior (Cialdini, Reno & Kallgren, 1990), recycling (Burn & Oskamp, 1986), energy consumption (Schultz, Nolan, Cialdini, Goldstein & Griskevicius, 2007), and pro-environmental behavior in general (Farrow, Grolleau, & Ibanez, 2017). One reason people abide by social norms is to fulfill their need to belong. The need to belong compels people to strive to build and maintain relationships with others and is related to peoples' adherence to group norms (Steinel, Van Kleef, Van Knippenberg, Hogg, Homan, & Moffitt, 2010; Culiberg & Elgaaied-Gambier, 2016).

While the existing literature suggests a positive relationship between the need to belong and pro-environmental behavior, this relationship might differ in the Caribbean Netherlands. Specifically, and as I discussed in Chapter 1, the constitutional reforms exacerbated contestations about the relationship and history the islands share with the European Netherlands and prompted debates on identity and belonging (Veenendaal & Oostindie, 2018; Oostindie & Klinkers, 2012). Specifically, islanders often express their fears that the strong Dutch presence might lead to a loss of the islands' traditional local culture and identity (de Geus, Mac Donald, Oostindie, van Stipriaan & Vermeer, 2020). Moreover, the small scale of the islands creates an environment where people and their behavior are easily made subject to criticism or appraisal by the community, affecting their sense of belonging. In line with this reasoning, Coulthard et al. (2017) presented some evidence for the relationship between islandness, belonging, and nature conservation. Specifically, they showed that belonging as an indicator of social well-being is a relevant factor to consider when evaluating islands' conservation efforts. They found that "in island contexts policy implementation processes are highly sensitive to social identity – us and them, insiders and outsiders – and perceptions of control and autonomy, all of which can positively or negatively influence responses to [marine] conservation." (Ibid, p. 306).

In terms of the relationship between protecting the environment and people's need to belong, the implications of engagement in this behavior thus can be twofold. On the one hand, there is a dire need to protect the natural environment of the Caribbean Netherlands. It serves as the central resource for the islands' largest economic pillar of tourism and is the source of the residents' overall well-being. On the other hand, the sentiment exists that mostly (new) European and North American migrants are visibly active in nature conservation. Thus, this raises the question about the relationship between the sense of belonging of conservation actors and their motivation for participating in conservation actions in the Caribbean Netherlands. Reasoning from people's need to belong may give additional insights into why residents are motivated to protect the islands' natural environment and how this is affected by the socio-political and geographical context.

3.2 METHOD

I used the same set of interviews I discussed in Chapter 2 for the current analysis (N = 35). However, instead of a (semi)quantified content analysis, I opted for using experiential thematic analysis as it can reveal new or less common experiences of residents of the Caribbean islands related to nature conservation and sheds new light on the methods already known in the field of environmental psychology.

3.2.1 Thematic Analysis

I analyzed the interviews using thematic analysis (Braun & Clarke, 2006; 2016; Clarck & Braun, 2013; 2014). I analyzed the informants' accounts informed by a critical realist or contextualized epistemology (Willig & Stainton-Rogers, 2012). This approach loosely conforms to the definition of critical realism and, as a position, it affirms the existence of "reality", both physical and environmental, but, at the same time, recognizes that its representations are characterized and mediated by culture, language, and political interest rooted in factors such as race, gender, or social class (Ussher, 1999). In terms of informants' sense-making, the informants' reasoning is treated as real and true to them, but I also acknowledge that this reasoning is shaped by the cultural context and factors such as their age, ethnicity, gender, migratory status, and other personal experiences.

Procedure of Analysis

As I discussed in Chapter 2 and following Braun and Clarke's (2006) thematic analysis procedure, the interviews were transcribed verbatim. After carefully reading and rereading the transcripts, initial complete "open" coding created the first conceptual labels. Next, the initial set of labels were then clustered and organized into overarching themes. This process derived both semantic (surface meaning) and latent codes (underlying ideas and patterns), as the goal was to gain a better understanding of how the motives of conservation actors are influenced or shaped by the context of the three islands by linking them back to existing concepts and theories. This coding procedure generated an understanding of the relations between the themes.

The analysis focused on identifying and organizing reoccurring debates and the patterns within the debates in narratives shared by informants as they reflected on their motivation to make an effort to protect the environment of the islands. Once the initial descriptive, social-psychological drivers for their behavior were coded (as I discussed in Chapter 2), I paid attention to how the informants referred to the island context when discussing their efforts to protect the environment. Informants discussed both opportunities and challenges presented by the context, and these affected their efforts and motivation. The two contextual factors that I discussed in the Introduction, as well as notions of belonging, were my guidelines for exploring the implications of the context on the motives and actions of conservation actors in the Caribbean Netherlands. In the

following results section, I will present and discuss the identified themes. I will reflect on and answer the two research questions in the discussion.

3.3 RESULTS

As I described above, two main themes were identified. The first theme consists of four sub-themes. The first theme is called "**Nature Conservation is Political".** It reflects the range of political debates inherent to nature conservation due to the choices and trade-offs required to be made when protecting the environment. I use the term "political" to emphasize varying and, at times, conflicting interests conservation actors encounter when trying to protect, conserve, or manage the environment. These different points of departure were visible in making conservation decisions -- what should be protected, how, by whom, and for whom, discussions on land rights and ownership, and debates on belonging within the island communities. I also use the term "political" to refer to the fact that the debates on nature conservation also occur between politicians and other people with power in the community. The most reoccurring and evident debates present in the interviews about conservation efforts, motives, and challenges reflected on by the informants could be organized into four sub-themes. Namely:

- Conservation versus progress;
- Nature is our culture or nature versus culture?;
- This land is my land; this land is your land;
- Acting local, acting Dutch.

The second theme is called **"Challenges are my motivation"** and reflects the heightened sense of responsibility conservation actors feel to protect the environment due to the islands' social, cultural, political, and historical contexts. The challenges of the context arguably make conservation actors even more motivated to protect the environment. I elaborate on the two themes and their sub-themes in the sections below. I address the explicit implications of the relation between the defined context on the themes in the discussion.

3.3.1 Nature Conservation is Political

During the first week of fieldwork on Sint Eustatius, I attended a "science café" (an informal meeting open to the public where themes around science can be discussed) where several researchers and community members gave a presentation on their latest research findings and informed the attendees about new project proposals. One of the sessions discussed the heavily eroded cliff near the Fort in Orange Bay. A group of local community volunteers shared some ideas on how the cliff could be reinforced to prevent additional collapse – planting trees and plants, reinforcing the cliff concrete, and placing mesh nets to catch large rocks. At some point during the public discussion, one of the attendees, a Dutch ecologist who was on the island doing fieldwork, stated that the first

measure that should be taken was the removal of the immense number of roaming cows, goats, and sheep as they cause erosion through overgrazing and consequently destabilized the cliff over time (Figure 17 and 19).

Figure 17. Small heard of cows roaming and grazing in a neighborhood on St. Eustatius.

He offered to shoot the goats himself as he had a hunting license. Immediately the presenters and the crowd erupted into restless murmuring, loud smirks, and nervous laughter. I looked around the room and saw reactions ranging from eye rolls, silent laughter, and making comments like "Well yes, but that is not possible", "Never gonna happen", "I do not think we can do that". Another attendee in the room responded, saying, "Well, you might be right. However, that will not happen cause as everybody knows: A goat is a vote!". The discussion continued for a while but seemed to end with the majority agreeing that the goats are an issue on an island. Implementing the suggested approach would be very unpopular in the community, and thus unlikely to occur anytime soon. There is a long history of the ownership goats on the islands. Goats can eat almost anything, require relatively little care, and provide an important source of protein for islanders. Most goats roam freely on the islands. They also have an important cultural, social, and symbolic value to islanders. Therefore, "outsiders" suggesting the culling of goats would be seen as yet another example of non-islanders coming in and telling locals what to do, with no consideration of their history and culture.

Figure 18. The eroding cliff in Oranjetown referenced to by the ecologist offering to shoot down the goats on St. Eustatius.

This moment illustrated that nature conservation can become very political in the Caribbean Netherlands. During my fieldwork and throughout my interviews, the notion that nature conservation is political was apparent in various ways and, therefore, I identified it as one of the two main themes. I use the word political to refer to the considerations and debates influenced by power relations between individuals when allocating priority, rights, or natural resources objectives. How nature conservation is political in the Caribbean Netherlands presented itself in four prevalent ways (sub-themes), namely:

- the debate between conservation and development;
- the debate between nature versus culture;
- the way the identity of the conservationists affects and is affected by their conservation actions; and, lastly;
- a debate on (land) ownership and rights.

I discuss the sub-themes in the paragraphs below. Overall, this theme reflects the conflict of interest about what aspect of nature is protected, when nature is or should be protected, how nature is being protected, and by and for (the benefit of) whom. Accordingly, this theme captures the (cultural) sensitivities that accompany the interests of different stakeholders. This affects the conservation actors' sense of belonging, influenced by

the islands' small scale and the constitutional reforms. In the following paragraphs, I elaborate on these intricacies in more detail.

Figure 19. Goats roaming in the village 'The Bottom' on Saba.

Conservation versus Progress?

The first sub-theme depicts the debate surrounding the mistaken belief that conservationists are always against development. Many conservation actors shared that their work is challenging because members in the community feel that environmental protection inhibits or prohibits (economic) development. The majority of conservation actors did express that they do not support creating new environmentally depleting infrastructure or other economic ventures such as the placement of oil terminals. Moreover, they argue that not everyone benefits equally from the developments made and that the benefits do not outweigh the drawbacks:

> *P5: But it's political. And then you can say, yes, economic development, what economic development? I, I saw the Marriott this morning, well, I wonder whether there are enough flights to Bonaire to get all those rooms that we currently have on Bonaire, to get them full. So, yes, you can say, economic development, yes, for some[…] it'll make the island so much better. Yes, maybe for the politicians, because of some money goes under the table, but otherwise, I don't see it.*

However, conservation actors were also adamant in explaining that their efforts to protect the environment did not necessarily mean no development. Rather they felt

that the conflict was because of developers' unwillingness to consider the environment; for example:

> *P12: That synergy between development and nature management that is -- that's completely absent. That's just a, how do you say, a big question mark here or something.*

The rejection of conservation for the sake of development was not just a concern among locals who want economic improvement, but also among Dutch or other foreign developers who fight against local conservation efforts, for instance:

> *P9: We have huge legal processes sometimes with Dutch developers and, because they just don't want to understand that it's an area that is internationally protected, for example, and that you can't just start developing.*

These conflicts and choices feed into the perception that the "Dutch are taking over". At times the critical stance of conservation actors towards certain types of development also has implications for their sense of belonging in the community. For example, P31 protested the placement of a new oil terminal. He shared how his efforts had a direct effect on his safety and reputation within the island community:

> *P31: And I look at a small 11 square [mile] island like this, just a few years ago we had a bit of a fight, where we ended up in court on four occasions. I've been threatened during the period when we protested and fought against them building another oil terminal right in front of the airport [...] So we fight these things, and a lot of local people express hatred towards me for fighting it, and think that yeah, I am against progress.*

The influence of small-scale was visible in this theme. Specifically, because the islands are small, the implications of conservation efforts that inhibit potential development opportunities are clearly visible and directly felt by the majority of the island community. Yet development affects the natural environment and thus amplifies conservation actors' incentive to act, especially when this development is deemed harmful to the natural environment. So, on the one hand, the perceived economic advantages to the islanders stemming from various development projects leads some people to be very much in favor of them, despite the environmental consequences. Yet, for other people on the islands, it is exactly these environmental consequences in such close proximity that inspires them to act.

The debate between conservation versus development was heightened by the constitutional reforms in several ways. It seems that the Dutch and other "foreigners" dominant, vocal, and visible presence in emphasizing the need for conservation efforts intensifies the local community's resistance towards these efforts, as they feel these efforts disrupt their need for economic development. However, it was also the case that it was

precisely the wealthy opportunistic Dutch migrants who would start lawsuits against local conservation efforts for rejecting their development plans. Lastly, the excerpts also illustrate that protecting the Caribbean Netherlands' environment affects people's sense of belonging, even if you are local. The community rejects local conservation actors working to protect the environment because the community feels they are not acting in favor of the community's economic needs. Non-local conservation actors, due to the colonial history of the islands, experience resistance from the community as their efforts are felt to be too dominant or determinantal for the future of the islands and, thereby, become linked to sentiments of colonization (i.e., islanders losing control and ownership over their land).

Nature is Culture or Nature versus Culture?

This sub-theme encapsulates the informants' reflections on dealing with the different views and perspectives people have on the environment. Some conservation actors experienced clashes with local people and their efforts to protect the environment, for instance in no longer allowing the consumption of sea turtles. In contrast, others used the local culture to their advantage or as an explicit motive for conserving the environment, such as using traditional knowledge to preserve the environment. For instance, P18 shared with me the driver of her efforts to protect sea turtles on Bonaire, an initiative that was started by the Dutch, which required a change in local cultural practices:

> *P18: So we have been on Bonaire a long time and at the time that it [the NGO] was founded the main motivation was to stop people eating sea turtles and eating the eggs, because that was a cultural thing that was happening on Bonaire and other islands. So some Dutch gentlemen started the organization and they managed to implement changes in the laws at the end of the 1990s whereby it was made illegal to eat sea turtles and to take the eggs.*

Along similar lines, P9 shared how the protection of the native parrot received some resistance as it used to be common practice for households to own a parrot.

> *P9: Uhm, having a Lora [parrot] has obviously always been uh something pretty normal, um, and that's phased out eventually, so yes that is, that doesn't always fall into good ground.*

Other conservation actors, for example P31, expressed their concern for the loss of local cultural knowledge as central in their efforts to protect the local environment. P31 focused on reforesting the island and referred to a loss of knowledge about certain plants and trees' medicinal powers and believes that trees are important for the community's health. He argued that this loss of local cultural knowledge is due to the exposure to the influence of foreign cultures where the bond with the environment is much weaker:

P31: And then I keep looking and see all the populations coming up, regress to [the] problem, young and old people, and more people of this Caribbean region. I'm not talking about all of them. Have become so foolish due to the constant influence from the American TV. They think they need a pill for everything, when their fore-parents used to be them, some bush-tea for everything, you know?

These examples illustrate the duality, and thus the political character, of this theme. In terms of nature use and conservation, when conservation actors express the sentiment that local cultural practices are harmful to the environment, and that their personal environmental beliefs compete with cultural practices, this can lead to tensions with the local community. This is particularly the case when foreign cultural beliefs are introduced to the community, for example:

P5: Yes, you bring in your own culture. I come as Dutch with, with my, ... I have lived here for more years than in the Netherlands, but, yes, how to deal with animals in nature and everything, how to respect that, ... I do impose my [Dutch] culture.

In other cases, conservation actors emphasized local cultural values and practices as being beneficial for nature conservation. These efforts tend to receive more support from the community. This was clearly visible in a long-standing debate on the presence of donkeys on Bonaire. There are approximately 1200 donkeys, of which about 500 roaming freely on the island. They were brought by the Spanish who first occupied the island over 500 years ago (Spoelstra, 2019). Therefore, although they are not native to the island, they are considered a long-standing part of the island's culture and history, despite the damage they do to the plants. Moreover, the roaming donkeys are often involved in car accidents, and cause issues with trash circulating around the island because they raid unattended wastebins in search of food. As was the case with the goats on Sint Eustatius, the political aspects of nature conservation efforts come to the fore around donkeys on Bonaire. In short, the debate consists of two opposing groups: one group that argues the donkeys are invasive and should be removed from Bonaire's environment. A second group argues the donkeys have been around for centuries on Bonaire and are not per se bad for the environment. However, both groups claim they are also against the inhumane treatment of donkeys and argue from an animal welfare perspective. P9 explained the viewpoints of the two parties as follows:

P9: The donkey problem is another example. Of which two groups are facing each other. One says yes, a lot of suffering among the donkeys. I say purely from nature point, it is not an endemic species, it never will be, but they do damage our nature. Others say yes but they also spread seeds and of course all that is true, but uncontrolled population of donkeys on the island that is not conducive to nature. I do understand the call to sensitivity […]. I understand the bit of yeah it's been part of the island for 4-500 years

and people are used to seeing the donkey walking around, and if that falls away at once, yes that stands out indeed.

As P9 points out, the community support the groups receive when dealing with the donkeys on the island comes down to the approach. One group has a more radical perspective and wants to remove all the donkeys from the wild. The opposing group feels that this is inhumane and wants to keep them, or at least a controlled population, in the wild. What followed was that the latter group, who also focused on the donkeys' cultural value, tended to receive more support from the community, particularly from locals and people in positions of power, including some long-established and rich local families. This was also the case for P19, who joined the "Save Bonaire's donkey" group and said that the donkeys must be protected as they are also part of Bonaire's culture (Figure 20):

P19: Yeah. Then she asked me "what you think about the donkeys?". So she say "yeah because I hear rumors they want to get rid of all the donkeys in the wild". I said"you cannot do that because that's a part of Bonaire culture, you know?

These multiple layers making up this debate have affected how politicians deal with, or, rather, avoid, the issue altogether. Similar to the "A goat is a vote" remark made on Sint Eustatius, the donkeys also represent Bonaire's votes.

Figure 20. An image made by the Bonaire Donkey Protection League Foundation posted on social media to wish the community a happy Bonaire Day (national holiday), emphasizing the importance of free roaming donkeys for the culture of Bonaire. Source: Facebook.

The tension between the differing cultures of the islands' diverse population existed not only between "locals" and the "Dutch" but was also seen between migrants with another cultural background. As I explained in Chapter 1, the population of the Caribbean Netherlands is made up of migrants, and immigration increased markedly not just from the European Netherlands, but also from North America, Colombia, Venezuela and other neighboring islands in the past decades. This is particularly evident on Saba and Sint Eustatius where there are close ties with migrants from St. Kits and Nevis and Dominica. P27, for example, shared how the pro-environmental values of Saba are actually more closely in line with those of Europeans and North Americans. It is the values brought by the increasing group of immigrants from other Caribbean islands coming to Saba that present problems and, at times, bring conflict or tensions when it comes to protecting the natural environment:

> *P27: We have seen, as we predicted it in our research as well that people who lived in the US and Europe would be better recyclers. […] I think its definitely got to be with the immigration in the last few years. We've had a lot of nationals from countries where waste is not taken seriously as it is on this island. […] I remember one day I gave someone a ride and she just while we were driving she took a bottle and threw it out of the window. And I stopped and I got really, I just screamed at her. "Don't ever do that again!" I might have used a few other words, but, I was just so shocked that somebody could do that.*

This sub-theme reveals how SIDS are not necessarily isolated but rather interconnected and, therefore, vulnerable to foreign cultures' influence. There are tensions between changing cultures and different cultural values imposed on, and sometimes embraced by, the islanders, which affects the residents' efforts to protect the environment. While cultural changes are constant and inevitable and not necessarily unique to the islands, the sentiment of imposed cultural (Dutch in particular) values is heightened due to the constitutional reforms. Specifically, the islands' current cultural changes and tensions can disrupt the amount of support received from the community when trying to protect the islands. Moreover, informants also mentioned the growing number of immigrants on the islands, which led to debates on conservation of the islands' environment. Lastly, the debates on culture and conservation have implications for conservation actors' sense of belonging. Overall, it appears that integrating culture positively in conservation efforts, such as, for example, focusing on the traditional medicinal values of plants, receives more support and praise from the community than efforts that (forcefully) change traditional practices, such as banning the consumption of sea turtles. Even if the conservation efforts pertain to a similar desired outcome, the ones that use traditional culture as an argument tend to receive more support. This tendency has consequences for the conservation actor's sense of belonging, as "anti-culture" conservation efforts can lead to exclusion. In contrast, "pro-culture" conservation efforts can lead to inclusion. These consequences seem to be regardless of the conservation actor "being" local or not.

This Land is my Land, This Land is your Land

The third sub-theme of "Nature conservation is political" encapsulates the conflict of interest and debates surrounding the ownership of the environment and, more importantly, the question for *whom* the environment is being protected. While all conservation actors reference the inherent value of the natural environment for all living beings, there was a visible division among conservationists who emphasized the importance of protecting the environment for tourists or visitors to the islands versus conservationists who emphasized the local community. This is relevant to elaborate on for two reasons. When emphasizing the importance of protecting the environment for tourists' benefit, conservation actors tend to focus on the environment's monetary value, which also strongly affects their approach to environmental conservation. Specifically, this view often results in unequal and/or limited access to the environment (e.g., implementation and enforcement of protected areas and species). As a result, island residents can feel as though the environment is only being conserved for the benefit of the foreigner or the tourists instead of for the local community. As P9 explains:

> *P9: But where I want to go is the marine park that surrounds the island […] the Bonairian says that we actually protect that for the diver, and for the tourist who uses it. Not for the Bonairian who fishes on the water and who swim along the coast […]. So that sentiment that's a right sentiment. And then you see who, who makes the most out of the whole industry? Yes, they're the foreigners.*

As the P9 shares, this sentiment is also heightened by the visible and increased presence of Dutch and other foreign development activities and ownership on the island since the constitutional reforms. This finding is in line with the conclusions of Jaffe (2006) describing the "dark side of Caribbean environmentalism". Jaffe discusses how tourists' attraction to the Caribbean underlies the efforts of many environmentalists in the region. At the same time, simultaneously, the poorer citizens continue to suffer from exposure to various kinds of environmental hazards such as pollution. This paradox described by Jaffe (2006) is visible in this sub-theme. Namely that the underlying motive of conservation actors to protect the environment for the economy leads to increasing economic inequality between the different groups of the islands' society (i.e., the rich getting richer, the poor getting poorer). P3, a conservation actor on Bonaire who also works in the tourism industry, described these sensitivities and how they are related to loss of access and ownership rights within the community of Bonaire:

> *P3: I think that there are a lot of investors coming over from Holland. And ready to spend a lot of money and want to keep all of these exclusive touristic activities for themselves. They're not really integrating and setting up you know, a structure that people – everybody who lives on Bonaire – has a piece of the pie.*

Like other conservation actors discussed previously, P3 is also referring to the new type of visitors and migrants coming to Bonaire after the constitutional reforms. In the 1970s the island became known as a fantastic dive spot and, consequently, a small group of European Dutch and Northern Americans moved to the island to open dive shops which, in turn, attracted a global diver community to the island. Dive tourists are typically known as being "eco-friendly tourists" who respect the environment and local culture of the island. However, with the exponential growth of cruise tourism and, later, the constitutional reforms in 2010, it is now more attractive and easier for investors to come to buy up land on the islands, compared to before 10/10/10. Consequently, the "original" visitors to Bonaire (mainly divers) who came for the island's authenticity are also seeing and experiencing unwanted changes, just like the local community.

Some conservation actors emphasized that they protect the environment for the health or well-being of the community and for future generations. It was clear that their approach results in more inclusive efforts such as nature education and finding ways of increasing residents' exposure to the environment. Some conservation actors mentioned that they especially want to engage with and include the local community in their efforts. By doing so, they hoped to inspire them to take on the role of protecting their own environment, as well, instead of leaving it up to, and thus perhaps giving it away to, non-locals. These actors wanted to work against the feeling that nature conservation was being imposed upon them by the growing group of non-locals. As P9 explained:

> *P9: What you want to see is that the Bonairean is proud too. They do have a certain pride in nature, but that they become even more proud of their nature and that it is not imposed by the Netherlands, but that it also comes from the Bonairean.*

Going back to Bonaire's donkey debate, I also encountered local activists who explicitly stated that they joined the organizations and participated in the conversations on how to manage the donkeys and their role and impact in the environment. Conservation actor P19, for example, shared how he felt compelled to get involved as no locals were truly represented in the environmental debate.

> *P19: Who's the one who decides what is good for the island, and what is not? Because the donkey's been here for more than five hundred years. I mean it's...you have to get the balance. And that's why I say ok then I want to help too. Because they was saying it was only, people from the outside who want to fight for the donkeys.*

This fear of losing ownership of the environment was a concern among several conservation actors:

> *P14: I miss our own locals to contribute. I'm not bitter, but I'm sorry no one's following my work. I'm happy with everything I've done, but sometimes I wonder what I'm doing*

for what. If I stop the tours, it'll stop, and the foreigners will take over. I'm not against foreigners, but I'm sorry we can't always get our own local Bonairians back.

Not only do debates exist between locals and non-locals, but they also occur between the locals and their government:

P31: Well, look here. At this stage today I'm 57 years, I spent 12 years developing the [reforestation project]. […] That place supposed to belong to an ancient uncle of mine. […], the place just sat there abandoned for years. […] I say OK, abandoned, I move and then start to clean around there. Then some people went to court to claim it theirs. They been to court [on] four occasions and lost. And two years, two and a half years back, a new set of people went to court, claim that they are descendants of his [ancient uncle's] wife. Now the strange thing is I know these people, been talking to some of them for years, and they were trying at the census office to find a connection to this lady, which they could not establish. […] Anyway, so we been in court for a few years, and I met the marshal, who had come from Sint Maarten and presented [...] the verdict from the court say how in x amount of time to move from there. But I'm thinking: the same marshal guy is blood related to the folks.

This anecdote illustrates a debate on land ownership between locals and the island government. In combination with the other land use debates I have discussed, it also highlights some typical characteristics stemming from the island's small scale. In this case, I can see an example of the impact of small scale on the judicial and medical/healthcare facilities on the islands. On Saba and Sint Eustatius, there is no office for the Joint Court of Justice, and no clerk. This means that residents of Saba and Sint Eustatius are required to contact and visit the clerk's office on Sint Maarten. Court hearings are held regularly on Saba and Sint Eustatius in a governmental office building. In addition, due to the relatively limited availability of more specialized medical treatment facilities on the islands, coupled with the distance to the European Netherlands, the Dutch government has set up an agreement with the government of Colombia. Residents in need of specialized medical treatment not available on the islands can receive it on Curaçao or in Colombia. In the case I highlighted above, the judge had to come in from another island to rule on the case and the conservation actor was absent due to going to Colombia for medical treatment. Lastly, the context of small scale and "everyone knows everyone" is clear by the fact that the officer tending to the case seemed to have been related to the family trying to reclaim ownership of the land the conservation actor worked on. As a consequence, "everybody knowing everybody" can lead to both land use losses and gains, both of which can affect the environment. Moreover, the islands' small scale also means that there is automatically less land to distribute and that unequal land use distributions are felt immediately.

The conservation actors' accounts revealed how the constitutional reforms and the small scale of the islands affect the debates on land use and access to conservation efforts. Notably, the takeover of (primarily Dutch) migrants creating businesses profiting from the environment created a focus among conservation actors on protecting the environment for the tourists and the economy instead of for the local community. Consequently, there is a growing, perhaps unjust, sentiment that people who want to protect the environment might not have the local community's interest at heart. In combination with the fact that space is limited, the loss of access to land is felt directly by most of the population. Relating these developments to the loss of land ownership by locals can lead to a rejection of conservation efforts. This has negative implications for the sense of belonging of people engaging in conservation actions. Specifically, due to these underlying beliefs and sentiments among some local residents, conservation actions can be perceived as negative for the community and consequently inhibit acceptance of this behavior and the people engaging in this behavior.

Acting Local, Acting Dutch ("Foreign")

This sub-theme captures the identity politics conservation actors encounter and engage in. "Acting local, acting Dutch" depicts how informants consciously engage in or avoid certain forms of conservation behavior that carry with them the perception of either dominant local or Dutch (foreign) norms and values. This is a relevant debate because, as I mentioned in Chapter 1, there is a perception that mostly (Dutch) foreigners are actively involved with the conservation of the islands' environment (Figure 21). Some respondents noted that this is mostly due to practical reasons, like money and time, for example:

> *P18: Almost 95-98% of our volunteers are non-Antilleans [...]. I think there are a lot of practical reasons why Antilleans find it difficult to volunteer with us, because it's very expensive to live on Bonaire and typically Antilleans are not in higher paid jobs or they are using all the hours that they have in order to work to make a living, to live on Bonaire. Whereas it is perhaps the Dutch retirees or the Americans who are here for six months, who have perhaps earned their money and have the spare capacity, that tend to be the core team of our volunteers.*

Figure 21. A group of volunteers after participating in a clean-up activity on Bonaire, with (mostly) foreigners participating during this clean up. Source: One Hour Clean-up Power Facebookpage.

Another respondent explained the overrepresentation differently. Namely that is has to do with higher levels of environmental awareness and concern among the foreigners compared to locals:

> *P6: It's often the foreigners who are very interested in nature, compared to locals. […] It's because it comes from their point of reference. They lived in America, and they do not like how that place has become. It has become crowded, a lot of people, crime, litter, destruction. And they chose to leave their country […] and now they see the danger of the same thing they ran away from happening here and they start to resist. And if there is an organization who does the things they agree with, they will join and become a volunteer. And with me it's the same thing, I went to study abroad. I went to study in America and there I saw how things can become. What development does, what the consequences are for nature. And when I came back to Bonaire, I appreciated the things we have here much more and realized we need to treasure what we have.*

According to P6, foreigners are indeed more likely to get actively involved in conservation actions as they have experienced what destroyed environments look like and have a strong desire to prevent that from happening on the islands. Consequently, they are also more likely to support all efforts to prevent environmental degradation from

taking place. In addition to this reflection on the debates regarding the perception of over-representation of non-locals and under-representation of locals in the scene of nature conservation on the islands, P6 referred to an experience that is very common for small scale islands. Specifically, when she mentions that she moved abroad to continue her education. Studying abroad is very common in the Caribbean, as most islands do not have facilities for education beyond the high school level. In the Caribbean Netherlands and the other Dutch Caribbean islands, most high school graduates move to the Netherlands or the United States to continue their studies. This leads to an exposure to new environments and cultures, which, as was the case for P6, can trigger a new appreciation for the islands' environments and thus a desire to protect these environments. As these views and behavior are often learned in other countries (i.e., Europe or the United States of America), locals who have not left the islands might not always understand and consequently appreciate these efforts. This is especially likely if the (political) relationship between the islands and European Netherlands (and thus Europeans) is difficult. These developments have implications for who gets involved in nature conservation actions on the islands, how people get involved, and how the community receives their efforts.

For instance, influenced by the sentiments brought to life with the constitutional reforms that "the Dutch are taking over", several informants shared how Dutch migrants tend to be very direct in their communication. This communication style clashes with the local island culture, where conflict tends to be avoided. As one Dutch informant shared:

> *P33: I've had to learn it, too. And that's just a cultural thing. Because I'm very direct and I do tjsak - tjsak - tjsak - tjsak. And it works. That works great in the Netherlands, but it doesn't work here. [...], that definitely works against you.*

P5 explained why nature conservation could be challenging on the islands since it includes confronting others about their behavior, which is not a thing people usually do on the islands:

> *P5: This culture is very non-conflictive. People don't talk to each other about behavior. You can also put someone in a very awkward position.*

Due to this conflict avoidant cultural upbringing, P9 explained that it is often difficult for locals to take on conservation roles that include enforcement activities. The reason being that you are likely to address a friend or family member in a manner that could be interpreted as shaming or reproachful due to the small scale of the islands:

> *P9: You know them very personally, and we notice that, which is also very difficult for the Bonairians, you notice that, you will have heard it more often [...], enforcement*

and supervision, yes you see that just very often it is sometimes difficult for them, yes you know almost everyone anyway.

Indeed, another local informant shared how she experiences remarks from her friends and family whenever the topic of conservation, specifically environmental violations, arises:

P30: I've had arguments with some very close friends and relatives. And the same for my colleagues, all of us, all of us have had many arguments with people and sometimes it gets heated[...]They say if I tell you, you go tell [the authorities], you know those kind of jokes I have with my friends.

Overall, the informants were aware that depending on how they projected their views on the island could affect their reputation and their sense of belonging. This awareness triggered some informants to be sensitive to, and aware of, how they expressed themselves and the types of behavior they choose to engage in. P8b, for example, a Dutch migrant, shares how she tries to be as considerate and respectful as possible towards local culture, precisely because she is aware of the way the community perceives some Dutch migrants:

P8b: We do that consciously and unconsciously. I think we create goodwill because we do what we do. With respect for the local culture, the language. A lot of people are joining us at the moment since 10/10/10, which I'm really ashamed of from the Netherlands. [...] And that respect is so important. I mean if you just get on respectfully with each other, you know, you can still have your differences.

She expressed her belief that consciously engaging with culture is beneficial, especially for non-locals, to improve the acceptance of, and support from, the community for her conservation efforts. She is also aware of how the new Dutch migrants moving to the islands after the constitutional reforms disrupted the acceptance of Dutch residents and the overall relationship with the Netherlands. This also has consequences for how she is seen and accepted within the local community as a Dutch woman and has heightened her need to be culturally sensitive. However, other (non-local) informants took a different approach, namely, not to engage in so-called sensitive areas of conservation to avoid conflict with the local community. P7 shared:

P7: I would say that we don't really have any kind of... disputes or difficult angles with the people because basically we don't work for example with fishery. So we don't even have any conflicts of interests. […] Or um...currently we're not working with sea turtles, for example. The sea turtles are very sensitive, and people are not harvesting them or anything like that. But let's say that we're more about setting the ecology, the biology of the island. So people actually perceive that as something very positive. Like ok, you're actually bringing knowledge to us […] And so I will say that we actually have a very good relationship with the community.

When I asked another local informant if it helps to be from the island when confronting people about their behavior, he shared:

> *P23: I think so. I believe so because listen. You can also have a person from wherever that doesn't understand the culture and brings across the message wrong. The road to hell is paved with good intentions.*

In response to the belief that conservation efforts would be accepted better by the community when coming from locals, several non-local conservationists who worked at an organization focused on nature conservation shared how they were eager to expand their team with locals. They believed this would help to make the connection with the community and thus increase the effectiveness of their conservation efforts:

> *P11: I think, ideally what I would like to see, is that our organization can build up sufficient funding. To the point where we can meaningfully and permanently employ more local people.*

This opinion was nuanced a bit by local conservation actors, however, who confirmed that it could work in your favor to include locals in terms of community acceptance. That being said, if the conservation efforts are not appreciated; for instance, by the implementation of restrictive measures, you will be confronted with a negative response from the community regardless:

> *P27: You know I know there is one lady that woks at [NGO] and because she is local people are more like "Hey! I know your father and your mother, you come from good people so I will listen to you at least." And it's probably the same with me you know, people will probably listen to me a bit longer than someone else. But you'll still hear it afterward.*

Moreover, he remarked that while involving locals can be beneficial for community support and achieving success with your conservation efforts, the real issue remains that it is not the locals who get the top positions in nature conservation organizations:

> *P 27: But of course, every director of the [NGO] has not been from Saba. and it's always seen as an outsider coming in to tell me what to do, or to tell us what to do. You know, for instance "don't fish here", "you shouldn't litter", "you should eat this", you have to keep this clean etc. You know, and it's always a foreign person saying it. Or even there is local people, but you look at the head of the organizations and not so much the soldiers. And that's what you see, a lot of push back against that.*

Lastly, P27 noted that being local does not necessarily make the conservation process easier. Instead, when I asked him if the community would better accept certain

regulations or ordinances if they were to come from a local, he responded that it probably has more to do with the approach. Specifically, if a person – regardless of their background – works with a group of people whose behavior should change, there will be a greater chance of success because the group's needs and concerns will have been directly considered rather than a person simply telling them what they cannot or should do:

I: So, it would be more accepted if you would take on that role?

P 27: Probably not, ha-ha. Because you tell them what they can't do. It's probably a bit more difficult to engage them. […] I recently met a lady. She was doing participatory research on sharks. And she had an interesting look on engaging stakeholders from the ground up. Especially those persons that you want to change the behavior. And it was just interesting to hear her perspective that you start to listen to them and gather their motivations and then see how you can work with the way they think to change their behavior. And that's what we have not done. We tried to change their behavior from our perspective, rather than their perspective.

Overall, the approach adhered to by conservation actors appears to be a bigger determinant for the acceptance by, and support from, the community for their efforts compared to being local or not. One informant explained why the importance of using the right approach is related to the small scale of the island and the constitutional reforms:

P9: You're trying to build a bond with the general audience around you. And especially on a small island, that's very important. Because that gives people confidence in you too. I think that's a basis to work here. To get something done, you have to gain that trust.

As he continued, he shared how he encourages new Dutch migrants to learn from, and adjust to, local ways before taking action, which is typical for small communities:

P9: And I also always say, sit back and observe for a year, and get to know people, and it's all about linkages, if you're good with, with one you can accomplish a lot, but if you don't, you know in advance that it's going to be stranded, you don't even have to put your energy in.

In sum, this sub-theme illustrates that while being local might be helpful for receiving support from the community, the most significant determinant for achieving support for conservation efforts lies in the approach used by the actor. Moreover, non-locals seem to have become more aware of the need to be culturally sensitive when conserving the environment since the constitutional reforms were implemented in 2010. This development has different implications for locals. On the one hand, locals might feel more inclined to take on environmental conservation tasks due to the outsiders'

dominant presence. On the other hand, precisely because of foreigners' dominant presence in conservation on the islands, locals might prefer not to engage. It can affect their reputation precisely because some conservation actions require a form of behavior that contradicts local cultural practices such as being confrontational. The small scale of the island creates an environment where everybody knows each other, and this further complicates locals' participation because situations where the confrontation with friends and family might occur are not uncommon. Overall, a culturally sensitive approach (acting local) seems to be the dominant determinant rather than being local or non-local.

3.3.2 Challenges Are my Motivation: Increasing Sense of Responsibility

Throughout the interviews, respondents shared the struggles and barriers they face when protecting the environment instead of just reflecting on their motives to engage in these conservation actions. When asked what kept them going despite all of the challenges, ultimately, all informants said something along the lines of:

> *P30: You ask why I keep doing this? It's not for the pay for sure, but you know it's, if I don't do it really, we'll go to hell. So somebody has to keep mopping with the faucet open. Otherwise, we're swimming!*

These statements showed that the barriers the informants encounter are, in fact, the reason why they feel inclined to take action. Despite the many challenges, the informants' sense of responsibility served as a critical driver for their continued attempts to protect the islands' natural environment. The informants felt that those who they believed are responsible for the natural environment were taking the wrong measures, and that they are not doing enough. When asked who the informants were referring to, the most common answer was "the government". Reasons mentioned for this failure to act on the part of the Dutch government ranged from a lack of interest or it not being a priority to a lack of knowledge of the islands' challenges.

> *P23: I mean with the whole garbage recycling plant; we have had major hiccups with that. We have tried to explain to the Netherlands, listen, be careful with this and that and other, and you know how the Netherlands is: wie betaalt bepaatt [who pays, decides]. And they are like no you need this burner, and you need this that, and the thing doesn't work always the way it should. So they need to listen to us also. And I see sometimes they hear us, but they don't listen.*

The island government, in contrast, was blamed for not taking any action at all. Informants expressed that short term economic needs received more attention than the environment and that local authorities are also reluctant to take action for more personal or relational reasons. Not only did conservation actors critique the government, but they also felt that some NGOs on the islands should be doing more:

P5: In addition, look, it is, it is internationally protected area, it is a Ramsar area, it is a wetland. The management falls under [NGO] but on the other hand I find that there is far too little enforcement. And all sorts of things are happening, that don't, well, just need to be addressed.

The same conservation actor stated that the local government does not take enough action and that the Dutch government is afraid to interfere because they do not want to come across as too dominant and colonial, confirming the island residents' negative sentiments:

P 5: Right now, they're very afraid to say anything about this kind of thing, because they are afraid to come across as being too colonial. [...] Actually, they don't want to burn themselves to it, they don't want to get involved.

Several informants expressed this frustration towards the government for not taking adequate actions. For example, a conservation actor reflected on the new form of governance and coalitions that arose after the constitutional reforms. According to her, the new government dismissed a long line of conservation work that had taken place on the island:

P30: The previous government it was fine but this government when in two years ago they are a party that was largely made up of [family names] related to a lot of fishermen, a lot of underprivileged people. I don't know if fishermen themselves are empowered to do what they wanted to do. And then when certain violations started to happen, a lot of the people that support and felt empowered to go and [protest]. And then when you get that in a public meeting, they are saying things like people should be able to take sand when they want to take sand and where they want to take sand and they should be able to fish where they want to fish and I go like woah. So that's like 15 years of 20 years of educating and compliance out the window.

This sub-theme also reflects the challenges of existing conflicts of interest in nature conservation and relates to the previously discussed theme "Nature Conservation is Political". As one informant shared, her frustrations about the government's choices to allow environmentally harmful practices to continue, her frustration grew as she remembered an earlier remark; namely, she is perceived as a nagging Dutch woman, while all she wants to do is conserve the environment.

P5: And I think they sold their island, and they're still selling it. They have that whole coast with that coral mining […] Huge trucks come crashing down, so much so that during a tour we can't understand each other. Just boom, boom. With big bulldozers, they're going to flatten that coast. [...] Permits are simply bought off and in that moment I'm like, yes, great, I'm makamba.

Her reference to being a nagging Dutch woman is part of her frustration regarding the island community's growing sentiment that all Dutch people are perceived as intrusive and not welcome, affecting her sense of belonging within the community. Earlier she had shared:

> *P5: And what I see a lot, and now again from that anti makamba policy. Yes, they say, they have it bad financially, there are many changes, the difference between rich and poor has also become much bigger, because you see those huge houses. All those Dutch people with their big mouths, and all those gated communities, those big cars. And, you know, all the things that you'd like to have, too, […], how frustrating. And in the meantime, someone's screaming less makambas, this. And do you think, oh yes, indeed, fewer makambas. So yes, you only hear, on the radio too, you're very much fueled by radio and newspapers. That, I always find that sad, yes.*

When asked why she continues despite all of these frustrations, she stated:

> *P5: Well, no, because then nothing would affect me, no. No, and it's important, and I can see it. Look, I guess my frustration is what drives me, too. If it doesn't affect you anymore then, uh, then, you're going to leave it at that. So as long as I'm still frustrated, then I have my ... then, I still have my drive, yes.*

In sum, none of the (legally) responsible parties do enough according to the informants. This increases their sense of responsibility to make an effort despite their challenges. The informants argued that the local government does not do enough because they want to avoid conflict in the community and focus more on economic development rather than nature conservation. The Dutch government does intervene but is not sensitive enough to local needs. The NGOs who are responsible for environmental management do not do enough, perhaps due to lack of capacity or a reluctance to enforce, all of which might be due to the small scale of the islands and the enforcers needing to confront people they know personally. Overall, frustration among the informants due to the authorities' lack of action served as extra motivation to actively protect the islands' natural environment.

3.4 DISCUSSION

I can summarize the outcome of my analyses into two main findings. The first is that the Caribbean islands' particular context does affect the conservation actors' motivations and behaviors. Second, the types of behavior the informants engage in, their reasons for doing so, and how this is affected or determined by the islands' societal context is interconnected and mutually reinforcing. The influence of the contextual factors I considered on conservation actors' motives and behavior were thematically coded and clustered into themes. During the interviews and analysis, it became clear that while

informants were asked about their efforts and what motivates them, most informants shared all the challenges they encounter or have encountered throughout their efforts instead. While these challenges likely explain the fact that relatively few people are actively and publicly engaged in conservation actions, for the group of conservation actors who informed this study it seemed as though the challenges served as an extra motivational factor to keep going.

The first main theme identified reflected the political nature of environmental conservation and management. Nature conservation is political all over the world, not just in the Caribbean Netherlands. Nevertheless, the Caribbean Netherlands' context does co-determine which debates are dominant or present in nature conservation on the islands. In particular, the dynamics of increased immigration from the European Netherlands and the complicated systems of governance had a pronounced impact. For example, in the sub-theme, "Conservation versus Development", informants referred to Dutch developers and how their neglect of local environmental policies is a reminder of arrogance that harkens back to how island communities were treated in colonial times. The second main theme identified captured the heightened sense of responsibility felt by the conservation actors due to lack or inadequate action taken by other (legally responsible) parties. I will discuss the two research questions introduced at the beginning of the chapter in the following section.

3.4.1 How Does the Political-Historical and Geographical Context of the Caribbean Netherlands Affect Conservation Actors?

In Figure 22 and 23, I summarize the implications of small scale and the constitutional reforms on the motives and efforts made to protect the environment mentioned by the informants. The first column presents the implications of small scale and islandness, and the constitutional reforms experienced by the informants as identified in the interviews. In the second column, I bring together the effects of these characteristics on informants' efforts to protect the islands' environments. As I discussed in the Introduction, the Caribbean Netherlands being "SIDS" and the (lead up to) the constitutional reforms that took place in 2010 present challenges and opportunities. This was experienced by conservation actors who participated in this study.

For example, in terms of the islands' small scale, the conservation actors repeatedly stated that knowing many people in the community at times created complicated situations when they were required to confront friends or relatives with their environmentally harmful behavior. Also, informants argued that the islands' small scale affects the (local) capacity to tackle environmental issues. However, the small scale and the Caribbean Netherlands' insularity also has benefits in terms of motivating residents to act. For example, due to the islands' small scale, the chances are that many people have left the islands for certain periods of time and experienced environmental conditions elsewhere. These experiences with different environments, environmental degradation, in particular,

inspired the actors to take action. Moreover, the small scale of the islands and the lack of capacity and resources are precisely what motivated many of the informants in this study to take on the responsibility to help protect the local environment.

Challenges and opportunities were also caused by (the events leading up to) the constitutional reforms. One of the biggest challenges was the islands' sentiment that foreigners dominate environmental conservation and that engagement in these activities can create sentiments of "re-colonization". Especially whenever locals and migrants are confronted with opposite ideals, such as non-locals forcing environmental conservation by demanding change in local cultural practices or non-locals claiming areas for development or conservation and removing access from locals. On the other hand, the presence of non-locals was also appreciated because they were seen to have helped in increasing local capacity and resources to conserve the islands' environment.

3.4.2 How Does this Context Affect the Relationship Between Belonging and Conservation Actors' Motives to Protect the Natural Environment?

The effects of the context on the relation between belonging and conservation actors' motives to protect the environment is twofold. In addition, the idea of being local is important to consider when examining these implications. As I pointed out in Chapter 2, according to my classification, the group of conservation actors who participated in this study are predominantly non-locals. Even though this distinction is somewhat arbitrary, being local or not does seem to have implications for how the island context affects the relation between belonging and nature conservation.

The first direction in which the context affects the relationship between belonging and conservation actors is that the actors' current sense of belonging or desire to belong in the community can affect their engagement in conservation actions and how they choose to do so. As I mentioned in the Introduction, the tensions among residents on the three islands are high, with an increasing number of (European) foreigners migrating to the islands. Also, there tends to exist a belief on the islands that protecting the environment is something mainly outsiders are concerned about. This belief motivates the local conservation actors who participated in this study to engage in conservation actions to ensure that locals do not lose all ownership over the environment to foreigners. On the other hand, it is also possible that precisely because of foreigners' dominant presence in nature conservation, non-locals will identify less with this behavior or deliberately choose not to get involved to avoid association with non-locals, which can hurt their sense of belonging.

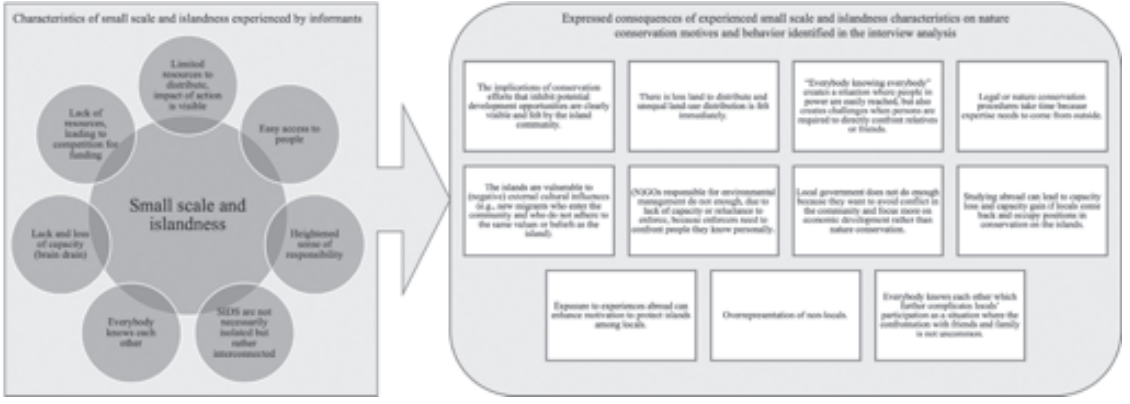


Figure 22. Summary of the Identified Characteristics of Small Scale and Islandness and their Impact on the Motivation to Engage in Conservation Actions.

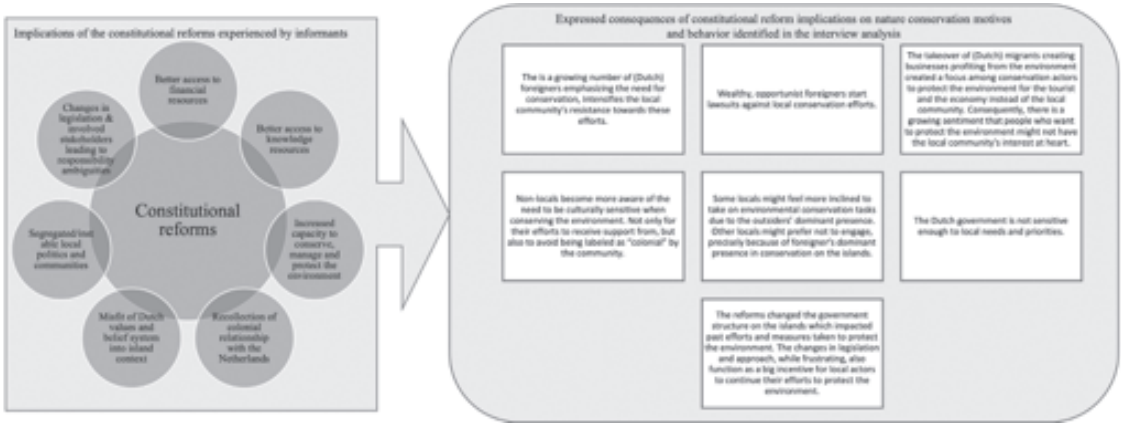


Figure 23. Summary of the Identified Characteristics of the Constitutional Reforms and their Impact on the Motivation to Engage in Conservation Actions.

Throughout my analysis, however, it was clear that being local or not (i.e., belonging or not) is one of the determinants for the kinds of conservation efforts informants engaged in and the approach they used. Some informants believed that locals are more likely to receive support from the community for their efforts than non-locals. However, my analysis showed that the approach adhered to – taking into consideration local cultural values and concerns or, conversely, not taking these into consideration – was a more significant determinant for the community's support than an informant's local or non-local status alone. Indeed, awareness of the islands' cultural sensitivities about the active or dominant presence of non-locals has been heightened since the constitutional reforms, and most of the non-local informants noted that they consider local culture and beliefs as much as possible in order to receive support from the community.

The second direction in which the context affects the relationship between belonging and conservation actors is that engagement in conservation actions can affect the sense of belonging of the community's conservation actors. Specifically, there was some evidence that engaging in conservation actions can affect a person's sense of belonging in the island community. Several informants shared the extent to which their conservation efforts benefit their sense of belonging within the community. One local informant, for example, shared how the community was praising him for his actions:

> *P19: I'm born here I know I have a lot of friends that I get after, but I grew up here. Most of them already know me, especially with the village I come from. […] And now the more people get to know me because I was in the media a lot of times in the past. I talk about the donkeys. I talk about oh what you want for the island. And then people oh, it's very good, no. And that way that I get involved a meeting a lot of people from the government, the commissioners. And now that I have a lot of friends that because of what I do.*

The experienced benefits to a person's sense of belonging also seemed possible for non-local conservation actors. For instance, P35, an American non-local, shared:

> *P35: I feel like I've always been very well accepted. I have even local politicians tell me I'm more Statian than they are because I'm so involved.*

These responses suggest that (some) informants experience a link between their sense of belonging and their conservation efforts. Specifically, they both felt that their efforts to protect the environment help improve their sense of belonging within the community. However, we also saw that their conservation actions led to experiences and feelings of exclusion among other informants. This was mostly the case when conservation actors engage in conservation behavior that can be perceived as unfavorable such as protesting against certain economically beneficial but environmentally destructive developments or placing restrictions on culturally sensitive behavior such as eating sea turtles.

Engagement in these types of behavior appeared to be harmful for their reputation within the community.

There was also some indication that informants allowed the possible repercussions of their engagement in conservation actions to affect their sense of belonging in the community, but this partially depends on how much these repercussions bother them. Conservation actors who were not concerned about their reputation acted according to their beliefs despite the possible consequences to their sense of belonging. In contrast, conservation actors who were more sensitive to possible repercussions would share their active consideration of cultural sensitivities related to nature conservation. When I asked another local conservation actor how he deals with people talking behind his back and whether that bothers him, he responded:

> *P27: Sometimes it's good, sometimes it bad. But at the end of the day I just do it because of my passion – because of what I love. You have critics and supporters, and you have to take the critics seriously and run on the support you have. And that's what I do. When it first begins, you question a lot. At the end of the day you realize, it doesn't matter what you do, you will be criticized.*

The seeming lack of concern expressed by local conservationists about the consequences for their reputation could imply that locals who actively engage in conservation actions on the island are not, or at least less, concerned about their reputation within the community than other locals who do not engage in conservation activities. This reasoning can also explain the apparent reluctance among other locals to engage in conservation actors actively. Specifically, locals who are concerned about their reputation might be less likely to engage in conservation actions as a means to protect their reputation. Overall, it seems that while being local might help for receiving support from the community, the most significant determinant of achieving support for conservation lies in the approach adhered to by the actor. As shown in the sections above, the influence of "notions of belonging" on the behavior and motives of the conservation actors is intertwined with the small scale of the islands and the experience of the constitutional reforms. Table 6 summarizes the implications of the context on the relation between belonging and residents' participation in conservation actions as seen throughout the analysis of the interviews. All conservation actors were aware of this dynamic to some degree, and this is affected by the small scale of the islands and the constitutional reforms.

Table 6. Summary of implications of the context of the Caribbean Netherlands on the relationship between belonging and (motives of) conservation actions.

Implications of the context of the on the relationship between belonging and conservation actions.
· Visibility of actions can affect reputation and sense of belonging in both directions
· Efforts to conserve the environment seen as "Dutch", leading to exclusion
· Non-local conservation actors, due to the colonial history of the islands, experience resistance from the community as their efforts are felt as too dominant or determining for the future of the island and then linked to sentiments of colonization (i.e., islanders losing control and ownership over their land).
· Affects approach adhered to and choice of conservation action engaged in
· Inhibiting actors from taking action
· Approach matters for acceptance of efforts
· Being local or not matters for acceptance of efforts
· The community rejects local conservation actors who protect the environment as the community feels they are not acting in favor of the community's economic needs.
· Loss of land ownership by locals can lead to rejection of conservation efforts. This has negative implications for the sense of belonging of non-local people engaging in conservation actions.

3.4.3 Differences between Islands

There are also differences between the islands and the manner with which the constitutional reforms affected their motives. Interestingly, the tensions between the growing European Dutch and American community appeared to be less of an issue on Saba because the foreigners are used to adhering to similar social norms related to the environment as the local community on Saba. The tensions created due to the Dutch government's dominant presence was expressed on all islands but seemed to be most dominant on Bonaire. This is in line with the fact that, indeed, the visibility of the Dutch government and community on Bonaire is the greatest compared to the other two islands. The governance of the three overseas municipalities is based on Bonaire and although there is a Dutch governmental presence on Sint Eustatius and Saba, the bulk of the administrative apparatus is to be found on Bonaire. While Saba is substantially smaller than Sint Eustatius and Bonaire, the challenges and opportunities induced by small scale were expressed in similar ways by conservation actors on all three islands. The analysis showed that role of the political, cultural, social, and historical context should not be underestimated or neglected. Specifically, the importance of certain motives is visibly influenced by the islands' small scale and the constitutional reforms that went into effect in 2010. This chapter also showed that notions of belonging significantly influence conservation actors' motives and behavior in the Caribbean. The next chapter will consider the relationship between the need to belong and people's motivation to engage in conservation behavior more in-depth.

Conservation as Integration: Need to Belong as Motivation for Environmental Conservation[1].

1 This chapter was co-authored with Dr. Henk Staats and published in Society and Natural Resources. Due to a strict word limit and limited number respondent in the BES survey study, Study One was omitted from the publication. Nevertheless, the findings of Study One do support the qualitative findings discussed in Chapter Three.

4.1 INTRODUCTION

The need to belong is one of the most important persistent motivations of behavior (Baumeister & Leary, 1995). The need to belong represents the need for "frequent, non-aversive interactions within an ongoing relational bond […] human beings have a pervasive drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships" (Baumeister & Leary, 1995, p. 497). Fulfilling this need gives people a sense of meaning and identity, strengthens their self-esteem, and overall well-being (Baumeister & Leary, 1995; Gabriel, 2021). One way to fulfill this need is to engage in pro-social behavior (Batson 1998; Nolan & Schultz, 2013). Pro-social behavior can be defined as "a broad range of acts, including helping behavior, altruism, cooperation and solidarity intended to benefit other people" (Cuadrado, Tabernero & Steinel, 2016, p. 1). One category of pro-social behavior that has received considerable scholarly attention over the past years is behavior intended to help preserve the natural environment (e.g., Bamberg & Möser, 2007; Clayton et al., 2016; Gifford & Nilson, 2014; Nolan & Schultz, 2013). Considering that trying to preserve the natural environment is generally seen as positive and encouraged by societies, the question arises if people also engage in efforts to conserve the natural environment to fulfil their need to belong. This chapter sets out to investigate this question.

Unlike Chapters 2 and 3, the current chapter presents a quantitative analysis of on online survey conducted on the Caribbean Netherlands and in the United Kingdom and requires an additional introduction as it was written from a "positivist" scientific perspective (i.e., quantitative environmental psychology) with specific merits and requirements. In addition to data collected among residents of the Caribbean Netherlands, it also includes data derived from an online database, Prolific, using a sample of residents from rural, isolated towns and villages in the U.K with populations below 50.000. The data is included for several reasons. First, the number of respondents to the online survey distributed on the Caribbean Netherlands was insufficient to conduct reliable statistical analyses. However, despite its limitations, the data did present interesting outcomes in line with the findings of the qualitative studies. As reviewers deemed the quantitative data insufficient for publication, several attempts were made to expand this dataset by means of replication studies. Initially, we attempted to conduct a replication study on the Dutch Frisian Islands (or Wadden Islands) as these islands share similar characteristics with the Caribbean Netherlands (small scale, small communities, semi-isolated, but still part of The Netherlands), but here too cooperation was insufficient. Therefore, we resorted to using a sample pool from an existing online database, namely Prolific. To ensure at least some similarities in terms of social context, participants were preselected based on several criteria. Lastly, as this chapter is co-authored with Dr. Henk Staats, we use the plural "we" rather than the first person "I" as I do in the rest of the thesis..

4.1.1 Belonging and Nature Conservation

There are several bodies of research that examine the link between belonging and environmental conservation behavior (Farrow, Grolleau & Ibanez, 2017; Hernández et al., 2010; Kollmus & Agyemen, 2002; Sloot, Jans & Steg, 2019). However, these are based on a different causal relationship between belonging and conservation behavior from the ones that we examine in this chapter. The existing work states that a feeling of belonging to a community may be a cause of engaging in pro-conservation behavior that has overall beneficial consequences for the community. We will argue that there is reason to expect that specific individual and social conditions may favor the execution of conservation behavior as a means to bolster feeling like a part of a community.

The main body of research underlying this idea involves intra-group dynamics and social norms. Previous research has shown that social norms affect many kinds of behavior, including conservation behavior: e.g., littering behavior (Cialdini, Reno & Kallgren, 1990), recycling (Burn & Oskamp, 1986); energy consumption (Schultz et al., 2007); and pro-environmental behavior, in general (Farrow, Grolleau & Ibanez, 2017). One reason people abide by social norms is to fulfill their need to belong (Cuadrado, Tabernero & Steinel, 2016). The need to belong makes people strive to build and maintain relationships with others and is related to people's adherence to group norms (Steinel et al. 2010). People also engage in conservation behavior to fit in when this behavior conforms to the social norms of the individual's reference group (Farrow, Grolleau & Ibanez, 2017). The influence of social norms on behavior is usually investigated on the level of specific significant social groups such as friends, relatives, and people living in the same neighborhood, as the consequences of nonconformity within these reference groups usually are clearer and more evident (see Festinger, 1954).

However, Culiberg and Elgaaied-Gambier (2016) found that the influence of social norms on both a specific (i.e., from relevant others like friends and family) ***and*** general (i.e., country) level can indeed affect people's engagement in environmental conservation behavior. Their findings imply that it is indeed possible that adhering to country- (or community-) level norms affect people's engagement in conservation behavior as the goal. This corresponds with the work of Delmas and Lessem (2014), who concluded that public information motivates consumers to engage in green behavior so that they receive the benefit of a "green reputation". The authors define public information as "information about a specific agent's behavioral impact that is publicly disclosed, allowing environmentally friendly behavior to act as a signal of "green" virtue" (p. 3). Public information is thus susceptible to the evaluation of others, which can impact the extent to which individuals are accepted, welcomed, or praised in a community which, in turn, affects their sense of belonging. Their study found that reputational benefits, i.e., society's positive assessment of a person because of their engagement in conservation behavior, can motivate people's participation in said behavior.

In sum, the literature we have discussed presents arguments for the proposition that people may engage in conservation behavior to fulfill their desire to belong to a community. However, we believe that this motive will primarily manifest itself as an explicit behavioral motive under certain conditions, as elaborated in the sections below.

4.2 CONSERVATION AS INTEGRATION, BUT ONLY IF...

4.2.1 Condition 1: Behavior is Visible to Other Members of the Community

Not every effort to protect the natural environment may be as effective for enhancing a person's sense of belonging. Conservation behavior for which this can be hypothesized to apply are publicly visible actions (Kollmuss & Agyemen, 2002). Examples of these are participation in clean up events, tree planting events, or nature awareness campaigns, and include political activities.

Because of their visibility to others, these actions are more susceptible to others' views and opinions within a community than private environmental behavior (e.g., reduced energy consumption in the home). Therefore, this may be a way to receive approval from the community and improve a person's sense of belonging. This is in line with Steinel et al. (2010), arguing that an effective way for peripheral group members to enhance their position within the group could be by publicly endorsing group norms. Hence, improving one's sense of belonging might function as a motive for engagement, especially for public actions. Moreover, in a recent study, Sparks et al. (2020) found that publicly visible environmental behavior has different predictors than private environmental behavior. Specifically, they concluded that respondents' environmentalist identity was a stronger predictor for public conservation behavior than a person's connectedness to nature, while the latter was the strongest predictor of private behavior.

This chapter focusses on behavior that can be classified as environmental conservation behavior in the public sphere. More specifically, we consider public actions with a collective impact on environmental issues, for example, actively participating in community conservation awareness events (Alistat & Riemer, 2015), from here on referred to as environmental actions.

4.2.2 Condition 2: The Need to Belong is Salient

We argue that the need to belong must be salient to act as a motive for engagement in environmental actions. It can become salient due to contextual, but also due to more personal factors. Regarding the former, the need to belong is often more salient in contexts where people are highly dependent on each other. This argument has been presented by Prezza and Costantini (1998) and later by Obst, Smith and Zinkiewics (2002) who argue that a smaller sized community can result in a stronger sense of belonging, ties,

support, influence, and interdependence. We agree, and reason that small, relatively isolated, communities are especially relevant to study this relationship. For one thing, people within these communities are more familiar with each other. Second, they are also more dependent on each other as external resources such as (social) services, food, supplies or materials, and income might be more challenging to come by. While being familiar with each other is not the same as being dependent on each other, it does increase the importance of belonging in relation to having a good reputation (being accepted, approved of, liked). Moreover, Kramer and Brewer (1984) demonstrated that belonging processes play a more prominent role when group identity processes are more salient. Specifically, they stated that "when belongingness is stimulated by making the group identity salient, people are more likely to restrain their self-interested tendencies and instead cooperate with others for the greater good of the group" (Baumeister & Leary, 1995 519).

Regarding personal factors, we expect the need to belong to be especially salient among people who feel they do not belong to the community. If people feel they do not belong to a group but have the desire to belong, they are more likely to engage in behavior that helps them to realize their currently absent sense of belonging (Steinel et al., 2010; Baumeister & Leary, 1995). Steinel et al. (2010), for example, found that the need to belong is especially important for people who occupy a peripheral position in their group. According to their research, peripheral group members only adhere to group norms when they have a strong need to belong. Building on these findings, we reason that especially for those who currently do not have a sense of belonging but have a strong desire to belong, doing something for the community to enhance their sense of belonging could be of great importance. Considering the importance of the natural environment for a community's well-being and the salience of the need to belong, engaging in activities that help protect the natural environment might be a good way to fulfill this need.

4.2.3 Condition 3: Behavior Is in Line with Social Norms

Regarding environmental actions that can help fulfil a person's need to belong, and when examining this need as a predictor for conservation actors, the discussed literature clearly suggests that this behavior must be visible to, and in line with, the reference group's social norms. Despite the positive connotation of environmental actions, protecting the natural environment is not necessarily the norm in all communities. It may even go against the ways people normally behave (e.g., Alisat & Riemer, 2015; Byrka, Kaiser & Olko, 2017). Therefore, it is important to distinguish between types of environmental actions that may be more or less in line with community norms. For example, protesting development projects that are harmful to the environment but beneficial for economic development might not be appreciated by all community members. The behavior selected to investigate the main research question reflects these considerations. We focus on environmental actions that aim to conserve environmental quality displayed in public, but that may

differ in local communities' acceptance. Actions that will generally be considered less controversial may be more instrumental in striving to fulfil a desire to belong.

Concerning social norms, we argue that the aforementioned considerations are especially prevalent among people who care about others' opinions. This factor has been operationalized as "reputational concern", meaning the extent to which people are concerned about their reputation. We consider this to be an important factor in our analysis as reputational concern derives from a social mechanism which is closely related to a person's sense of belonging (e.g., Cavazza, Pagliaro & Guidetti, 2014; De Cremer, 2002; De Cremer & Tyler, 2005; Pagliaro et al., 2016). As I mentioned previously, social norms are reliable determinants of conservation behavior and can affect people for different reasons, namely, people want to fit in and thus adhere to social norms, avoid social disapproval, or seek social esteem, to experience a sense of belonging. A person's reputational concern can be an indication of his/her sensitivity to certain social norms, which is a key determinant of the impact of a social norm on behavior (e.g., Bénabou & Tirole, 2006; Cialdini, Reno & Kallgren, 1990; Farrow, Grolleau & Ibanez, 2017). Therefore, we argue that the extent to which individuals are concerned about their reputation within their community may affect behavior that is significant for the group. This tendency may qualify the relationship between their desire to belong and their engagement in environmental actions.

4.3 OVERVIEW OF HYPOTHESES AND STUDIES

We expect that a stronger desire to belong to a community leads to more participation in environmental actions (hypothesis 1). We also expect that the effect of desire to belong on participation in environmental actions is stronger for those who have a lower current sense of belonging (hypothesis 2). Lastly, we expect that the effect of the desire to belong on participation in environmental actions is stronger for those who have stronger reputational concerns (hypothesis 3).

In this chapter, we present findings from two questionnaire studies performed in two different places that we deemed suited to test our hypotheses. Specifically, we focused on individuals residing in small and, to a certain extent, isolated communities. Study One took place on the three small Dutch Caribbean islands of Bonaire, Saba, and Sint Eustatius, also known as the Caribbean Netherlands, that have been studied in the rest of this dissertation. The initial observations suggesting this possible dynamic, based on qualitative data, were made on these islands; in other words, these islands inspired the research questions examined at greater depth in this chapter. Study Two focused on individuals residing in isolated communities in the U.K. This choice was made to see whether the dynamic investigated is indeed present within these argued optimal conditions. We included a more elaborate explanation in the Method section of the chapter.

4.4 STUDY ONE: A SURVEY IN THE CARIBBEAN NETHERLANDS

In terms of population, Saba (population circa 1900 anno 2019; 13 km2), Sint Eustatius (population circa 3.000 anno 2019; 21 km2), and Bonaire (circa 20.000 anno 2019; 288 km2) are the smallest of the six Dutch Caribbean islands. The small scale of the islands, their isolated nature, and their ecological vulnerability mean that environmental degradation is likely to be clearly visible. This can trigger the perceived need among residents to act. At the same time, small islands' limited but valuable environmental resources create competition for these environmental resources (Kelman, 2018; Polman et al., 2016). Due to the small scale of the communities, residents often know each other. This can create both benefits and challenges for a person's efforts to engage in conservation behavior (Polman et al. 2016).

It is also important to consider the fact that the three islands are "special municipalities" of the Netherlands and that there is a long and complicated colonial history that can relate to environmental conservation. Since 2010, the Caribbean Netherlands are now more intensively integrated into the Netherlands than ever before. The significant influx of Dutch bureaucrats and other foreign citizens has had a social and political impact. Complaints are often expressed about the loss of identity and culture, the influx of European Dutch citizens, and the fear that local islanders will have less to say about what happened on their islands (Veenendaal & Oostindie, 2018). Colonial history and the present constitutional imbroglio have also deeply impacted how many of the environmental challenges facing the islands are perceived and dealt with (Jaffe, 2016).

The pressing need to protect the environment of the Caribbean Netherlands on the one hand, and the changes within the islands' societies on the other, create an interesting context in which to further examine the relationship between belonging and conservation efforts. In addition, the small scale of the islands creates an environment where the conservation actors are easily targeted for praise or censure by the community, which can have consequences for one's sense of belonging. In other words, the implications of the constitutional reforms and the islands' small scale may affect people's sense of, and the salience of, their desire to belong. Engaging in activities that help protect the natural environment might be a good way to fulfill this need. Examples of these activities are participating in clean up events and the restoration ecosystems (coral reefs, forests), protection of endangered species, combatting invasive species, or recycling campaigns.

4.4.1 Method

An online questionnaire was developed and distributed through online social platforms, direct e-mails, and online news media among residents of the three Dutch Caribbean islands. The questionnaire allowed respondents to reflect on their motives behind their engagement in environmental actions in relation to their sense of belonging

within the community. Data was collected from June through September 2016. The survey sample was limited to residents of the three islands who had participated in environmental actions for a minimum of four hours over the previous six months. This low threshold was included to ensure that respondents had at least minimal experience with environmental actions and were, therefore, better able to reflect on their motives to engage in environmental conservation activities. Direct experience is generally considered the most powerful basis for behavioral beliefs and behavioral attitudes to be salient and influential in affecting behavior. This also goes for negative experiences, of course, possibly leading to more negative attitudes and a decision not to participate in such actions in the future (Fishbein & Ajzen, 2010; Staats, 2003). We approached respondents personally on the islands, and a request for participation was distributed through local (social) media.

Respondents and Procedure

Respondents resided on one of the three islands and were required to be eighteen years or older. Convenience sampling led to a sample of 42 respondents who completed the survey which was deemed sufficient for this first exploratory study. Respondents were informed that the purpose of this study was to understand why residents of Bonaire, Sint Eustatius, and Saba might be willing to protect the natural environment. Respondents were allowed to enter a lottery draw for one of five $50 prizes. All responses were treated confidentially.

Ethics statement. Consent of each respondent was given by virtue of survey completion. Anonymity of respondents was guaranteed.

Measures

For the initial development of the questionnaire, eleven conservationists in the Dutch Caribbean were interviewed. These interviews were intended to elicit readily accessible beliefs about behavioral outcomes, normative referents, and control factors concerning their conservation behavior. The final questionnaire was pre-tested with a small sample of twelve residents in the Caribbean Netherlands to identify unclear, repetitive, or poorly worded questions (See Appendix E for full online survey).

Demographics. Respondents were asked to report their age, gender, educational level, and length of residence. Demographic data was collected to provide a demographic profile of the respondents and to examine whether these variables explain differences in the behavioral and psychological measures.

Behavior measure. Environmental actions were measured with the Environmental Action Scale (EAS) by Alisat and Riemer (2015). The EAS consists of eighteen items that measure a person's engagement in public actions with a collective impact on environmental issues (e.g., "Participated in a community event that focused on environmental awareness").

The EAS has demonstrated validity and internal consistency (α = .92; Alisat & Riemer, 2015). For the EAS items, respondents indicated how often they engaged in the eighteen actions in the past six months on a five-point scale (0 = never, 4 = frequently).

A principal component analysis (PCA) with varimax rotation for the EAS scale was performed (Table 7). The PCA's interpretation suggested that the scale consisted of three components with an eigenvalue greater than 1.0, explaining 53% of environmental actions variance. The first component in the PCA of the environmental actions reflected involvement in creating awareness and educating others about environmental issues and was called "awareness actions" (α = .82). The second component reflected actions within governmental or political spheres and was called "political actions" (α = .75). Finally, the third component reflected engagement in protests and rallies and was called "protest actions" (α = .71). The items of each of the components were averaged to produce separate scores of the three categories of environmental actions.

Table 7. PCA factor loadings for the items of Environmental Action Scale Study One.

Item	Factor loading
Factor 1: Awareness Action	
Consciously made time to be able to work on environmental issues.	.71
Participated in nature conservation efforts.	.68
Used online tools to raise awareness about environmental issues.	.65
Participated in a community event that focused on environmental awareness.	.63
Helped to organize an educational event related to environmental issues.	.60
Helped to organize a community event that focused on environmental awareness.	.60
Talked with others about environmental issues.	.58
Educated myself about environmental issues.	.57
Factor 2: Political Actions	
Personally wrote to or called a politician/government official about an environmental issue.	.81
Financially supported an environmental cause.	.73
Used traditional methods to raise awareness about environmental issues.	.59
Became involved with an environmental group or political party.	.56
Participated in an educational event related to the environment.	.48
Helped to organize a boycott against a company or government engaging in environmentally harmful practices.	.47
Spent time working with a group/organization that deals with the connection of the environment to other societal issues such as justice or poverty.	.44
Factor 3: Protest Actions	
Helped to organize an environmental protest/rally.	.84
Took part in a protest/rally about an environmental issue.	.82
Helped to organize a petition for an environmental cause.	.71

N = 42

Psychological measures. Table 8 presents an overview of all psychological measures. Five behavioral belivef statements were included which reflect the *belief that respondents' engagement can improve their sense of belonging to the local community***.** These behavioral outcome statements served as a direct measure to test hypothesis-1 (α = .90). Respondents' *desire to belong* to the community was measured using responses to four questions, based on the "group opinion concern" measure from Beersma and Van Kleef (2011) and the "three factor social identity" measure from Cameron (2007). Items were averaged to create a "desire to belong" score (α = .76). Two measures of *sense of belonging* to the community were used. A single item measure asked respondents to rate the extent to which they considered themselves *local* on their island of residence. Because it is debatable if feeling local also reflects a sense of belonging, the Psychological Sense of Community (PSOC) scale (Jason, Stevens & Ram, 2015) was included. The PSOC scale consists of nine statements. The items were averaged to produce a single measure of the psychological sense of community (α =. 91). Lastly, we included two items to determine a respondent's *reputational concern,* derived from the "group opinion concerns" measure developed by Beersma and Van Kleef (2011)**.** The items were averaged to create a reputational concern-score (α = .74).

To test for the moderating effect of one's current sense of belonging on the relation between one's desire to belong and efforts to protect the natural environment (hypothesis 2), two interaction terms were calculated by multiplying the scores of the desire to belong measure with each of the sense of belonging measures (i.e., desire to belong*self-consideration; desire to belong*PSOC; desire to belong*reputational concern) (Field, 2013). The interaction terms were based on the mean-centered scores to increase the interpretability of the interactions.

Table 8. Overview psychological measures.

Measure	Items	Scale	α Study 1 – Caribbean Netherlands (N= 42)	α Study 2 – Rural U.K. (N = 399)
Behavioral beliefs	1. By actively protecting the natural environmental of [place], you get to interact with the community of [place]. 2. Actively protecting the natural environment of [place] helps to build social relationships with others from [place]. 3. Actively protecting the natural environment of [place] makes you feel included in the community of [place]. 4. Actively protecting the natural environment of [place] makes you feel more closely connected to the community of [place]. 5. Actively protecting the natural environment of [place] gives you the feeling you are part of [place].	1 =Strongly Disagree, 5 = Strongly Agree	.90	.94
Desire to belong	1. How much do you want to be a member of the local community of [place]? 2. How important or unimportant is it to you that the local community of [place] accepts you? 3. How important or unimportant is it to you that the local community of [place] has a positive evaluation about you? 4. How often do you think about being (or becoming) a member of the local community of [place]?	1 = not at all, 5 = very much	.76	.86
Sense of belonging (A)	1. Do you consider yourself to be a local of [place]?	1 = not at all, 5 = very strongly	-	-
PSOC	1. I think the local community of [place] is a good community. 2. I am not planning on leaving this local community of [place]. 3. For me, the local community of [place] is a good fit. 4. Residents of [place] can depend on each other in this local community. 5. Residents of [place] can count on receiving help from other residents if they need it. 6. Residents of [place] can safely share their opinions or ask for advice. 7. The local community of [place] is important to me. 8. I have friends in the local community of [place]. 9. I feel good helping the local community of [place] and the residents.	1= Strongly Disagree, 7 = Strongly Agree	.91	.90
Reputational concern	1. How much or little do you think about what the local community might think about you when you are actively protecting the natural environment of [place]? 2. How much or little do you take into consideration what the local community of [place] might say about you when you are actively protecting the natural environment of [place]?	1=, not at all, 5 = A great deal	.74	.76
Normative beliefs	1. Does the local community generally approve or disapprove of efforts to actively protect the natural environment of [place]?	1 = Completely disapprove, 5 = Completely approve.	n/a	-

4.4.2 Results

Socio-demographic Background of the Respondents.
All respondents were current residents on Bonaire (n = 22), Saba (n = 15) or Sint Eustatius (n = 5). The years of residence of respondents on these islands ranged from 0.58 to 59 years (M = 12.95, SD = 15.73). Compared to characteristics of the general population of Bonaire, Sint Eustatius, and Saba, respondents with a high educational level were overrepresented: 69% of the respondents indicated they completed their higher education (bachelor's degree or higher), compared to 18% of the total population (Central Bureau for Statistics, 2014). Respondents had a mean age of 43 years. All remaining analyses were conducted with the total sample of N = 42.[1]

Descriptive Results
Before testing the hypotheses, inter-correlations between the three environmental actions were explored. The means, standard deviations, and inter-correlations of the main variables are listed in Table 9. The three EAS subscales all correlate significantly with each other. Significant correlations are also found for the behavioral belief measure that engagement in environmental actions fulfils the need to belong. The belief measure correlates with the EAS political subscale ($r = .32$, $p = .04$), the psychological sense of community-scale ($r = .56$, $p < .001$), the desire to belong measure ($r = .49$, $p < .001$) and the reputational concern measure ($r = .43$, $p = .004$). Lastly, the desire to belong measure was significantly and positively correlated with the psychological sense of community-scale ($r = .46$, $p = .002$)[2], and the reputational concern measure ($r = .35$, $p = .025$). The former suggests that people with a strong sense of community also have a greater desire to belong within the local community. The latter suggests that perhaps those who have a strong desire to belong to the community are also more concerned about their reputation than those who do not have a strong desire to belong.

1 Due to the small sample size of the study, these measures were not included in the regression analyses. Moreover, no significant correlations were found between the demographic variables and the other measures included.

2 As the items of the desire to belong and PSOC measure shared some similarities and were strongly correlated (Study One $r = .37$, $p < .01$; Study Two $r = .68$, $p < .01$), we conducted a principal component analysis (PCA) with varimax rotation to see whether the two measures address the same or different concepts. The PCA identified two clearly distinct factors, including the items of the desire to belong scale, the other the items of the PSOC scale (see Appendix F for Study One and Study Two). Hence, we can conclude that the two measures indeed each address a unique concept.

Table 9. Means, Standard Deviations, and Inter-correlations for the EAS subscales, and all predictor variables Study One.

	N	M	SD	1	2	3	4	5	6	7	8
1. Behavioral belief Nature: to belong	42	3.8	0.95	1							
2. EAS awareness	42	3.3	0.89	.21	1						
3. EAS political	42	2.5	0.87	.32*	.53**	1					
4. EAS protest	42	2.0	1.01	.06	.78**	.41**	1				
5. Self-consideration as local	42	3.0	1.41	-.17	.03	.10	.14	1			
6. PSOC	42	4.7	0.95	.56**	.05	.16	.08	.10	1		
7. Desire to belong	42	3.1	0.85	.49**	.16	.25	.02	.20	.46**	1	
8. Reputational concern	42	1.7	0.82	.36	.06	.10	.08	-.21	.18	.35*	1

**. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Testing Our Hypotheses

This study's main purpose was to investigate if people engage in environmental actions to improve their sense of belonging within the local community. Initial support for this reasoning was found by looking at the mean scores of the belief that environmental actions contribute to a sense of belonging. Many respondents strongly agreed that this belief is a reason for them to engage (M = 3.8, SD = 0.95) in environmental actions. The absence of significant correlations between the desire to belong and the three EAS subscales suggests no direct relationship between these two variables, rejecting hypothesis 1.

To test for the moderating effects of belonging (hypothesis 2) and reputational concern (hypothesis 3) on the relationship between desire to belong and the extent to which people engage in environmental actions, separate hierarchical regressions were performed with the different types of environmental actions (awareness, political, and protest) as the dependent variables. The main effects were controlled for by entering the desire to belong measure, two belongingness measures, and the reputational concern measure at the first step of each analysis. The three interaction terms were entered at the second step (Table 10).

The regression analysis showed an interaction effect of desire to belong*considering yourself local for EAS Awareness (β = -.42, p = .012). The addition of the interaction terms to the equation explained 18.3 % of the variation in EAS Awareness, buy this change in R^2 was not significant (F (3, 34) = 2.62, p = .066).

We also found a significant effect of desire to belong*considering yourself local for EAS Protest (β = -.34, p = .047). The change in R2 for EAS Protest was not significant (F (3, 34) = 1,62, p = .204). No other effects were found, including effects for reputational concern (hypothesis 3).

Subsequently, simple regression slopes we calculated for self-consideration as local, divided into three groups, namely self consideration as local 'low' (n = 13; m = 1.23; sd = 0.44) selfconsidersation as local 'average' (n = 14; m = 3; sd = 0) and self consideration as local 'high' (n = 15; m = 4.53; sd = 0.52). The simple slope regression analyses indicated that desire to belong only has an effect on EAS Awareness if self-consideration as local is 'low' (*beta* = 0.63, $t(11) = 2.70$, $p = 0.02$)). There is no significant effect of desire to belong on the degree of EAS Awareness if self-consideration as local is 'average' (*beta* = -0.21, $t(12) = -.77$, $p = 0.46$)) or 'high' (*beta* = -0.19, $t(13) = -0.71$, $p = 0.49$)). The simple slope analysis for the EAS Protest shows no significant effects, but the trend is consistent with the findings for EAS Awareness. Namely, desire to belong only affects the extent of EAS Protest if self-consideration as local is 'low' (*beta* = 0.53, $t(11) = 2.07$, $p = 0.06$). There is no significant effect of desire to belong on the degree of EAS Protest if self-consideration as local is 'average' (*beta* = -0.18, $t(12) = -0.63$, $p = 0.54$)). or 'high' (*beta* = -0.31, $t(13) = -1.19$, $p = 0.26$)). In both instances where significant effects were found, the positive beta's imply that EAS awareness and EAS Protest increases under these conditions. In other words, this finding is in line with our expectations that desire to belong only is an (additional) driver for environmental actions if one does not consider oneself to be a local (i.e., the person's status within a community is not optimal).

Table 10. Hierarchical Multiple Regression Analyses Predicting Conservation Actions Study One

		Awareness				Political				Protest			
Step	Predictor variable	R^2	ΔR^2	Original β	Final β	R^2	ΔR^2	Original β	Final β	R^2	ΔR^2	Original β	Final β
1	Desire to belong	.03		.17	.10	.07		.20	.20	.04		-.10	-.16
	PSOC			-.03	.06			.05	-.12			.08	.13
	Self-local			.00	-.04			.06	.09			.18	.16
	Reputational Concern			.00	-.03			.03	.01			.14	.11
2	PSOC*Desire to belong	.21	.18		-.05	.18	.12		-.37	.16	.12		-.06
	Self-local*Desire to belong				-.42*				-.16				-.34*
	Reputational concern*Desire to belong				.19				.19				.15

N = 42; **. Correlation is significant at the 0.01 level (2-tailed). ;*. Correlation is significant at the 0.05 level (2-tailed).

4.4.3 Discussion of Study One

Based on the theoretical model we expected that a stronger desire to belong to a community translates into more participation in environmental actions (hypothesis 1). Initial support was found by looking at the mean scores of the belief that environmental actions contribute to a sense of belonging measure; however the absence of significant correlations and main effects in the regression analyses for desire to belong on the EAS behavior leads us to conclude that there is no direct effect of desire to belong on environmental actions. Based on these findings, we reject hypothesis 1**.** We did find some evidence for our hypothesis that the effect of the desire to belong is moderated by people's current sense of belonging (hypothesis 2)**.** Specifically, we found that the desire to belong is related to higher levels of engagement in conservation awareness and protest actions among those who do not consider themselves local. We found no evidence for hypothesis 3, namely that the effect of desire to belong on participation in environmental actions is stronger for those who have stronger reputational concerns**.**

We conclude that it is encouraging to find partial support for expectations that deal with phenomena that have hardly been investigated previously, even in an exploratory study. There is one important limitation: sample size. This limitation can affect the accuracy of our findings (i.e., increasing change of making a type-2 error) which in turn decreases the power of the study. We also did not explicitly control for or check whether the studied actions are socially approved by the island communities. However, the pattern of relationships suggests, as we expected beforehand, that less controversial actions may be better suited to fulfil the need to belong. Political actions, probably the most controversial form of action on these islands, did not show any of the hypothesized effects contrary to the other two forms. To overcome the limitations mentioned, we conducted a second study.

4.5 STUDY TWO: A SURVEY IN RURAL REGIONS OF THE UNITED KINGDOM

To further explore our hypotheses with a substantially larger sample, we conducted a replication study using the online database Prolific Academic (PA). We tested the same hypotheses as in Study One and included a normative belief measure to determine whether the community approves of the environmental actions we examined. While the historical context of the communities investigated in Study Two is widely different from the context that initially inspired the research question (Study One), we paid careful attention to the fact that certain contextual factors were similar. Specifically, we paid attention to the remote location and small scale of the communities in which the respondents reside and possibly participate in environmental actions.

4.5.1 Method

Respondents and Procedure

To mimic some of the characteristics and social dependency, within island communities (i.e., small scale, isolated, the familiarity of residents) as were present in Study One, respondents of Study Two were initially recruited using a pre-selection survey. This survey consisted of a few questions regarding residence and was sent to 2000 members of the PA database in the U.K.'s rural regions. Only respondents who stated they lived in a hamlet, a village, or a small town (< 50.000 inhabitants) were included. Based on these criteria, 504 eligible respondents remained out of the pool of 2000 respondents, of which 400 were requested to complete an adapted version of the Study One questionnaire. Respondents were informed that the purpose of this study was to understand the bond people have with the natural environment in their place of residence and to learn more about their views on protecting the natural environment within their place of residence. Respondents received payment for the completion of each survey according to PA's payment guidelines. All responses were treated confidentially. Ethical approval was granted by the Leiden University Psychology Ethics Committee on the 16th of December 2019, Application number: (CEP19-1125/559).

Measures

Where required, the measures used in Study One were adapted to better fit the context of the U.K. and are described in more detail below.

Demographics. Respondents were asked to report their age, gender, educational level, income, and length of residence. The educational level and income answer scales were adapted to fit the U.K. setting.

Behavior measures. The same EAS subscales as in Study One were created to ensure the two studies' outcomes' comparability. The "awareness actions" subscale yielded good reliability (α = .84), as did the "political actions" subscale (α = .81). Lastly, the "protest actions" subscale yielded acceptable reliability (α = .74). Like Study One, each of the components' items was averaged to produce separate measures of the environmental actions.

Psychological measures. The same set of psychological measures were used as in Study One, with two exceptions. First, the behavioral belief statements were slightly rephrased to ensure respondents would not feel offended or guilty if they had not actively engaged in environmental actions in the past. For example, instead of "*I actively protect the environment of [place] because it helps me build social relationships in [place]"* (as in Study One), the statement was formulated as: *Actively protecting the natural environment of [place] helps to build social relationships with others from [place]"*. Second, we included a single item ***normative belief*** measure to determine the extent to which respondents

believed their engagement in environmental actions would be approved of by the community (Table 11). Again, measures using more than one item were averaged to produce a single score, and all produced good reliability scores.

To test for the moderating effect of one's current sense of belonging on the relation of one's desire to belong and efforts to protect the natural environment, two interaction terms were calculated (i.e., desire to belong*considering yourself local; desire to belong*PSOC). The interaction effects between desire to belong and reputational concern were calculated to test the moderating effect of reputational concern on desire to belong and the efforts to protect the natural environment. The interaction terms were based on the mean-centered scores to increase the interactions' interpretability.

4.5.2 Results

Socio-demographic Background of the Respondents

All respondents (145 males, 254 females) currently reside in the U.K. On average, respondents lived in their current residence place for 16.21 years (SD = 14.29). Respondents had a mean age of 40.87 years (SD = 13.23).

Descriptive Results

Before testing the hypotheses, inter-correlations between the different types of environmental actions (awareness, political, and protest) were explored. The means, standard deviations, and inter-correlations of the main variables are listed in Table 11, including some demographic variables (age, level of education, gender, income, years of residence).

First, it is relevant to know if the respondents believe that their environmental actions are indeed approved of. We checked for this using the normative belief item. The high mean for this item (M = 4.01) indicates that most people believe engaging in conservation behavior is highly approved by other members of our respondents' communities.

Because we were interested to know whether people engaged in environmental actions to improve their sense of belonging within their community, we looked at the outcomes of the direct behavioral belief measure (i.e., the direct measure asking respondents if they protect the environment to improve their sense of belonging within the community). The relatively high mean score (M = 3.63, SD = .93) was similar to that of Study One and indicates that respondents generally believe that engagement in environmental actions is beneficial for one's sense of belonging in the community. The behavioral belief measure also significantly and positively correlated with EAS Awareness (r = .34, p <.001) and EAS political (r = .19, p <.001). These correlations suggest that people who believe that their efforts contribute to becoming a community member perform environmental actions more frequently. Significant correlations were also found between the behavioral

belief measure and desire to belong (r = .51, p <.001), suggesting that people with the desire to belong believe environmental actions can help fulfill their sense of belonging. Not surprisingly, all EAS subscales strongly correlate with each other.

The desire to belong measure significantly correlates with all behavior measures (rEAS Awareness = .40, p <.001; rEAS Political = .32, p <.001; rEAS Protest = .21, p <.001). These positive correlations imply that a stronger desire to belong is related to more engagement in environmental actions. This finding, combined with the significant positive correlation found between the desire to belong and the behavioral belief measure, suggests that people who want to belong to the community also engage in more environmental actions, *in line with our expectations related to hypothesis 1.*

Next, we looked at the correlations between the desire to belong, the two measures of sense of community, and the reputational concern measure to explore our second and third hypotheses. We found that the desire to belong significantly and positively correlates with the two sense of belonging measures (rSelf Local = .44, p <.001; rPSOC = .69, p <.001)[i], suggesting that people with a strong sense of community also have a greater desire to belong to their respective community. Lastly, we found a significant positive correlation between the desire to belong and reputational concern (r =. 52, p <.001). This suggests that greater concern about one's reputation is related to a stronger desire to belong to the community and provides some preliminary evidence that, indeed, the effect of desire to belong on environmental actions is moderated by one's reputational concern (hypothesis 3).

Table 11. Mean, Standard Deviations and Correlations Study Two.

	N	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Behavioural belief: protect nature to belong	400	3.63	.93	1													
2. EAS Awareness	400	2.00	.68	.34**	1												
3. EAS Political	400	1.40	.57	.19**	.77**	1											
4. EAS Protests	400	1.20	.52	.08	.54**	.77**	1										
5. Age	400	40.87	13.23	-.02	-.09	-.14**	-.09*	1									
6. Gender	400	1.64	.49	.07	.11*	.06	-.03	-.11*	1								
7. Education	399	4.29	1.26	.12*	.12*	.09	-.04	.09	-.11*	1							
8. Income	369	3.10	1.41	-.03	.08	.05	-.02	.06	-.03	.10	1						
9. Years of Residence	400	16.21	14.29	-.06	-.06	-.03	.01	.23**	-.05	-.06	.08	1					
10. Desire to belong	400	2.62	.94	.51**	.40**	.32**	.21**	.07	.06	.06	.09	.03	1				
11. Self consideration as local	400	3.33	1.27	.19**	.13**	.12*	.11*	-.03	-.06	-.11*	.13*	.45**	.44**	1			
12. PSOC	400	3.62	.79	.52**	.29**	.18**	.08	.10*	.02	-.00	.13*	.10*	.68**	.49**	1		
13. Reputational concern	400	2.00	.95	.27**	.31**	.32**	.25**	-.23**	.07	-.02	.07	-.06	.52**	.21**	.34**	1	
14. Normative Belief	400	4.01	.74	.34*	.13*	.01	-.05	.08	.08	-.03	.05	-.00	.35**	.21**	.47**	.11*	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 12. Hierarchical Multiple Regression Analyses Predicting Conservation Actions Study Two.

		Awareness					Political					Protest				
Step	Predictor variable	R^2	ΔR^2	Model 1 β	Model 2 β	Model 3 β	R^2	ΔR^2	Model 1 β	Model 2 β	Model 3 β	R^2	ΔR^2	Model 1 β	Model 2 β	Model 3 β
1	Age	.04**		-09	-.10	-10	.03*		-.14**	-.12*	-.11*	.01		-.11*	-.07	-.06
	Gender			.12*	.09	.11*			.06	.03	.04			-.04	-.06	-.06
	Education			.14**	.12**	.13**			.11*	.09	.09			-.03	-.04	-.04
	Years of Residence			-.03	-.02	-.03			.00	.01	-.01			.03	.02	-00
2	Desire to belong	.21**	.17**		.30**	.33**	.16**	.13**		.27**	.31**	.09**	.07**		.19*	.23**
	PSOC				.08	.09				-.05	-.06				-.12	-.15*
	Self-consideration as local				-.04	-.04				-.02	.00				.03	.05
	Reputational concern scale				.11*	.03				.17**	.08				.17**	.12
3	PSOC*Desire to belong	.26**	.04**			.01	.20**	.04**			-.08	.10**	.017			-.11
	Self-local*Desire to belong					-.02					.03					.05
	Reputational concern scale*Desire to belong					.22**					.23**					.11*

N = 399; **. Correlation is significant at the 0.01 level (2-tailed). ;*. Correlation is significant at the 0.05 level (2-tailed)

Testing Our Hypotheses

We conducted similar hierarchical regression analyses as in Study One to test the direct relationship between the desire to belong and engagement in environmental actions and the moderating effects of belonging (*hypothesis 2*) and reputational concern (*hypothesis 3*) on this relationship. We also entered age, gender, education, and years of residence at stage one of the regressions to control for possible demographic differences in environmental actions. Table 12 presents the full details of each regression model. The regressions' outcome is discussed separately for each behavioral outcome (EAS Awareness, EAS Protest, EAS Political).

EAS awareness. In the first step of the equation only gender ($\beta = 0.12$, $p = .017$) and education ($\beta = 0.14$, $p = .004$) contributed significantly to the regression model (F (4,394) = 4.30, $p = .002$) and accounted for 4.2% of the variation for EAS awareness. In step 2, desire to belong ($\beta = .30$, $p < .01$) and reputational concern ($\beta = .11$, $p = .042$) were found to be significantly associated with EAS Awareness. The additional proportion of variance explained by these variables in engagement in EAS Awareness actions was 17%. This change in R2 was significant, F (4,390) = 21.07, $p < .001$. Lastly, in the third step, the three interaction effects were added to the model. Only the interaction between desire to belong*reputational concern significantly affected EAS Awareness ($\beta = .22$, $p < .001$). Reputational concern no longer remained a significant predictor for EAS Awareness, but desire to belong did ($\beta = .33$, $p < .001$). The interaction terms' addition significantly improved the proportion explained variance by 4.3% in EAS Awareness, F (3, 387) = 7.50, $p < .001$.

Simple regression slopes were calculated to understand the nature of the interaction between reputational concern*desire to belong. To do so, reputational concern was split into two groups (reputational concern 'high' (n = 221; m = 0.69; sd = 0.71; reputational concern 'low' (n = 179, m = - 0.85; sd = 0.23)). The simple slope analysis for the EAS awareness showed that both in the case of high reputational concern ($beta_{\text{reputational concern high}} = 0.45$, $t(219) = 7.42$, $p < 0.001$) and in the case of low reputational concern ($beta_{\text{reputational concern low}} = 0.24$, $t(177) = 3.23$, $p < 0.001$) there is more engagement in EAS awareness if there is also a strong desire to belong. This effect is stronger for people with a high reputational concern than for people with a low reputational concern. This finding suggests that the effect of desire to belong on participation in EAS awareness is stronger among people with high reputational concerns compared to people with low reputational concerns.

EAS political. In the first step age ($\beta = -.14$, $p = .008$) and education ($\beta = .11$, $p = .037$) contributed significantly to the regression model (F (4, 394) = 3.13, $p = .015$) and accounted for 3.1% of the variation for EAS Political. The addition of desire to belong, the two sense of belonging variables, and the reputational concern variable explained a significant additional 12.6% of variation in EAS Political, F (4, 390) = 14.52, $p <$

.001. Again, both the desire to belong (β = .27, p < .001) and reputational concern (β = .17, p =.003) were significantly associated with EAS Political. Lastly, the three interaction effects were added to the model. Similar to the regression performed for EAS Awareness, only the interaction between desire to belong*reputational concern had a positive, significant effect on EAS Political (β = .23, p <.001). Desire to belong (β = .31, p <.001) remained a significant predictor for EAS Political, but reputational concern alone did not. The interaction terms' addition explained a significant additional 4.3% of variation in EAS Political F (3, 387) = 6.97, p < .001.

Again, simple slope analysis was conducted with the split reputational concern variable. For EAS political we found that only in the case of high reputational concern, desire to belong influences the degree of participation in EAS political actions ($beta_{\text{reputational concern high}}$ = 0.36, t(219) = 5.77, p < 0.001; $beta_{\text{reputational concern low}}$ = 0.11, t(177) = 1.52, p = 0.13). The positive betas suggest that EAS politcal increases if people are both concerned about their reputation and have a strong need to belong to the community. The main effect of desire to belong was no longer present.

EAS protest. The demographic variables entered in the first step of the equation appeared unrelated to EAS Protest behavior (F (4, 394) = 1.26, p = .286). The addition of desire to belong, the two sense of belonging variables, and the reputational concern variable explained an additional significantly improved model (F (8, 390) = 4.54, p < .001) and explained 8,5% proportion of variance in EAS Protest. Again, both the desire to belong (β = .19, p =.011) and reputational concern (β = .17, p =.005) were significantly associated with EAS Protest. Of the three interaction variables entered in step 3 of the question, only the interaction between a desire to belong*reputational concern had a positive, significant effect on EAS Protest (β = .13, p = .018). The interaction terms explained an additional 1.7% of EAS Protest variation, but this change in R^2 was not significant, F (3, 387) = 2.42, p =.066.

The simple slope analysis for EAS protest is consistent with the findings of the EAS political. Namely, only in the case of high reputational concern, desire to belong affects participation in EAS protest $beta_{\text{reputational concern high}}$= 0.22, t(219) = 3.28, p < 0.001; $beta_{\text{reputational concern low}}$ = 0.10, t(177) = 1.34, p = 0.18). The positive betas suggest that people's engagement in EAS Protest increases when they are both concerned about their reputation and have a strong need to belong to the community. The main effect of desire to belong was no longer present.

4.5.3 Discussion of Study Two

In contrast to Study One, we found that there is a direct effect of desire to belong on people's engagement in environmental actions (hypothesis 1). The significant, positive correlations and Betas for the desire to belong found in the second step of the hierarchical regressions imply that a stronger desire to belong relates to more engagement in

environmental actions. Moreover, this effect remained after adding the interaction effects into the regression (step 3) for the EAS Awareness and EAS Political Behavior scales. We also found that the effect of desire to belong on participation in environmental actions is moderated by a person's reputational concerns, confirming hypothesis 3**.** Specifically, the results of Study Two show that stronger reputational concerns in combination with a strong desire to belong relates to even more engagement in all three types of environmental actions. Finally, no evidence in Study Two was found that the effect of desire to belong on participation in environmental actions is stronger for those who have a lower current sense of belonging (hypothesis 2). This finding contrasts with the results of Study One.

4.6 GENERAL DISCUSSION

Given that the need to belong is an important motivator of behavior (Baumeister & Leary, 1995), we set out to investigate if engagement in conservation behavior is considered a means to integrate within a community. Of course, the intensity of this need can vary among people. Therefore, we looked at people's desire to belong which acknowledges that not everyone has an equally strong need to belong. We examined this relationship in two studies.

Despite the small sample size of our first study, we found that a person's desire to belong is related to more engagement in environmental actions only if they do not yet consider themselves to be local in the community. Study Two found evidence for the *direct* relationship between people's desire to belong and the extent to which they engage in environmental actions. While we cannot determine the causality of this relationship with our study and analysis, this finding does suggest that a stronger desire to belong might lead to more engagement in environmental actions, especially when people are concerned about their reputation. The reverse, performing environmental actions leading to a stronger desire to belong seems conceptually implausible. Apart from the findings in correlational analyses it was encouraging to see that respondents in both studies generally agreed with the statement that directly reflected our central research question, namely the idea that engaging in environmental actions can lead to a stronger sense of belonging in a community.

These findings strongly suggest that the effect of desire to belong on people's engagement in environmental actions is especially imminent when the need to belong is salient – either because people do not yet feel they belong to the community or because they are concerned about their reputation. These findings are in line with the argument made by Steinel et al. (2010) that mostly peripheral group members will adhere to social norms when they want to belong. They also support the body of work arguing that reputational

concerns are essential indicators of social norms' impact on people's behavior (Farrow, Grolleau, & Ibanez, 2017).

In addition, we found evidence for the direct relationship between people's desire to belong and their engagement in environmental actions. While our results are promising, we should contemplate why the two studies showed different outcomes.

First, it was very encouraging to find partial support in Study One for expectations that have been hardly explored in previous scholarly literature. The small sample size of Study One, however, could mean that the findings of Study Two are more robust. Despite the small sample size of Study One, we chose to include this study for several reasons. First, even with the small sample the analysis did show some support for the argued relationship we address with our research question. Second, we feel it is important not to rely solely on data from online data bases such as Prolific, as this too might affect the reliability of the research findings (Newman et al., 2020).

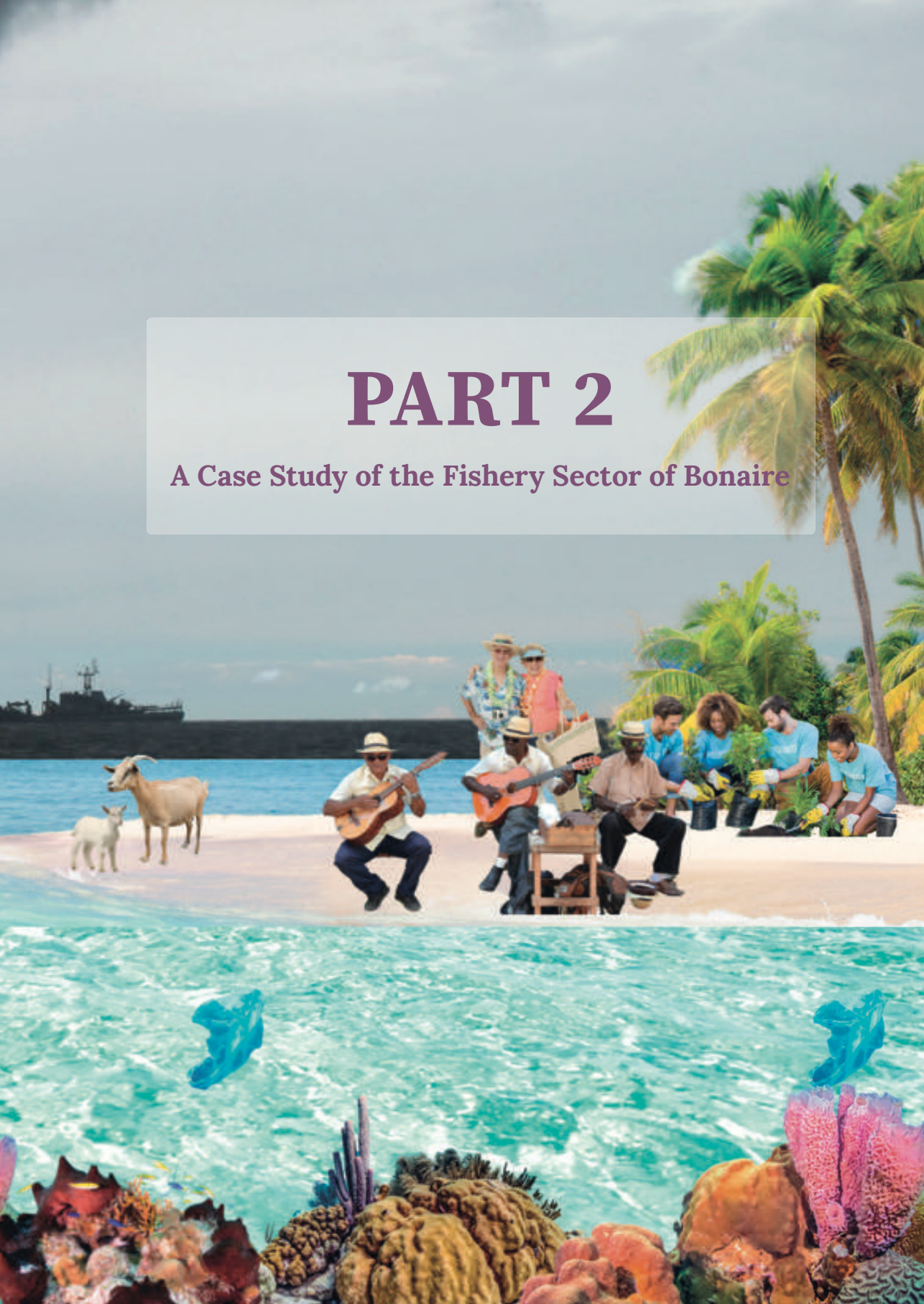
Another critical difference between the two studies explaining the different outcomes is in what socio-political context the studies took place. Even though we used some selection criteria to ensure some similarities between the two studies' contexts, the social context of Caribbean islands and that of remote, small communities in the U.K. are very different from each other. As we mentioned in Study One, there are ongoing tensions between residents on the three islands, with an increasing number of (European) foreigners migrating to the islands. This development has sparked debates on the islands about who is local (who belongs) and who is not. Therefore, it makes sense that residents' behavior on the islands is more strongly affected by their considerations of being local or not. Considering there is less polarization in the U.K. context than the Dutch Caribbean context, this contextual difference may explain why we found evidence for our second hypothesis in Study One but not in Study Two.

Finally, it should be noted that we focused on publicly visible actions, and for good reasons: behavior displayed in public should be a more effective lever to create social bonds. However, even within the category of publicly visible actions, relationships appear to be different. The EAS Awareness actions' effects were more substantial than the effects for EAS Political and Protest actions. This finding could mean that EAS Awareness actions are generally more accepted and supported by the community and thus believed to be better able to fulfil a person's need to belong. This idea could be expanded to include other conservation behavior focused on the household but may have more or less visibility. For example, installing solar panels has high visibility compared to other indoor actions like reducing shower time. It would be interesting to see whether these kinds of actions are also considered helpful in creating bonds in a community and are performed for that reason. Sloot, Jans and Steg (2019), in fact, concluded in an extensive study that compared to financial motives, communal (social) and environmental motives

were more important drivers for participation in communal energy initiatives, which are themselves a type of public environmental action.

These are questions for the future and the research could be perfected further by using other measures than self-reports of behavior such as observations or statistics on organizational memberships. A truly valuable next step would be to conduct (field)-experiments to assess the causal direction of the relationship between the desire to belong and conservation behavior with more certainty than is possible with correlational findings.

Despite these limitations, the current study provides directions for mobilizing people to protect the natural environment in small communities. This research can inform planners, immigrant associations, and other community organizations that aim to integrate people within a community. In conclusion, the current study complements existing knowledge that people engage in environmental actions not only out of a concern for other people, species, or ecosystems (Bamberg & Möser, 2007) but that one's desire to belong can also be a motive for environmental actions.



PART 2

A Case Study of the Fishery Sector of Bonaire

On the 6th of October 2017, a couple of days after my arrival on Bonaire for my collaboration with the World Wild Fund for Nature of The Netherlands (WWF-NL), it was time for me to meet the fishers. My two new colleagues from WWF-NL and I decided to stop by one of the main fishing piers, Playa Pabou, in the capital of the island, Kralendijk. I was nervous about meeting the fishers — I had heard rumors about how closed off they were and how they were reluctant to talk with researchers, people from nature organizations, or the government. I was also made aware they were angry at the government and ENGOs.[12] How unfortunate that the three of us represented each of these parties: I, myself, a researcher, two representatives of WWF-NL, one of whom was still known from his time as a civil servant at the fisheries department for the Caribbean Netherlands, a department of the government of the Netherlands. This WWF-NL representative initiated the conversation with the fishers because he knew several of them already. I waited until they approached me on their own initiative and chose to listen to their experiences first. While talking with the fishers, we learned that just a few days before they were confronted with a recently enforced regulation that directly affected them. It appeared that restaurants were inspected and given a warning that they were no longer allowed to purchase, prepare, or sell a series of protected species of fish listed in the Island Decree Nature Management Bonaire A.B. 2010. The fishers were angry because they believed that the species of fish included on the list was flawed. "E hendenan di STINAPA no sa nada!" ["Those people from STINAPA know nothing!"]. Using the momentum created by this meeting, we proposed to them the idea of re-establishing a fishery cooperative through which fishers could be better represented and included in management decisions and could be consulted about the changes that were unavoidably going to take place now that the government of the Netherlands has become directly responsible for the fishery sector. Slowly, more fishers started to join the gathering, including fishers who had previously made attempts to organize themselves get themselves included in management efforts. Suddenly, it seemed, my project for WWF-NL changed from only interviewing individuals involved in fishery management into a mission to establish a fishery cooperative on Bonaire. I was happy with this development as I was not looking forward to being just another researcher collecting and recording the frustrations of the fishers, which would be highly unlikely to lead to change. Besides, according to previous studies, better involvement of the fishers in management efforts should lead to the success of the overall management of the fishery sector.

This vignette describes the moment I was first introduced to Bonaire's fishers during my three-month long collaboration with WWF-NL. WWF-NL has worked on Bonaire, Saba, and Sint Eustatius for many decades but, like the government of the Netherlands, took on a more prominent role in conservation efforts on the three islands since the constitutional reforms in 2010. As WWF-NL learned about the difficulties present on the islands regarding the fishery sector, it also became more involved in attempting to realize sustainable fisheries management on the islands. Aware of the fact that managing

12 Environmental Non-Governmental Organizations.

the fisheries sector is as much a social as an ecological issue, WWF-NL asked me to identify the social bottlenecks at play and to come up with solutions for these holdups. This collaboration provided the perfect case study of Bonaire's fishery sector to answer and illustrate the main research question of this dissertation, namely how environmental management is affected by notions of belonging, small scale (or islandness), political change, and the (post-)colonial historical and governmental contexts on a broader societal as well as on a personal level. The anecdote already hints at this, illustrating the tensions that exist between different stakeholders affected by or concerned with resource management, their differing perspectives and concerns, and how these are (partially) amplified in the context of the constitutional reforms.

Bonaire's fishery sector is best described as small scale, artisanal, low value, multi-species in which little development or growth has taken place over time. Despite its relatively low economic value it is accorded great cultural value on the island. Over the years, the sector has become increasingly visible from a nature conservation perspective, because fishing and related activities take place in the marine area which, as a resource, is one of Bonaire's biggest economic, and tourist assets. While most natural resources are challenging to conserve and manage, the marine environment from the perspective of fisheries presents a particularly complex set of ecological and social management challenges.[13] The small-scale fisheries sector of Bonaire is faced with both global and

13 Ecologically, (small-scale) fisheries face a series of growing threats, including overfishing, competition with industrial fleets, water pollution, destruction of fish habitats, and an increasing human population and demand for land in coastal areas (Tietze, 2016; Debrot, Henskens, & Verweij, 2017). These pressures affect the health of the marine ecosystems and their resilience to effects of climate change, which eventually negatively affects fisheries and other users of the sector. These ecological pressures are coupled with a series of social (psychological) and practical challenges. Namely:
(1) that fishery is a zero-sum game, meaning one person's gain is equivalent to another's loss;
(2) the marine resource has multiple users with different or competing interests and different impacts on the resource;
(3) the ocean is a vast resource with difficult to define and boundaries, which complicates enforcement. Not only are boundaries difficult to adhere to without the necessary equipment, the areas are so vast that round the clock enforcement is not practically manageable;
(4) there is still a lot of unknowns globally and locally both in terms of catch, available stocks, and fishing activities taking place. This makes it difficult to determine and implement effective and necessary measures;
(5) accurately acquiring the necessary data is labor intensive and expensive, and requires a lot of infrastructure which is difficult to realize on small islands with dispersed landing sites. Especially in the case of a low value of fisheries sectors, such as on Bonaire, the sector itself rarely provides the (financial) resources (to the government) required for proper management;
(6) even if registration of catch landings is mandatory and regulated, it is common for fishers, customs, and fish industries to tamper with this data;
(7) fisheries management requires a lot of collective regional and global effort to manage. This also touches the (historic and contemporary) debates of fairness or justice in terms of who causes the most damage versus who faces the hardest direct consequences of implemented management measures;
(8) there is increased involvement of the government both on a local and global level taking away authority, control and ownership from fishers and other resource users. While in some cases this can be desirable development, it can also lead to social struggles when fishers do not agree with the measures taken by the government (d'Armengol, Castillo, Ruiz-Mallén, & Corbera, 2018; Donda, 2017; Bavinck, Jentof, & Scholtens, 2018; Coglan & Pascoe, 2015; Salas, Barragan-Paladines, & Chuenpagdee, 2019).

context specific challenges. The question that I will address in this section is: *how are the "universal" management struggles of Bonaire's fishery sector affected by the three factors central in this dissertation, namely small scale, the constitutional reforms of 10/10/10, and notions of belonging?*

To answer this question, I conducted three months of fieldwork on Bonaire. What was supposed to be a commissioned study consisting of a series of interviews with key stakeholders within the fishery sector, turned into a participatory action research, which resulted into the establishment of the first successful fishery cooperative on Bonaire. The idea for establishing a fishery cooperative was the result of the repeatedly expressed need by informants in preliminary interviews to involve fishers in the management process of the fishery sector. Many local stakeholders, including representatives from the Dutch government and public entity of Bonaire and ENGOs who worked with the fishers in the past, argued that this was a necessary measure to improve the existing management efforts of Bonaire's fishery. Specifically, the idea of decentralizing fisheries management and moving them towards what are known as co-management strategies by means of a fishery cooperative was argued to be favorable for Bonaire's fishery sector, as I discuss in-depth in Chapter 6. For the purposes of this dissertation, fisheries management refers to "the integrated process of information gathering, analysis, planning, consultation, decision-making, allocation of resources and formulation and implementation, with enforcement as necessary, of regulations or rules which govern fishery activities to ensure the continued productivity of the resources and the accomplishment of other fishery objectives (Cochrane & Garcia, 2009, p. 2).

Co-management is defined as a form of management wherein the responsibility for the management of a resource is shared between the government and other users. It had been argued to be an ideal solution for fishery management on Bonaire. Indeed, there have been some forms of co-management of the fishery sector of Bonaire for many years, including prior to 10/10/10, which I elaborate on in more depth in Chapter 5. However, despite many attempts, up until 2017, the fishers as the main stakeholders have not been sufficiently, structurally, or effectively included in the management process. Past co-management efforts of Bonaire's fishery sector targeting the inclusion of the fishers experienced many setbacks and failures. Nevertheless, at the time of my fieldwork, there was a strongly held belief among governmental officials, local ENGOs, fisheries legislation enforcers, and local marine scientists who had worked with Bonaire's fishers for many years that including the fishers in the form of a fishery cooperative could serve as the "silver bullet" for resolving the existing social management struggles within the sector. However, as Pomeroy and Williams (1994) argued, co-management should not be seen as a "panacea" for fisheries. Effective co-management requires a lot of work and time to establish and does not guarantee success (Pomeroy & Williams, 1994; Kraan et al., 2014). In fact, according to many practitioners and scholars, effective co-management can only be achieved under a series of specific conditions which I present below with

an eye towards providing contextualization for my description and analysis of the establishment of the cooperative.

As I will discuss in more detail in Chapter 6 many scholars include Ostrom's (1990) design principles for Common Pool Resource (CPR) management to analyze socio-ecological systems throughout the world, including co-management of fishery. Thus, I build on earlier work in which (adapted versions of) Ostrom's design principles were used to analyze fisheries management (Cinner, Wamukotal, Randriamahazo & Rabearisoa, 2009; Yandle, 2003; Levine & Richmond; 2015; Napier, Branch & Harris, 2005; Trimble & Berkes, 2015; Pomeroy and Williams 1994; Partelow, 2015; d'Armengol et al., 2018). I will use the principles of Ostrom as an analytic framework to understand the establishment of the fishery cooperative that came to be called PISKABON. The goal of this analysis is two-fold: to utilize the design principles to assess the likelihood that a fishery co-management program, set up through the establishment of a fishery cooperative on Bonaire, will have a successful outcome; and to develop recommendations for Bonaire's fishery management landscape for developing fishery co-management programs and policies on Bonaire's fishery in the future. The novelty of this analysis lies in the context in which these are applied, namely one where there are visible tensions in terms of non-sovereignty, belonging, and islandness/small scale.

OUTLINE

In Chapter 5 I start by describing Bonaire's fishery sector and its management efforts through time. I then identify and explain the factors holding effective fishery co-management back and, thereby, limiting the willingness of fishers to participate in environmental protective efforts on Bonaire. While this chapter is by no means an historical study of Bonaire's fishery sector, it is important to address some key past events that have shaped the sector as well as the perceptions and attitudes of stakeholders and the general community towards it. Moreover, it provides a first insight into the impediments to Bonaire's fishery management, and illustrates the process of decentralization of the management regimes, while also showing the insufficient inclusion of the fishers in past management efforts. In this chapter, I address the following research questions: *Who are the fishers of Bonaire and what does Bonaire's fishery sector look like? How has the sector been managed through time? How has this affected the role of the fishers in management efforts?*

This is followed by a description of my participatory action research with the fishers of Bonaire and the establishment of the first successful fishery cooperative, PISKABON, in Chapter 6. Through this narrative, I further identify and provide explanations for the (social) struggles and barriers presently blocking effective management of the sector. Here I address two research questions, namely: 1) *Can a fishery cooperative help resolve the existing (co-)management challenges present in the fishery sector of Bonaire?* 2) *How*

is Bonaire's fishery co-management strategy, as manifested through a fishery cooperative, affected by notions of belonging, the small scale of the island, and the constitutional reforms of 10/10/10? I bring this third section to a close in the discussion, where I reflect on how and why current policy and approaches to fishery management do (not yet) meet the requirements to achieve effective co-management of the fishery sector. Here, I analyze the co-management strategies applied to Bonaire's fishery sector against the CPR principles, which leads me to answering the question: *do the fishery co-management strategies on Bonaire adhere to the CPR design principles*?

The Fishery Sector of Bonaire and its Management Through Time..

The industrialist was horrified to find the fisherman lying beside his boat, smoking a pipe.
"Why aren't you fishing?" asked the industrialist.
"Because I've caught enough fish for the day."
"Why don't you catch some more?".
"What would I do with them?"
"Earn more money. Then you could have a motor fixed to your boat and go into deeper waters and catch more fish. That would bring you more money to buy nylon nets, so more fish, more money. Soon you would have enough to buy two boats, even a fleet of boats, then you could be rich like me."
"What would I do then?"
"Then you could sit back and enjoy your life."
"What do you think I'm doing now?"
--
From "Timeless Simplicity" by John Lane.

5.1 INTRODUCTION

While there never has been a true fishery industry on Bonaire, the island has a long-standing history of fishing. Through the years, several attempts have been made to manage the sector by the island government, the government of the Netherlands Antilles, and post 10/10/10, the Dutch Ministry of Agriculture, Nature and Food Quality. There has been an ongoing awareness of fishing's socio-economic and cultural value as well as the impact that fishing and its related activities have on the natural environment. In order to understand current management struggles — specifically regarding the inclusion of fishers in decision and policy-making — that are present in the fishery sector, it is of importance to know what the sector and its management looks like. Therefore, I answer the following research questions in the current chapter: *Who are the fishers of Bonaire and what does Bonaire's fishery sector look like? How has the sector been managed through time? And how has this affected the role of the fishers in management efforts?* This extensive description reveals why fishers feel excluded from management efforts of the sector.

The current chapter is based on archival and online documents as well as data collected through interviewing key stakeholders of Bonaire's fishery sector and my own field experiences. To gain some insights in the past management efforts and development of the sector, I consulted (online) archival resources of the government of the Netherlands and the public entity of Bonaire, in addition to scholarly reports and articles. While quite a few studies have been conducted on Bonaire's fishery sector, there is still very little historic statistical data available of Bonaire's fishers and the sector (e.g., number of fishers, catch landings, number of boats, and the economic value of the sector). The lack of a systematic record of fishery statistics makes it difficult to gain insights into the changes of the sector over time. Hence, the accuracy of the numerical data presented in

the current chapters is not completely guaranteed. Moreover, because the "historic" data are primarily based on documents written by governmental officials (policy briefs, plans, and evaluations) the information presented should be interpreted with caution, especially when trying to draw conclusions regarding the success (or failure) of management efforts.

Furthermore, it was difficult to retrieve "objective" information on past management efforts, as all stakeholders tend to have unique experiences of these processes and, at times, conflicting interests in how they are recalled, due to their own involvement.[14] Nevertheless, I tried to gain some insights into these processes by means of interviews with key stakeholders who are or have been involved in fishery management efforts on Bonaire. These stakeholders included government officials, marine scientists, (past) marine park managers, marine park rangers, and representatives from other ENGOs on the island. During the interviews with key stakeholders, I focused on several topics, including the importance of Bonaire's fishery sector for the island, views on past, current, and planned management efforts of the sector, and the roles and responsibilities of the various marine resource users regarding its management. Initially it was also my intention to conduct extensive interviews with fishers, but I deviated from this plan for several reasons. First, fishers have been interviewed and consulted by many researchers in the past. I learned that they had become wary about collaborating with researchers as they felt the outcomes of the studies were not to their benefit. Instead, I used data collected from previous researchers to gain some insight into perceptions of fishers rather than bothering them with another long list of questions. Second, I retrieved extensive information from the fishers through my work with them on the fishery cooperative PISKABON, which will be described more in depth in Chapter 6. Moreover, during my fieldwork on Bonaire, I collaborated with Franklin "Boi" Antoin, a well-known local historian. He learned about my work with the fishermen and invited me to join him on a series of interviews with fishers he was conducting himself for a documentary he was working on. This gave me unique unobtrusive access to the fishers, as fishers were usually honored to be interviewed by Franklin and not afraid or suspicious to share their experiences with him.

In the following sections, I will first discuss the historic development of the sector and its cultural and economic value. Next, I also describe the challenges the fishery sector currently faces and how fishers and other stakeholders perceive these challenges. This is followed by a description of management efforts prior to the constitutional reforms and then post constitutional reforms. While I will discuss some significant changes between these two periods, I should emphasize that there is no immediate and clear-cut change after the symbolic date of 10/10/10, because a lot of what is happening today was already being developed in the period leading up to the 2010 reforms. In fact, the institutional

14 That is not so much between individual respondents but more the case between the different types of stakeholders, e.g. the government versus NGOs.

and legal framework of the fishery remained quite similar after the constitutional reforms, as they built on the framework that was already put in place. Nevertheless, the division of time before versus after the 10th of October 2010 does provide an important marker as the symbolic date is used as an easy way to refer to the ways management efforts are perceived by the island community. The description of past and more recent management efforts does hint at the challenges the fishery sector of Bonaire faces in terms of management. It also explains why many stakeholders feel that co-management is necessary to overcome these challenges, which I discuss in the conclusion.

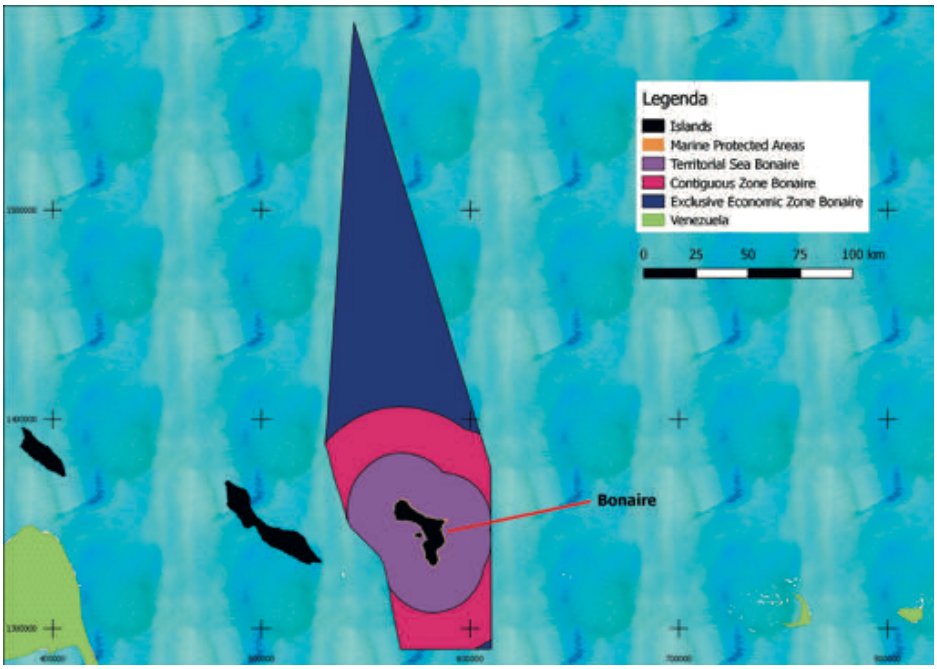


Figure 24. Marine Limits and Boundaries of Bonaire (Credit: Tim van Wagensveld)

Before delving into an historic description of Bonaire's fishery and their management, however, it is important to provide some context on the physical scope of the sector. In Figure 24, the jurisdictions of the water zones of Bonaire are depicted. Most of Bonaire's fishing activities take place within the boundaries of the marine park (i.e., shore based fishing) and the territorial waters (boat based fishing). This image illustrates several important elements that are important for understanding the challenges of fishery management. First, it makes it visual that in contrast to the small size of Bonaire, the government is responsible for a very large area of water that requires management. Thus, a great deal of resources are needed to be able to management it effectively. It also shows how the waters of Bonaire are adjacent to the water zones of Curaçao and Venezuela. This helps to explain the close interaction between Bonaire's fishery and Curaçao and Venezuelan fishers. Lastly, while the boundaries are clearly identified and visible on

this map, these boundaries are not physically visible and are prone to be disregarded by fishers and other resource users. With this in mind, I will now move on to the historical overview of Bonaire's fishery sector.

5.2 BONAIRE'S FISHERY SECTOR AND ITS FISHERS: AN HISTORICAL AND CULTURAL OVERVIEW

I arrived on Bonaire in a hurry; I took an earlier flight from Curaçao to Bonaire when I heard the monthly *Marshe di Kultura* (cultural market) organized by Mangazina di Rei — a cultural center based in the old village of Rincon — was themed around Bonaire's fishers and Bonaire's bond with the ocean. There was going to be a demonstration of traditional boat building as well the preparation of several kinds of locally caught fish. While enjoying samples of the different deep-fried fish, I took the opportunity to talk with some locals about the island's fishery sector and was directed to several well-known fishers who were attending the demonstration.

At the cultural market, it was again emphasized that fishing has always been one of the main ways of making a living on Bonaire. Even today, legacies from the Amerindian period (Haviser, 1991), form part of Bonaire's culinary heritage and connection to the sea. Fishing has provided an important source of food for residents throughout the centuries, but never developed into a true industry for the island (Hartog, 1975; Anon, 1953; Wit, 1951). There have always been several (professional) fishers, and in 1975 about 6% of the working population was employed in fishery or agriculture, often in both (Hartog, 1975). While there are no official numbers, it is estimated that Bonaire currently counts approximately twenty full time fishers and dozens of part-time fishers (Pakus en Wayaka Advies, 2014).

Despite there being little historical literature or statistical data available on the fishery sector of Bonaire, the historic and cultural value of fishers of Bonaire is highly visible on the island. That fishing is one of the oldest professions of Bonaire is common knowledge among the residents. One story shared with me on various occasions by many respondents was about how in the past there were three professions on Bonaire for (lower educated) men: carpenter, mason, or fisher. Fishers are celebrated yearly during the festival of the "Virgin of the Valley" (*La Virgin del Valle*), the patron saint of the fishers and other seafarers which is celebrated on the 8th of September. Each year during the weekend close to the Saint's Day, the fishing community gathers to ask for her blessing. Not only do fishers and their families and friends participate, but also the Coast Guard and governmental officials join in on the celebrations. Another national celebration which honors the fishers is the *Maskarada* (Masquerade) (see Figure 25). This celebration takes place on the first Sunday of the New Year. Respondents either play traditional folk songs or dress up in disguises with their faces hidden behind masks. They wear various

costumes, dance, and act out different folktales drawn from the experience of daily life on Bonaire, in particular stories that have to do with the battle with nature for survival (Haviser, 1991; Antoin, 1998).

Figure 25. Performance of fisher "ShonBoeBoe" during the annual Marquarade celebration on Bonaire. Source: Skyview Bonaire.

Today, Bonaire's (commercial) fishing vessels are divided into two types — big boats or *Boto Grandi*, or small boats, *Boto Chikí* — based on their length and propulsion. The smaller boats are used predominantly for reef fish near the shore of Bonaire using hand lines. Big boats mostly target pelagic fish, caught by trolling several hand lines at once. These vessels are at least 17 ft., have an inboard diesel engine and have a cabinet (*Kabinèt*) and steering hut with a hood that provides some protection from the sun, allowing for longer trips further out to sea. While boat fishing mainly takes place near the shore (<400 m) due to the relatively small size of the craft and the relatively high fuel costs, some big boats venture towards the Aves islands right off the coast of Venezuela (Dilrosun, 2004; de Graaf et al, 2016). Like the fishing vessels, fishing methods used in Bonaire's fishery have remained traditional. Methods used are the hook and (hand)line, beach seines (or *reda*), fish traps (*canasta*), and snorkel fishing with hook and line. The hook and line are most common and are used for both shore and boat-based fishing. Some fishers use beach seines to catch bait and the seasonal *Masbangu* (Little Jack, Selar crumenophthalmus). The fishers themselves make their own traditional fishing gear, in particular the elderly fishers. The knowledge of how to make their gear and how to fish the Bonairean waters is passed down from one generation to the other.

While fishing gears and methods have changed little over time (de Graaf, et al., 2016), what is caught has changed. Certain species are brought in far less often or have disappeared altogether. This shift partially reflects a change in fishing methods which, in turn, demonstrates the need for the preservation of endangered or overfished species. The use of fish traps, for example, used to be a common method, but the use of traps now requires a permit, meaning that only a few fishers at Lac Bay use the traps[15] (Dilrosun, 2004; S. Engel, pers. coms, October 2017). In the past, spearfishing also took place, but this was banned in 1971. Also, sea turtles were a heavily targeted species in the past. Since 1961, the eggs and the nests of sea turtles have been protected on Bonaire and starting in 1991 full protection of the species at all stages of its life was conferred (Willis, Nava, Schut, & Stapelton, 2015). This was also the case for the Queen Conch. Lac Bay was a favorite spot for conch fishing due to the easy access it provided to these prized sea creatures. Conches provided a vital source of income for the fishers and was a staple of local cuisine. Over time, presumably due to increase in demand with the growth of the population and tourism, this shellfish rapidly became overfished. In an attempt to preserve the declining conch population, a moratorium on conch fishing was put in place and an awareness campaign was launched in 2010 (Anon, 2012).

Currently, there are three types of fisheries on Bonaire: commercial fishery; commercial sport fishery; and local, recreational fishery. Commercial fishery is defined as the practice of people catching fish in order to sell their catch. Fishers engaged in this type of fishing do this either full- or part-time and are generally considered to be traditional, local, Bonairian fishers. Most commercial fishers are also (big) boat owners. Fishers who do not own a boat hire a fishing vessel from another fisher with whom they divide their earnings.[16] Most commercial fishers have completed little formal education and fall within the lower social class of Bonairian society (i.e., low-income, little financial literacy). This is particularly the case for full-time commercial fishers. Part-time commercial fishers tend to have a more stable and higher income, mainly because they

15 Lac Bay is a semi-enclosed, ecologically highly valuable, bay and recognized as a RAMSAR site and as an Important Bird Area. It houses three ecosystems: fringing coral reefs; seagrass beds; and mangrove forests, and is home to endangered species such as the Green Turtle and the Queen Conch.

16 Fishers usually go out to sea with a crew of two people. Earnings from the catch and sale of the fish are shared according one of the following four arrangements (Mac Donald, 2019):
-1/3 of the earnings to the boat owner, 1/3 of the earnings to the first fisher, 1/3 of the earnings to the second fisher;
-1/3 of the earnings to the boat owner, 2/3 of the earnings to the fisher (if there is only one fisher who does all the work);
-2/3 of the earnings to the boat owner if the boat owner is also a fisher, 1/3 of the earnings to the first fisher.
-½ of the earnings goes to the boat owner and the remaining half us is equally divided among the fishing crew. This division is less common, but used because it is no longer profitable not to be on board and fish as a boat owner. Before the earnings are divided, the costs of the boat (i.e. fuel, ice) are settled. If no fish are caught, the fishers do not have to pay the boat owner immediately but he/she does keep track of outstanding costs. This means that the costs will be settled the next time the fishers do catch fish. Boat owners accept the risks that no fish might be caught during a trip and give an advance on costs made (e.g. fuel), seeing that not going out to sea means no earnings are made at all.

earn additional income from non-fishery activities. Some commercial fishers also argue that they are forced into part-time fishing because of the higher cost-of-living on Bonaire, combined with the dwindling hauls. Fishers now need to spend more time at sea, which means higher fuel costs, in order to catch enough fish to support their families (Johnson, 2011). Consequently, there are more part-time than full-time fishers. Commercial fishers still play an important role in providing food to the island, as they are the main suppliers of fresh, locally caught fish to the residents (and tourists) of Bonaire.

The second type of fishery on Bonaire is commercial sport fishery (or charter boat fishery) where the primary source of profit is through permitting third parties to fish from one's vessel. With the emergence of tourism, this type of fishing has become more attractive. Commercial sport fishery is one of the few businesses that directly profit from, and contribute to, both the tourism and fishing sector of Bonaire. Commercial sport fishery takes place on large, modern, and fully equipped fishing yachts, moored at one of the privately-owned harbors. While the socio-economic status of fishers within the commercial sport fishery tends to fall in the middle and upper class, there is close collaboration with professional local fishers who are often employed to assist with the commercial fishing activities.

Lastly, there are a lot of people on the island who are recreational fishers meaning people — again, mainly men but also women — who fish solely for personal consumption[17],. Shore-based subsistence fishing has a long history on Bonaire. It requires little investment, no fishing licenses, and is easily accessible to all. Fishers would go to so-called "*banki's*" small areas of smooth lime-stone rock, along the east coast of the island. The small platforms allow for fishing to take place from the otherwise steep and sharp cliffs. It is believed these *"banki's"* date back several decades and even centuries (Abel, 2000; Graaf, et al., 2016). One interviewee shared how shore-based fishing has been a typical, traditional, family pasttime on Bonaire. Families would gather on the shore and at the pier in Kralendijk, the capital of Bonaire, during weekends, throw out a line and enjoy each other's company. One respondent shared how recreational shore-based fishing is no longer a common practice on Bonaire, as there are fewer fish along the shore due to the overfishing of reef fish.

At the end of a day spent at sea, when the fishers arrive back from their trip, the fishers clean both their boats and their catch of the day (Figure 26). Most days they are accompanied by elderly fishers or youngsters who perhaps aspire to join the profession, talk about their catch, and get caught up with the latest happenings on shore. At times, fish is sold directly from the pier, but this is less common. In the past, the sale of fish

17 When considering the recreational fishers, a fourth distinction is sometimes made: their origin or nationality. The influx of migrants, particularly the Chinese and Surinamese, has resulted in the presence of fishers who use different fishing techniques and target different species such as sea urchins. Local/ Bonairean fishers tend to distance themselves from these groups of fishers.

would primarily proceed via informal routes or through the old fish market in Kralendijk, called the Plasa Machi Mimi (Figure 27). Since the last fish market handler died, however, the market has been occupied by Venezuelans who sell fruits and vegetables they have brought in by boat from Venezuela (Leendertse & Verbeek, 1987; Dilrosun, 2004). While most fishers are male, women often play an important role in the sector by the cleaning and selling of fish. Fish traders started to professionalize around 2010. Currently, there are several (semi-)professional commercial fish vendors on the island. Fish traders are often also fishers themselves or else boat owners and have fully equipped areas in which to market their fish in their homes (Dilrosun, 2004). At the moment, there is no centralized market, and the catch is primarily sold to local buyers. Fishers often collaborate with a fixed group of fishers (suppliers) and a set client base (e.g., hotels and restaurants). The export of fish is not formalized or, if it does happen, particularly frequent or large-scale, but some fishers do sell their catch to traders on Curaçao.

Figure 26. Local fisher cleaning his catch by the water after a long day of fishing.

Figure 27. The old fishmarket, Plasa Machi Mimi in Kralendijk, Bonaire.

Bonairians are known not only for their fishing and sailing skills, but also as expert boat builders. While this is no longer a commonly practiced profession on Bonaire, there have been several initiatives to preserve this part of Bonairian culture. The traditional boat building craft was also commemorated at the cultural market I attended. At the market, fishers demonstrated how boats were built from wood underneath large Tamarind trees. Since the arrival of motors, traditional sail-powered fishing vessels fell into disuse due to their high maintenance costs and labor-intensive requirements. However, in 2017 several volunteers and fishers decided to revive the tradition of wooden boats and initiated the restoration of some of these vessels so that a few could take part in the 50th Annual Bonaire Regatta sailing competition as they had in years past. This desire to preserve and showcase the island's cultural heritage and longstanding fishing and boat-building traditions exemplifies the strong bond that Bonairians maintain with the ocean and their pride in this part of their heritage (Teitel, 2018).

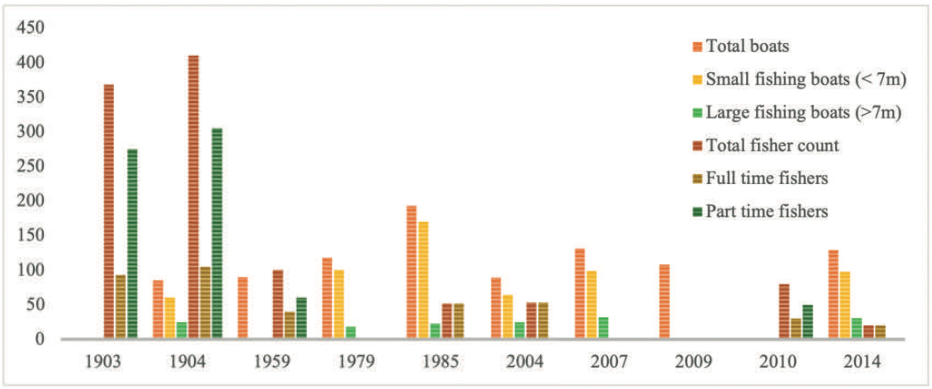
5.2.1 The Size and Economic Relevance of Bonaire's Fishery Sector

There are no accurate historical statistics available on the number of commercial or recreational fishers. Several previous studies and reports attempted to estimate the number of commercial fishers and fishing vessels. Figure 29 presents an historic overview of the available statistics regarding the number of fishers and fishing vessels on Bonaire.

The latest count of fishing vessels recorded a mean of 84 small boats and 26 big boats (de Graaf et al., 2016). However, during interviews, fishers estimated that for commercial fishery there are currently approximately fifteen big boats actively providing employment to an average of two fishers per boat (F. Havedings, pers. coms., December 2017). Commercial sport fishery on Bonaire consists of four to six boats, each employing on average two to three fishers. It must be noted that the numbers I have presented here are mostly estimates or aggregations, and the different reports I am basing my estimate on often use different definitions for the types of fisheries. While some reports state that the number of fishers and boats have remained relatively constant over the years (de Graaf et al., 2016), a general feeling among the (professional) fishing community of Bonaire is that over the years the number of professional or commercial fishers has declined. In contrast, despite the declining (reef) fish stocks, the number of recreational fishers is believed to have increased drastically. Recreational fishers are especially challenging to identify and quantify because of their irregular activities (Dilrosun, 2004; de Graaf et al., 2016), but it is estimated that 15-20% of the local population still engages in recreational fishing and the majority (80%) does it from shore (Laclé, 2012). Overall, the numbers remain inconclusive as to how many fishers are currently active on Bonaire.

Figure 28. Small fishing boats at Lac Bay, Bonaire.

Figure 29. Overview of the number of fishing vessels and fishers on Bonaire (adapted from de Graaf et al, 2016).



Year	Source & description
1903	Zaneveld, 1961 and references therein; all person registered as "seaman" were included under part-time fishers.
1904	Zaneveld, 1961 and references therein; all person registered as "seaman" were included under part-time fishers.
1959	Zaneveld, 1961 and references therein; **no information on boat type
1979	Archive LVV Bonaire
1985	Leendertse & Verbeek, 1987
2004	Dilrosun, 2004
2007	Steneck, Mumby & Arnold, 2007
2009	Beleidsvisie LVV, 2014-2029, and references therein
2010	Jonshon, 2011; Estimate of total professional fishers
2014	Beleidsvisie LVV, 2014-2029; Rough estimate for commercial, full-time fishers
2014	De Graaf et al., 2016; Maximum count of fishing boats

On Bonaire, the catches and market prices are not monitored or regulated which makes it challenging to draw any conclusions about the economic importance of the fishery sector to the island and the income of the fishers. What is known is that throughout the years, the economic importance of the fishery sector has shifted. There were two developments that have resulted in changes to the fishery sector in terms of economic relevance. A first shift took place with the arrival of more modern industries in the region, specifically the oil refineries (Shell/ISLA on Curaçao in 1915, and LAGO on Aruba in 1924). This resulted in a neglect of the fishery sector and created a labor shortage within the profession because younger generations chose more profitable and less labor-intensive professions elsewhere (Zaneveld, 1961; Van Gelderen, 1953). A second shift was the loss of the fishing grounds near the Aves, Los Roques, and Orchilla islands off the coast of Venezuela with the resulting loss of the Venezuelan market. This happened when the Venezuelan government came to an agreement with the government of the Netherlands

Antilles in 1951 to prohibit both catching and selling of fish by foreign fishers (W.I.D., 1953). Not only did these developments affect the number of fishers, but also other professions related to the sector, such as the boat builders, fishing gear craftsmen, and fish handlers. This shift away from fishery as an established profession and economic sector has continued ever since, making fishery, economically, a modest branch of the local economy.

In terms of ecosystems and ecosystem services, defined as services that human beings derive from an ecosystem, fishing is a provisional service (i.e., providing seafood) which can compete with other marine ecosystem services such as cultural services (i.e., recreation, diving, or snorkeling). That is, healthy fish stocks are essential for healthy reefs which, in turn, are crucial for attracting divers and snorkelers to the island. If fishers overexploit fish stocks, this can affect other ecosystem services such as diving and snorkeling. Considering that (dive)tourism is the central economic pillar for Bonaire, there is much debate about the relative financial contribution of fishing compared to other ways the marine ecosystem can be monetized and managed (Lely, et al., 2013; Anon., 2013; Pakus en Wayaka Advies, 2014; Werven, Jepma, & Bakker, 2010). The core of the debate is whether or not the attention and financial investments that the fishery sector currently receives is warranted. Some people feel that given the damage caused by fishery to the valuable marine ecosystem, it would be better to let fishing as an economic or commercial sector die out.

5.2.2 Contemporary Challenges Facing Bonaire's Fisheries and Pressures on the Marine Environment

As I have previously mentioned, catches have not been systematically tracked or monitored on Bonaire. However, there have been several notable changes to the marine environment and stocks of certain species surrounding Bonaire. While the coral reef ecosystem of Bonaire is in better condition than in most places in the Caribbean, it too has degraded substantially due to insufficient management of fishing and coastal development (Jackson, Donovan, Cramer, & Lam, 2014). Despite the argument made by some policy makers that fishing has remained artisanal and is therefore not harmful to the environment per se (*Evaluatierapport Natuurbeleidsplan Bonaire 1999-2004*, 2010), certain targeted species have visibly declined over the years (Sea Turtles, Queen Conch, Caribbean Spiny Lobster, and other species such as the Nassau Grouper and Snappers, Wahoo, Tuna, and Dorado). While it is perhaps more challenging to conclude that the decline of pelagic, seasonal, migrating fish species is due to overfishing by Bonairean fishers, it can be stated with more certainty that the decline of targeted reef species

(Groupers, Snappers) is at least partially due to fishing activities by Bonairean fishers (De Graaf et al., 2016; Debrot, Henkens & Verweij, 2017)[18].

Some fishers tend to be reluctant to admit that certain species are no longer present in large numbers, especially when they believe this acknowledgement will directly affect them. However, one respondent explained that when fishers are approached within a non-threatening context, they are more likely to state that certain fish are not there anymore. She recalled her interaction with a fisher during a meeting regarding the development and implementation of new legislation which would include a list of protected species. She shared the following:

> *There is one fish called [fish name]. It is on the protected species list; you are not allowed to catch it. One [fisherman] argued about why he needed to protect that fish. He scolded and was angry during a meeting. I remained calm and one day passed by his house. They sell fish, in moots with cornmeal. I went to buy some fish and to see what would happen if we talked in a different setting. Anyway, I sat and talked and said: "You know what I want to eat? A [fish name]! Man, that fish is really tasty! Super soft, delicious!" He responded: "You won't get rid of that craving because nobody catches that fish". I asked: "Why not?!" to which he replied, "Do you know how long it has been since I've seen a [fish name]?" I grabbed my beer and clinked with his, thinking yes, now he does admit it!*

In general, most fishers agree that making a living from fishing has become harder due to fewer fish and smaller catches, but there are some, though very few, fishers who will openly state they are (in part) responsible for this decline. According to one respondent this is especially the case for recreational fishers who are not financially dependent on the profession but do place the biggest direct pressure on reef fish stocks because recreational fishers predominantly fish from shore (see also De Graaf et al, 2016).

That fishers agree that fish stocks are declining but deny that this is due to their activities, was also found Johnson and Jackson (2015) who extensively researched Bonaire's fishers' (and divers') perceptions towards (causes of) declining fish stocks, degrading reefs, and support for management of the sector. They found that most fishers believed that they were catching fewer and smaller fish than had previous generations. As causes for these changes, the researchers found that fishers tended to blame large-scale factors, such as climate change, changes in currents, pollution, industrial fishing, and even the

18 It is important to note that while the rapid decline of these species cannot solely be attributed to Bonaire's fisheries, it cannot be denied that most fishing practices ultimately lead to stock depletion if fishing is not managed correctly. More importantly, this issue illustrates several important social and political struggles central to fisheries management and its perceived legitimacy and fairness: the debate about who causes the greatest harm versus who faces the direct negative consequences of management measures; and the interrelationship of local, regional, and global fishing industries for effective management of fish stocks.

will of God. These perceptions, in combination with their long-standing tradition of independence, are reflected in their general lack of support for sector management efforts. One respondent explained the reluctance of fishers to admit that they are responsible for declining fish stocks is because they are poor. Because many of Bonaire's (commercial and subsistence) fishers live in poverty, they need to cover the basics before they can collectively worry about the environment. He shared:

> *It takes intellectual advancement to understand that all other basic needs are easier to fulfil if your environment is in check. The number one element for the problem with the environment and environmental protection, especially [protection of] coral reefs, is poverty. You cannot expect people to understand the power of conservation when they are surviving.*

While this might be true for the poor commercial or subsistence fishers, this argument does not explain why relatively wealthier, recreational, shore-based fishers are also reluctant to admit that they contribute to declining fish stocks. It is likely that recreational fishers, like commercial fishers, are reluctant to do so to avoid restriction on their fishing activities (Johnson & Jackson, 2015).

Through my interviews, I learned that non-fisher stakeholders (marine park officials, scientists, and consultants) also shared the sentiment that fishers are not the primary cause of declining (reef) fish stocks. Some respondents I spoke to argued that the diminishing fish stocks and general degradation of the marine environment is not really the fault of the fishers even though their fishing activities also contributed to these issues. Instead, they argued that pressures such as coastal development, increasing amounts of sunscreen in the waters, wastewater, and/or pollution damaged the ecosystem which, in turn, affects the fish stocks. The lack of consistent monitoring of catches and fish stocks, however, does not mean that fishing is a negligible factor on the ecosystem, nor does it imply that the fishery sector is not in need of managerial attention, especially the fishing that takes place on the reefs (Debrot, Henskens, & Verweij, 2017). This, too, is something some fishers, in particularly the older fishers (Johnson & Jackson, 2015), agree with as can be seen in the following interview excerpt:

> *I had an aunt who was 92 years old at the time I started the fishery issue…Mind you, how long I've been working on this, she's been dead for almost 10 years. And eh, I would visit her once a week. And in that time, I was angry angry angry angry. I would go to her because she was always so calm. I could vent to her. She said: "My child', with a concerned look on her face. She said: "Whats wrong?" I said: "Aunty, this work that needs to be done around here. It's hard, because those people don't want to understand. They don't understand or they understand you but don't want to [they don't want to take any responsibility". And she asked: "What happened?" She said to me: "And they don't want to understand that the fish have become less?". I said: "No". And she said*

something to me that day that just left me thinking "What the heck?! If this woman can reason... This woman ate nothing but fish. I never realized this - I knew her house always smelled of fired fish, but I never paid it any attention. […] As long as I can remember, she would go and fish. She would go out to the street, throw out a line, catch her fish and go home. She told me: "Let's say for sake of ease that I've been fishing since I was 20 years old. Now I am 90 years old. All those years I fished, every day. That is 70 times 365, there was not one day I did not eat fish. How much fish did I alone eat from Bonaire?" She only ate fish from the reef […] she didn't eat fish from Lac. She found that fish tastes like grass. Imagine, just think for a moment, man. I said: "Aunty, it would be better if you would come to one of the meetings [with the fishermen]! She said: No, I am old, I can't talk with those people anymore". She said: "And fish became less? Do you know how difficult it is for me to get some fish nowadays? The fish are small. I need to famish because there is no fish. My freezer used to be full to the brim with fish. Now, open my freezer, and you'll not one fish. And I hope someone will bring fish for me. Obviously, fish has become less now. For sure fish has become less, I don't get any fish! And all the people who used to bring me fish, they are still here".

Johnson & Jackson (2015) also found that fishers do agree that some form of management is required, but that this needs to be developed and implemented with caution considering several visible and important differences between resources users. Namely, financially fishers are generally poorer than, for example, divers who make up an important stakeholder group in the large tourism economy and conservation measures tend to have a direct, negative affect on the income of fishers. For example, their incomes are affected by prohibiting or limiting the catch of certain species. Another difference pointed out by the researchers was the visible racial difference between resources users: fishers tend to be black and Antillean, whereas divers or tourists are white and foreign. Giving the latter "privilege use" of the resources based on the presumption that they contribute more to the economy and cause less damage — the latter not necessarily being the case (Jackson, Donovan, Cramer, & Lam, 2014) — illustrates the legacies of (neo-)colonialism that still exist on the island (Johnson & Jackson, 2015).

Despite its high cultural value and it being one of the traditional professions of Bonaire, the sector has remained small and experienced little technological or economic development throughout the years. Notwithstanding the small size and the negligible economic relevance, the marine environment does face several ecological threats (including overfishing), resulting in smaller and fewer catches and, thereby, affecting the fishery sector. These changes are visible and felt by local fishers. A growing concern of the fishers and the community in general is that Bonaire's fishery is becoming a dying tradition because it is increasingly difficult to make a living from the profession. Moreover, this shift in the sector is affecting one of the poorest groups within Bonairean society who, due to their limited levels of education, feel they have little else to fall back on. Consequently, it seems, fishers are not ready to openly acknowledge that their

local fishing practices over time contributed to these changes as they fear the negative consequences they could face if increasing measures that directly limit their fishing possibilities are implemented.

To get a better understanding of the current dire state Bonaire's fishery and fishers, in the next section, I will describe the management efforts that have been made for the sector. Taking a closer look at Bonaire's fishery sector and the way it is managed reveals how stakeholders involved in such a culturally valuable industry navigate environmental management, in general. My overview focuses on the management history framed by my consideration of the political changes brought about by the constitutional changes of 10/10/10.

5.3 POLICY SHIFTS IN BONAIRE'S FISHERY MANAGEMENT

While working with the fishers, they repeatedly expressed their discontentment with the island government which they believed has neglected them for decades. Considering the fact that the government has provided few facilities and little-to-no infrastructure for the fishers, coupled with the fact that most commercial fishers still live in poverty, this came across as a valid sentiment. However, although government officials admitted that the government had not made many recent investments in the sector, they also stressed that there had been many attempts to develop and manage the sector in the past but that these failed because of the lack of willingness of fishers to collaborate or participate in these efforts. In short, both parties were blaming the other for the current state of Bonaire's fishery sector.

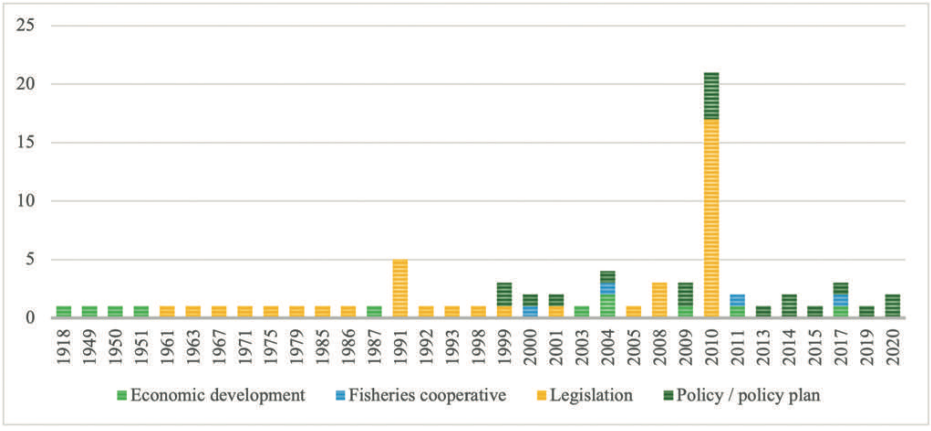


Figure 30. A timeline summarizing the date of the key projects, developments, policy documents, and legislation. The stated dates represent the starting date of the activity. Many activities continued for several years. Appendix H presents an overview of, and greater detail on, these events.

To get a better understanding of what happened, and perhaps to determine "who was right" in this debate, I traced the history of policy shifts regarding the fishery sector on Bonaire prior to 10/10/10 up to the date I finished writing this thesis (2020). In the following section I describe various initiatives made to manage the fishery sector of Bonaire and make a distinction between efforts that took place prior to and the efforts post the constitutional changes in 2010. A timeline summarizing the occurrence of the key projects, developments, policy documents, and legislation is presented in Figure 30.

5.3.1 Pre 10/10/10

The institutional and legislative framework of Bonaire's fishery

From 1954 up until 1991 fishery management was the sole responsibility of the island of Bonaire itself, and not of the Netherlands Antilles, as stipulated in the ERNA (*Eilandenregeling Nederlandse Antillen*, 1954) (Van Buurt, 2001). Legislation required to protect the fish stocks and the marine ecosystem (e.g., prohibiting the use of dynamite) and consequently ensuring the compliance of the sector emerged quite early in this chronology and gradually increased on Bonaire. In 1961, legislation was implemented and enforced for the protection of sea turtles and lobsters, followed by the prohibition of spearfishing in 1971 and the protection of corals in 1975. In 1979, the Bonaire National Marine Park was established (De Graaf et. al., 2016). Aware of the fast-declining conch populations, the government of Bonaire issued a law to protect the conch in 1985 (Anon, 2012)[19]. These developments exemplify how conservation measures that affected Bonaire's fishery gained attention early on.

Fishery as the sole responsibility of the island territory Bonaire changed with the emergence of the UN Law of the Sea (UNCLOS) and other international conventions of which the Netherlands Antilles was a signatory (either as the country of the Netherlands Antilles or through the Kingdom of the Netherlands).[20] The international conventions stipulated that there are clear fishery responsibilities at the national (Netherlands Antilles) level. The prescriptions of the UNCLOS led to the declaration of an Exclusive Fishery Zone (EFZ) and Territorial Sea (TS) of for all Dutch Caribbean islands in 1993. The TS is the marine area around the island up to 12 nautical miles offshore (also called the 12-mile zone) and the EFZ extends up to 200 nautical miles off-shore. This change resulted into the first of many ambiguities in the division of roles and responsibilities between the national government (i.e., country) and the island government (i.e., island territory).

19 However, other sources state this was not until 1991.

20 United Nations Convention on the Law of the Sea (UNCLOS) 1982 defines the rights and responsibilities of nations with respect to their use of the world's oceans, establishing guidelines for businesses, the environment, and the management of marine natural resources. It is uncertain to what extent the Convention codifies customary international law. The UNCLOS requires coastal states to conserve and manage living marine resources within their EEZ.

Leading up to the new zoning of the waters, the Fishery Act 1991 of the Netherlands Antilles (*Visserijlandsverordening* 1991) provided some clarity and described the division of roles and responsibilities of the national government of the Netherlands Antilles and that of the island territories regarding fisheries. The government of the Netherlands Antilles was responsible for the development and implementation of legislation and policy at the national level. The island government could develop island level policy and legislation in addition to this legislation. On the national level, fisheries responsibilities were assigned to the Minister of Economic Affairs and the Department of Economic Affairs of the Netherlands Antilles. The Minster of Economic Affairs primarily regulated the fisheries sector on the islands according to the Fishery Act 1991. On the island level, the management of fisheries was the responsibility of the Executive Council of the Island territory Bonaire and the Deputy of LVV and the Department of LVV (*Dienst* LVV) (Van Buurt, 2001). The Fishery Act 1991 also specified the installment of a fishery commission. This commission was a fishery advisory body responsible for following fish stock development and fishery activities within the TS and EFZ and it was also responsible for giving advice to the Minister and the island executive councils on matters pertaining to fisheries. The fishery commission consisted of one representative from all five islands of the Netherlands Antilles. In sum, the pre-10/10/10 fisheries management in the waters of Bonaire was a joint responsibility between the government of the Netherlands Antilles and the island government.

In 2010, the Fishery Act was implemented, and the national nature foundation *Stichting Nationale Parken Bonaire* (STINAPA; Bonaire National Parks Foundation) received the mandate from the island government of Bonaire to manage, monitor, maintain, and enforce the laws and regulations of the newly designated national marine park surrounding the island[21]. In addition, the marine park has several marine reserves in which fishing is completely prohibited. This was stipulated in the Island Ordinance Marine Environment Bonaire A.B 1991 Nr. 8 (establishes the Bonaire Marine Park, provides guidelines for the protection of the island of Klein Bonaire, and regulates the use of the Marine Park by divers and others including fishers).

Thus, the waters surrounding Bonaire in which fishing activities can take place were now legally defined into three areas: The Exclusive Fishery Zone (EFZ); the Territorial Sea (TS); and the Marine Park (MP). Each zone had different and, at times, overlapping sets of legislation, policy, and responsible parties responsible for its management. In terms of enforcement, the Coast Guard of the Netherlands Antilles was responsible, in collaboration with other island authorities (e.g., the police force, customs), for the EFZ and TS and, together with STINAPA, management in the MP.

21 In addition to STINAPA, Sea Turtle Conservation Bonaire (STCB) played a big role in the conservation of the sea turtle on the island. The Bonaire Marine Park encompasses all the waters surrounding Bonaire and Klein Bonaire up to a depth of 60 meters

Further legislation that affected Bonaire's fishery on the island level was developed and implemented. In 2008, the Island Ordinance Nature Management Bonaire A.B. 2008, no. 23 was implemented. It provided additional rules for the establishment of protected natural areas and established integrated legislation in the area of nature conservation and the protection of flora and fauna. Right before the constitutional changes in 2010, two additional legislative documents were implemented; namely, the Island Decree Nature Management Bonaire A.B. 2010, no.15 which designates protected species of animals and plants, including fish species, corals and other marine life, and provides guidelines for management measures; and Island Decree Marine Park Bonaire A.B. 2010, no. 14, which provides guidelines and rules for the use and protection of the Bonaire Marine Park. This decree includes regulations, guidelines, and restrictions on areas well as guidelines and prohibitions on fishing for specific species (i.e., Queen Conch, Lobsters, Sea Turtles) in Bonaire's marine park.

These latter two decrees were implemented in large part due to the persistence of STINAPA. In general, STINAPA was not, and is not, directly concerned with Bonaire's fishery, as most professional commercial fishing takes place outside of the marine park. However, as I already mentioned, there is a lot of recreational or subsistence fishing in the marine park. Therefore, STINAPA pushed for, and invested much effort in, the development of the Island Decree Nature Management Bonaire, A.B. 2008, no. 23 and the Island Decree Marine Park Bonaire, A.B. 2010, no. 14 with the explicit inclusion of fishery guidelines and regulations in these decrees. They did this knowing that most fishing pressure on the coral reefs stems from shore-based (recreational) fishing activities. Considering that all waters surrounding Bonaire within the marine park fall under STINAPA's care, they knew that including specific fishery related stipulations in the decree would give them the legal instruments necessary to manage fishing activities within the marine park. One respondent recalled that the government stressed that the involvement of the fishers in the development and implementation of these decrees was a requirement for approval. STINAPA made a lot of effort to set-up (informational) meetings with the fishers, including organizing evenings with drinks and food for the fishers that were advertised on the radio. However, few fishers would show up. The government would be informed about these meetings and, after several of these sessions, despite the absence of the fishers in the decree drafting process, the government approved the proposed legislation.

Foreseeing the societal issues likely to stem from the constitutional changes in 10/10/10, both governmental policy workers and the NGOs pushed to ensure that the new legislation was implemented before the historic date of October 10th, 2010. They hoped that by having the legislation in place prior to 10/10/10 there would be fewer protests against the legislation. People could not say the legislation was a result of the Dutch government "taking over". Instead, it would be clear that this was locally made decision. Due to the difficulty in including the fishers in this process, the government implemented

the legislation on September 1, 2010, a mere 1.5 months before the symbolic date of 10/10/10. This process is one of the examples I was presented with repeatedly to illustrate that the government does want to include the fishers, in decision-making but that this was a difficult feat to accomplish (Beukenboom, E., pers. com., November 2017.).

Because STINAPA was involved in the implementation and enforcement of island legislation in the marine park, the fishers blamed STINAPA for creating fishing restrictions, even though the government of Bonaire held final responsibility for development of island policy, rules, or regulations. This has negatively affected its reputation within the community. Because STINAPA is the enforcer of certain regulations, most fishers believe that STINAPA is also responsible for the restrictions placed on the use of natural resources.[22] To improve the communication and collaboration between the fishers and STINAPA, STINAPA created a permanent position for a delegated fisher in STINAPA's executive Board. This position, however, has not been successfully filled (Dilrosun, 2004).

While there have been policy plans for nature both at the national level of the Netherlands Antilles (Departement van Volksgezondheid en Milieuhygiëne, 2000) and at the island level of Bonaire (Pakus en Wayaka Advies, 2014; Anon, 2010), a detailed, island-level fisheries plan was never fully developed by the island government. There was a fishery policy plan for Curaçao (Van Buurt, 2001), which, to some extent, integrated the fishery sector of Bonaire. The plan does not specify why Bonaire was included, nor does it state that the measures or recommendations included in the plan should be implemented on Bonaire, as well. This could be due to the fact that the fishery sectors of Curaçao and Bonaire share many similarities, that fishers from Bonaire and Curaçao often fish in each other's waters and target the same species, and lastly that they share their market. The island fishery policy plan for Curaçao also states that a National Fisheries Plan was being prepared for the Netherlands Antilles, but to my knowledge this plan was never completed.

The existing strategic island development plans for Bonaire advocate sustainable growth with respect for nature and culture and also addressed Bonaire's fishery. The Nature Policy Plan for Bonaire for 1999 – 2004, for example, portrays local Bonairean fishery as a traditional, sustainable sector in which overfishing did not take place except for some few species (Queen Conch, sea turtles and *Kiwa [West Indian top snail]).* Intensive industrial fishery outside of Bonaire is stated as being the biggest threat to local fishery and the livelihoods of fishers and to the fish stocks and levels of biodiversity in waters surrounding Bonaire (Anon, 2010). In other words, it appears that the island government has not identified local fishery practices as harmful to the marine environment. The need to develop a fishery management plan is mentioned, however, and the government

22 STINAPA's mandate only includes the national park. There is not enough ranger capacity to monitor the park 24/7 and this limits the amount of control STINAPA has over the park. The areas outside of the national park are patrolled by the Coast Guard.

did make an inventory of Bonaire's fishery in 2004. This inventory does state that some decline in fish stock is apparent, but that it is difficult to draw any concrete conclusions on fish stocks as there is no (long term) data available regarding Bonaire's catch landings (Dilrosun, 2004). This report emphasized the need and the wish of the government for fishers to strengthen their level of organization by means of a fishery cooperative.

This section shows that prior to 10/10/10, there was some legislation in place to manage the fishing taking place in the waters surrounding Bonaire, but that a clear, written vision for the sector seemed to be lacking with the absence of a fishery policy plan. Moreover, it also becomes apparent that the various jurisdictional waters create ambiguities regarding the division of roles and responsibilities in terms of fishery management, legislation and policy development, and enforcement of legislation. Despite the apparent lack of a clear policy, there have been several attempts to develop the fishery sector of Bonaire in the past. I present the most memorable in the section below.

Management & Development Activities

Only a few historical sources are available that provide some insight into the management and development efforts of Bonaire's fishery sector prior to the constitutional changes in 2010. One of the earliest (scientific) sources dates back to 1907 and describes the sector as small and unorganized. The report mentions overfishing of the green sea turtle and states that no measures were taken to manage this (Boeke, 1907). Based on the limited archival data, it can be concluded that there have been several attempts to expand the sector and increase its contribution to the local economy through (controlled) industrialization and professionalization of the sector as well as aquafarming. Over time, it seems, more emphasis was placed on conservation measures to prevent further depletion of fish stocks.

It was not until 1949 when one of the most serious attempts to professionalize the sector commenced, namely the development and execution of a business called Bonaire Vis Industry N.V. (Bonaire Fish Industry Ldt., B.V.I.) begun. The intention was to provide better facilities for the fishers and expand the market through a joint effort by the government of Bonaire and the former Netherlands Antilles. Leendertse & Verbeek (1987) provide a detailed description of the rise and fall of this initiative which came to an end in 1982. The general aim of B.V.I. was expanding the fleet size and improving the quality and availability of the catch through better storage and processing facilities. The funding that was initially required was budgeted for the purchase of a cooler and freezer (*koel- en vrieshuis*), a refrigerated car, and the establishment of a cooperative. The warm climate of the islands and the lack of organization among fishers were identified as priority issues for the development of the sector (Van Gelderen, 1953). After additional research and development this budget grew to an amount of a little over 1.1 million Antillean guilders. This new budget also included the purchase of several fishing vessels and other materials required for centralizing a bigger market and thus

establishing a fishing industry. Boats and cooling facilities were purchased, but due to myriad reasons the project failed. The main reasons were the overestimation of the number of fishers willing to participate, the lack of expert guidance, the purchase and installation of material and boats not suitable for the job and/or at unsuitable locations, delivery and financing delays, and overall mismanagement. Moreover, it was stated that B.V.I. was a government run project, but it was highly dependent on the participation of fishers — a participation which was not forthcoming because the fishers did not have the capacity or ability to function according to the B.V.I. model. Consequently, a fishers' cooperative was never formed (Leendertse & Verbeek, 1987). Exactly one day before the announced inspection by the state auditor in 1982, the entire administration of B.V.I. went up in flames (Leendertse & Verbeek, 1987). An article in the local newspaper, *Extrá*, summarized the developments of B.V.I and concluded that the fire that engulfed the B.V.I. administration was a clear sign of embezzlement and corruption and depicted the shady dealings that went on within B.V.I. (Antoin, 2018). The incineration of the B.V.I. administration is likely one of the reasons why governmental archival data on fishery management efforts is limited.

A few years later, in 1987, new attempts were made for the development of aquaculture or farming of shrimp, Queen Conch, and several other species under the name of a foundation called Marcultura. The project was supported by the federal government of the Netherlands Antilles, the Fisheries Sector Administration of Bonaire (and Curaçao and Aruba), and later also by the Dutch government. One of the first aims was to experiment with the rearing and release of the overfished Queen Conch and after some success, the foundation and aquaculture station expanded in 1991 with the aim of supplying the commercial market with fish (Figure 31). The idea was to create economically and technically feasible aquaculture practices for the three islands (Hensen, 1991; Hensen & Grashof, 1991). Despite many attempts and substantial investments to make the project a success, the financial yield never exceeded the investments made. This was due to a variety of factors, including high maintenance and personnel costs, environmental conditions, logistical problems, and technical intervention coming too late, but also due to lack of cooperation of fishers and poachers. This resulted into the closure of Marcultura in 1994 (Freddi, 1994).

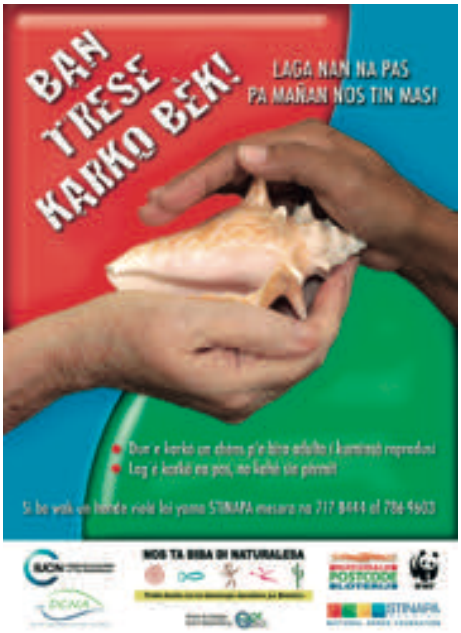


Figure 31. Flyer made for the Conch restoration project. Use of a 'White' hand and 'Black' to indicate collaboration between the different communities of the island. The poster reads: Let's bring back Conch. Let them at peace so we have more tomorrow. Give the Conch a chance to become mature and reproduce. Let the Conch at peace, don't catch them without a permit. In case of witnessing a violation, call STINAPA.

In 2009, attempts were made once more to set-up a fish farm, called Elijah Fish Farm, with the goal of increasing the availability of sustainably raised fish (circa 100 ton per year). Again, substantial (private and governmental) investments (up to 3.7 million Antillean Guilders) were made and, supposedly, the most advanced fish farming technologies would be put in place (Anon, 2009). Once again, the attempt at establishing a fish farm failed, this time due to power failure and a subsequent loss in stock. Moreover, it is possible that the market was too small, after all, to make fish farming a profitable industry. In 2014, the farm was placed for sale at auction for a starting price of 650,000 US dollars, but was never sold (Anon, 2014; Anon, 2017; Pakus en Wayaka Advies, 2014). These failed attempts by the government and the private sector to professionalize and expand the Bonaire's fishery had significant impact on the trust and willingness of both the government and the fishers to continue to invest in these types of activities. Despite its failure, these attempts at fish farming were some of the first to combine exploitation and growth of the local fishery sector with marine conservation by restoring depleted fish stocks (i.e., the Conch).

Besides the failures of B.V.I., Marcultura, and, later, Elija Fish Farm, only marginal investments were made in structural maintenance of the few fishery facilities provided by the government (e.g., placement and repairs on fishing docks). An inventory of

Bonaire's fishery (Dilrosun, 2004) reported that while the island government of Bonaire yearly budgets an amount of ANG 30,000 for maintenance of the government provided facilities, this sum was not spent on the sector due to the unstable financial state of the island government.

Over the years, the first shift in fishery management towards nature conservation became visible. Documents from the local governmental department of Agriculture Livestock and Fishery (*Landbouw, Veeteelt & Visserij, L.V.V.)* reveal that in 2003 and 2004 three Fish Aggregating Devices (F.A.D.; Lokvlotten) were placed in the waters surrounding Bonaire.[23] F.A.D.s were believed to be beneficial for the sector as they can help to reduce the fishing pressure on coral reefs, while simultaneously increasing the catch yield and decreasing fishing expenses such as the fuel costs of fishers. The effectiveness of the F.A.D.s was monitored for a short while by the L.V.V., and they did result in higher catch yield by the fishers. However, due to strong currents and lack of maintenance the F.A.D.s were lost (Dilrosun, 2004; Pakus en Wayaka Advies, 2014). Another notable event was the exchange that took place with fishers from St. Lucia in September 2004 which was initiated by STINAPA and the island government. The exchange centered around topics such as fishery facilities, involvement of fishery in the tourism sector, and the establishment of marine protected areas (again) through the establishment of a fishery cooperative. The fishers, the local ENGOs, and the government all recall this exchange as successful, and it was mentioned by my respondents during various interviews. Some recommendations that were formulated based on the exchange were in line with developments that were already taking place on Bonaire and some actions were followed up concretely. The recommendation to implement and enforce fish reserves, prohibit the use of trap fishing (without a permit), and unregistered fishing nets that did not conform to the permitted mesh size were successfully implemented. Little to no known follow up was given to several other recommendations, including investigating export possibilities of fish to expand the market, the development of an island level fishery plan, and long-term monitoring of fish landings (Dilrosun, 2004; Pakus en Wayaka Advies, 2014).

In 2008, two fish reserves (no fishing allowed) and two dive reserves (no diving or snorkeling allowed) were established by the island government after the repeated requests of STINAPA, whose request was based on the knowledge gained from the exchange that took place with the St. Lucian fishers, as well as subsequent scientific research (Anon, 2010). As I mentioned previously, this measure was broadly supported due to the involvement of fishers and divers in this process and the exchange that took place between the fishers of St. Lucia and Bonaire.

23 F.A.D.s are devices placed in the ocean to attract fish, making fishing less labor intensive and possibly resulting in higher catch yields while reducing expenses such as gasoline. The devices used on Bonaire are a simple construction consisting out of an anchored buoy with a series of strings spliced into the anchoring rope which help to attract fish.

In August of 2010, STINAPA launched a conch restoration project funded by the Dutch Postcode Lottery as a last effort to save and restore the conch population. The Lottery supports charities throughout the Netherlands with some of its earnings. Through awareness campaigns, research, and enforcement the project aimed to stop illegal poaching. The project lasted for a period of three years. Some success was achieved in terms of awareness of conch overfishing and its consequences. However, despite the involvement of fishers, poaching activities are currently still taking place and are difficult to suppress. Moreover, enforcing conch legislation proved to be difficult due to the size and remoteness of the location of Lac Bay (Anon, 2012).

Lastly, there have been efforts to establish a fishery cooperative. Several attempts were made to form a functioning cooperative with the responsibility of coordinating and maintaining infrastructure and fishing facilities, collective purchasing of fishing materials, and providing training to fishers. These projects never came to fruition. Several stakeholders informed me about the attempts to establish the fishery cooperative KOPIBON (*Kooperitiva Piskado Boneiru*/Cooperative Fishermen Bonaire). Even the earliest documents on Bonaire's fishery sector mention the importance of having some sort of fishery cooperative on Bonaire (Belloc, 1950; Zaneveld, 1962; Van Buurt, 1984). The establishment of KOPIBON was (partially) an initiative by the government of Bonaire. It is not completely clear when the creation of KOPIBON started, but archival documents from LVV indicate that the meetings occurred in 2000, 2004 and again in 2011 (LVV archive). Coordinators organized several meetings for the fishers, with different goals such as informing fishers about new legislation, sharing research findings, and motivating the fishers to form a cooperative. The evaluation report, Bonaire Nature Policy Plan dating 1999 -2004 (Anon, 2010) stated that the fishery cooperative KOPIBON had existed for many years but that the level of organization among the fishers was still minimal (LVV archive). Thus, despite the acknowledgement of the cooperative by the government and other relevant stakeholders, there were few visible and lasting changes to improve the conditions for the fishers.

An important conclusion that can be drawn from these developments is that while conservation efforts might still be insufficient to guarantee the sustainability of the sector and prevent further depletion of the fish stocks, efforts for stock conservation and ecosystem preservation seem to be more successful than the attempts made to economically develop the sector. Unsurprisingly, these trends have affected the willingness of fishers to collaborate in later attempts to conserve the marine environment.

5.3.2 Post 10/10/10

Changes in the Institutional and Legislative Framework of Fishery Management

In the current section, the changes that occurred in fishery management after 10/10/10 are discussed. Changes not only occurred in terms of roles and responsibilities, but also the type and amount of effort invested in improving fishery management on the island. The constitutional changes of 10/10/10 further fragmented and complicated the managerial landscape of government agencies locally and at the level of the Kingdom, and how their mandates overlap with other public and private regulating bodies. This has made involvement in environmental management more complex for local fishers. Table 13 provides an overview of the different types of legislation for fishery management applicable to the three water zones of Bonaire, and the responsible institutions and stakeholders in place since 10/10/10 categorized by type of management activity. In this table, it is already clear that the fishers do not (yet) have a structural or prominent role within fishery management.

A first minor difference that needs to be addressed are the three jurisdictional zones in which fishing activities can take place (see Figure 24). While the scope of the areas has remained the same, the Exclusive Fishery Zone (EFZ) of the Dutch Caribbean was declared an Exclusive Economic Zone (EEZ) on 10 June 2010 (Nandan, 1987). As was the case pre-10/10/10, the fisheries legislation and the division of roles and responsibilities of the various stakeholders differ and at times overlap for the three water zones.

Table 13. Overview of marine zones and applicable legislation and legally responsible parties for fishery management on Bonaire.

ZONE	Affected by (inter) national / (sub)regional bodies, conventions, treaties etc.	National & Local legislation	WHO IS RESPONSIBLE FOR FISHERY MANAGEMENT?			
			Legislation development / implementation	Policy / management plan development	Enforcement of legislation / implementation of policy & management	Fisheries research & monitoring
EEZ	CITES SPAW - protocol CMS WECAFC Yarari Sanctuary IHS-19	FABES FDBES Decree on Tasks and Procedures for Fisheries Commission EEZ- management plan	Ministry of LNV FCBES CMBF	Ministry of LNV FCBES CMBF	CMBF Coast Guard KMar KPCN	CBMF
TS	CITES SPAW - protocol CMS WECAFC Yarari Sanctuary IHS-19	FABES FDBES Decree on Tasks and Procedures for Fisheries Commission	Ministry of LNV FCBES Public entity of Bonaire	Ministry of LNV FCBES Public entity of Bonaire	Public entity of Bonaire Coast Guard KMar KPCN	Public entity of Bonaire
MP	CITES SPAW - protocol CMS WECAFC Yarari Sanctuary IHS-19	FABES FDBES Decree on Tasks and Procedures for Fisheries Commission Island resolution Marine park Bonaire	Public entity of Bonaire	Public entity of Bonaire STINAPA	STINAPA Coast Guard Public entity of Bonaire KMar KPCN	Public entity of Bonaire STINAPA

Since 10/10/10, the Ministry of Agriculture, Nature and Food Quality (*Ministerie van Landbouw, Natuur en Voedselkwaliteit*; hereafter referred to as Ministry of LNV) became responsible for the proper management of fisheries in the EEZ around the three islands, and it is responsible for the Territorial Seas (TS), together with the island authorities. This is somewhat similar to the division that existed between the government of the Netherlands Antilles and the island government of Bonaire, the exception being that the government of the Netherlands is only directly responsible for the waters surrounding Bonaire, Sint Eustatius, and Saba, and not for those of the other islands within the Dutch Caribbean. In addition to the Ministry of LNV, there are several other Dutch ministries relevant for, or indirectly concerned with, the fisheries sector of the Caribbean Netherlands, such as: the Ministry of Infrastructure and Water Management (Ministry of I&W); the Ministry of Defense; and the Ministry of Justice and Security. Together with the public entity of Bonaire and local organizations, the Ministry of Infrastructure and Water Management works on matters relevant to fishery such as: safe harbors; secure transport; wastewater purification; both land-and-water management; spatial development plans; maritime disaster management; and inspections. The Ministry of Defense and Ministry of Justice and Security have certain responsibilities that (indirectly) affect the fishery sector in terms of enforcement and control. The new construction requires that the Dutch ministries and the various island governmental departments be properly synchronized with each other. Moreover, the Ministry of LNV is not only responsible for fisheries in the Caribbean Netherlands, but also for nature. Considering that nature has a higher economic value than fisheries, the chances of the fishery sector receiving an equal amount of attention from the Ministry are small. This can have practical implications regarding the (types and amount of) capacity and resources made available to the sector for proper management.

Currently, the public entity of Bonaire (*Openbaar Lichaam Bonaire*) is required to assist with the execution of fishery projects, monitoring of the sector, and the provision and maintenance of facilities. The public entity is also responsible for the implementation and enforcement of fisheries legislation and policy.[24] However, capacity within the island government has been declared as deficient, thus limiting the public entity of Bonaire in fulfilling its responsibilities to and for the fishery sector (Pakus en Wayaka Advies, 2014).

The Ministry of LNV and the public entity of Bonaire have jointly installed two commissions responsible for fishery management. First, there is the Fisheries Commission BES (FCBES), which fulfils a similar role as the Fisheries Commission that existed prior to 10/10/10. The main difference is that the current FCBES, installed by the Ministry of LNV in 2012, is comprised of one representative from Bonaire, one from Saba, one

24 Rules and regulations at the level of the public entities cannot be less stringent than, or in contradiction to, the legislation put in place by the government of the Netherlands. While rules can be more detailed and stricter, under no circumstance can they go against the Principle of Equality (*gelijkheidsbeginsel*: The principle that every citizen should have equal (legal) rights in similar instances).

from Sint Eustatius, and an independent chair. Thus, there are no representatives from Curaçao, Aruba, or Sint Maarten. FCBES is responsible for writing and implementing the national fisheries management plans, advising the Minister on issues pertaining to fisheries such as permits or licenses, and it discusses and proposes legislative changes related to the sector. The second commission was not in existence prior to 10/10/10 and is called the "Dutch Caribbean Committee on Marine Biodiversity and Fisheries" (CMBF). This commission was established to maintain some collaboration between all of the Dutch Caribbean islands for the management of their adjacent waters as had been the approach when the governmental structure was the overarching Netherlands Antilles. This commission is responsible for the management of the marine biodiversity of the EEZ of the Dutch Caribbean. It consists of representatives of all the Dutch Caribbean islands and the Netherlands who signed the EEZ-agreement. Currently Bonaire, Curaçao, Saba, Sint Eustatius, Sint Maarten, and The Netherlands have signed the agreement (Meesters, Slijkerman, de Graaf & Debrot, 2010). The focus of this commission exemplifies the increased attention paid to conservation of the marine environment.

As was the case for the period before 10/10/10, several environmental non-governmental organizations are still partly (and indirectly) concerned with fisheries management on the three islands. STINAPA's governmental mandate to manage and maintain the national parks — including the Bonaire National Marine Park — was continued post 10/10/10. In addition to local ENGOs (STINAPA, STCB and DCNA[25]), there are now also national (Dutch) ENGOs (WWF-NL; NEV[26]) who are more actively involved with fishery management on the island.

The current national fisheries legislation for Bonaire, Saba, and Sint Eustatius is based on the fisheries legislation of the former Netherlands Antilles (Fishery Act 1991) and is stipulated in the Fisheries Act BES, 2010 (*Visserijwet BES*; FABES) and the Fisheries Decree BES, 2010 (*Visserijbesluit BES*; FDBES). The Ministry of LNV primarily regulates the fisheries sector on the three islands according to the FABES and the FDBES. This consequently also affects the scope of their legal responsibility. The FCBES only addresses fishing activities for which permits are required. In general, policymaking and legislation for the TS falls within the islands' jurisdiction and is therefore an island responsibility, and for the EEZ this is national jurisdiction and therefore the responsibility of the national government. It is stipulated by the Fisheries Act BES that fisheries in the TS

25 The Dutch Caribbean Nature Alliance (DCNA) is a regional network consisting of organizations that together have partnered up to promote and support nature conservation on the islands of Aruba, Bonaire, Curaçao, Saba, Sint Eustatius, and Sint Maarten. DCNA's mission is to help and assist with the management of protected areas on the six islands.

26 The Dutch Elasmobranch Society (NEV) brings together scientists, conservationists, and policy makers to gather scientific knowledge, and to promote the interests of elasmobranch fishes (sharks, skates and rays) in Dutch and European waters. The society was founded to identify the persisting gaps in knowledge about Dutch and European elasmobranchs, and to bridge these gaps by conducting their own research, in collaboration with Dutch and international partners (Source: www.elasmobranch.nl).

is a responsibility of the national government. Without a permit, fishing in the TS and EEZ is currently prohibited by law and through the permitting system specific rules and regulations can be installed and enforced.

Even though the national legislation (FABES and FDBES) is based on the fisheries rules and regulations that were in place under the administrative and governmental construction of the former Netherlands Antilles, the fisheries commission (FCBES) identified several significant loopholes which complicated enforcement and for which revisions and adaptions were deemed necessary (See EcoVision, 2017). In 2017, the fisheries regulations were thoroughly evaluated by a consultancy bureau contracted by the Ministry of LNV to identify the gaps and to link up with the regional fishing regulations. This evaluation led to a revision of the national legislation.[27] These developments illustrate that even seemingly minor changes in legislation can have large consequences in practice, further complicating proper management of the fisheries sector. It also illustrates that, while frustrating to practitioners in the field, it takes time for all the stakeholders to adjust before there can be proper implementation of regulations, initiatives, and legislation, particularly if there is a substantial change involved. Island legislation that affects fisheries in the marine park and territorial waters did not change after 10/10/10.

In addition to the legislation at the national (BES) and island level, there are various international conventions and treaties that came into effect for the Caribbean Netherlands after 10/10/10. Adherence to these agreements and participation in these bodies has had consequences for fisheries management in the Caribbean Netherlands in terms of policy, legislation, and enforcement.[28] While most of these conventions were already applicable to the three islands, the Caribbean Netherlands, as special municipalities of the Netherlands, now have a greater obligation to participate in, and cooperate with, global and regional efforts for fisheries management.

27 This evaluation also resulted into the development of a five-year national fisheries management plan, called the Sustainable Fisheries Plan which was implemented in January of 2020.

28 Two types of international instruments exist that affect fisheries. First, there are instruments that are specifically relevant for international nature conservation (e.g. CITES, SPAW Protocol). These strongly affect fishing activities by, for example, prohibiting the catch of certain endangered species. Secondly, there are international and regional fishery bodies (such as WECAFC)_that directly affect fisheries policy at the national and local level. The obligations under global and regional instruments are incorporated in national legislation. The nature of these consequences depends on the nature of an international instrument and the mandate of an international body. By becoming a party to a legally binding instrument (e.g., the UNCLOS), that party is legally bound to the obligations therein. Conversely, by adhering to a non-legally binding instrument (e.g., the FAO Code of Conduct) a State or entity (e.g., the European Union) becomes politically bound to the commitments therein. Bodies established by a non-legally binding instrument cannot have a mandate to impose legally binding obligations on their participants, and can therefore only impose political commitments. Moreover, even bodies established by legally binding instruments do not necessarily have a mandate to impose legally binding obligations on their members. An example in this regard is WECAFC. One of the main reasons for the ongoing WECAFC reorientation process is the desire for WECAFC to have the mandate to impose legally binding obligations on its members (Mac Donald, 2019).

Like the division of enforcement responsibilities pre-10/10/10, these are currently also divided among the national Dutch and local (non-)governmental authorities. The main responsible party for fisheries enforcement remained the Dutch Caribbean Coast Guard (KWCARIB). One of the tasks of the KWCARIB is the enforcement of fisheries legislation at sea. However, considering the gravity of other issues such as drugs and patrolling for illegal migrants, the available capacity for fisheries management is minimal. Therefore, KWCARIB continues to work closely with the STINAPA Marine Park. In addition to the KWCARIB and the STINAPA Marine Park Rangers, the Dutch Caribbean Police Force (KPCN) and the Royal Netherlands Marechaussee (KMar) can also be consulted when deemed necessary[29]. Despite this collaboration between these parties around enforcement activities, there remains a structural lack of resources for fisheries enforcement. Moreover, the vast scope of the waters in which fishing activities take place requires a level of patrolling that is not (financially) feasible for a small island like Bonaire. Furthermore, the importance of fisheries issues is valued substantially less compared to other matters that require the Coast Guard's attention (and that of STINAPA's rangers, KPCN, and KMar). Consequently, the Coast Guard remains highly dependent on collaboration with STINAPA in terms of fisheries management. Just as was the case pre-10/10/10, the negative reputation of STINAPA among the fishers is still present today. This reputational issue is not only evident at the organizational level (i.e., STINAPA having a bad reputation within the community), but also at the individual level, specifically rangers who are employed at STINAPA. Bonaire's marine park rangers have worked for STINAPA for many years and are almost always locals. Here the impact of small-scale of the island of Bonaire also becomes apparent in that everyone knows everyone and that the rangers often have families or friends who also fish. These rangers are responsible for enforcing the laws and regulations. Because this is a delicate task, these rangers are reluctant to enforce rules and regulations, particularly if they feel fishers are not informed about and involved in the development of the rules, if legislation is not clear, or if the legislation is not realistic or practical to enforce (Beek, Debrot, & Graaf, 2012). As one ranger explained to me:

> *We [the rangers] are the ones who need to confront the fishers. We need to take […] "revenge". And if it [legislation] is implemented correctly, I don't care. I don't have problems with them [the fishers] because they will get angry anyway. But I don't have a problem with them getting angry if it's done right. But if it's done wrong, I find it unjust.*

In sum, this overview shows that fisheries management on Bonaire has always been a joint responsibility between various governmental entities and includes the involvement of various NGOs. The involvement of the NGO STINAPA is through a mandate by

29 The KMar performs police tasks in the Dutch Caribbean. They serve the Dutch military personnel on the islands and the personnel of the Curaçaoan and Aruban Militias, and carry out duties at military facilities. Their tasks include the maintenance of (inter)national rule of law in the context of illegal fishing and environmental offences (Mac Donald, 2019).

the government, thus giving them a license to operate. While the division of roles and responsibilities for Bonaire's fisheries sector before 10/10/10 and after 10/10/10 do not seem to differ greatly on paper, in practice, the new division of roles and responsibilities requires a high degree of collaboration, both between the Dutch ministries and the public entity of Bonaire. Furthermore, although the relationship between the ministries and the public entity resembles that of the ministries and the regular Dutch municipalities, there are several significant differences that complicate the division of responsibilities and collaboration between the two governmental institutions. First, the physical and psychological distance between the islands and the Netherlands, in combination with the increased bureaucracy post 10/10/10, complicated the procedures that are required to effectively develop and implement policy. Second, the ministries are dealing with three isolated small islands who differ greatly from each other but who are treated as being one unit (the BES-islands). This means that each island needs to be considered separately, which once more complicates and prolongs the development of adequate management measures. Third, the lack of capacity (both financially and in terms of personnel) that is related to the small, isolated character of the island, resulted in many discussions about who is financially responsible for the execution of fisheries policies. For instance, who needs to pay for the placement and repairs of fishing piers? The Ministry of LNV, the Ministry of I&W or the public entity of Bonaire? Lastly, tensions and distrust between the islands and the Netherlands created in the colonial past have implications for the effective collaboration between the involved parties — government, fishers, ENGOs — and cannot be ignored.

Management and Development Efforts for Bonaire's Fishery Sector post- 10/10/10

10/10/10 was not only a decisive moment in the constitutional structure of the Kingdom of the Netherlands, but in the years leading up to that date there was a growing worldwide (political) awareness of the need for of climate management. This was certainly the case in the Netherlands, and this vision was translated into how the Netherlands perceived and dealt with the Caribbean Netherlands. Bonaire's fisheries sector was, therefore, already affected. The following paragraphs describe the management and development efforts affecting fisheries on Bonaire which took place after 10/10/10. This overview will highlight the practical implications of the reforms on Bonaire's fisheries management and, more importantly, the challenges regarding the involvement of the fishers in these efforts will become clearly visible.

A first notable finding was that even though the Ministry of LNV holds final responsibility for the fisheries sector of the Caribbean Netherlands, the development of a national fisheries policy or management plan remained absent until 2019.[30] The main argument given for the absence of clear policy and management plans was the lack of data. This

30 The first steps towards developing a policy plan were taken in 2019. These steps were requested by FCBES and were based on the recommendations following the evaluation of the fisheries legislation of the Caribbean Netherlands. The plan was to be implemented in 2020.

dearth of data makes it difficult to develop the policies and manage their implementation that would be necessary for the maintenance of sustainable fisheries. The national government adheres to the principle that policy and adequate measures can only be taken and implemented if it is clearly known which measures are required. Accordingly, the Ministry of LNV prioritized the execution of myriad studies to determine the status of the fisheries of Bonaire, Saba, and Sint Eustatius.

Research was conducted to determine: reef and pelagic fish stocks (De Graaf, et al., 2016; Beek, Debrot, & De Graaf, 2012); the status of the coral reefs (Steneck, Arnold, & DeBey, 2011; Steneck, Arnold, Leon, & de Rasher, 2015); the impact of invasive species (Debrot, Van Buurt, & Vermeij, 2011; De Leon, et al., 2013); the cultural and economic value of Bonaire's fisheries and marine ecosystems (Lely, et al., 2013; Schep, Johnson, van Beukering, & Wolfs, 2012) and various other topics. Most of these studies were commissioned and subsidized by the Dutch government. Moreover, with the constitutional changes Dutch research funding (Dutch Organisation for Scientific Research (NWO)) also became directly available for research on the Caribbean Netherlands. This illustrates the closer ties between the islands and the Netherlands, and consequently, the presence and availability of resources from the Dutch government and academic research institutes based in the European Netherlands for the development of policy and resource management plans and the acquisition of scientific knowledge.

Some researchers conducting these studies worked directly with or at least consulted some fishers and tried to inform the fishers about the outcomes of their research. However, many of these studies did not result in positive outcomes for the fishers because they showed that the marine ecosystems around Bonaire were under pressure and these studies defined overfishing (of certain species) as one of main threats to the ecosystem. In 2017, an extensive synopsis of the state of nature in the Caribbean Netherlands concluded that the overall status of fish habitats and fish stocks around Bonaire is dire (Debrot, Henskens, & Verweij, 2017). Findings from one study that created significant uneasiness among the fishers was the *What's Bonaire's Nature Worth* study (Lely, et al., 2013). The study provided insights into the financial and social contribution of Bonaire's natural environment and estimated the total economic value to be around 105 million US dollars per year. In comparison, the reef-related total commercial fisheries were valued at almost $400,000 and the recreational fisheries value was estimated at an economic value of almost $700,000 annually (Schep, Johnson, van Beukering, & Wolfs, 2012). On the one hand, the findings of the study argue that nature conservation is more profitable than investing in fisheries development. On the other hand, the estimates give the impression that fishers do make a substantial income. Several stakeholders and fishers explained that when these results were presented to the fishers, this led to much upheaval and restlessness among the fishers' community, as they feared this might imply they had to pay taxes. Due to the lack of professionalization — most fishers do not keep track of their administration, and many do not even have a back account —the incomes of commercial

fishers are not controlled for taxes. This argument — the fear of paying taxes — was a repeated reason as to why fishers were hesitant to professionalize the sector: they argued that they already make very little income, and the possible deduction of taxes would only further worsen their poverty.

In other cases, researchers would present their findings on the marine environment and fish stocks in settings or in ways that would not reach the fishers or the broader (fishers) community at all. One evening during my first week on Bonaire, I attended a presentation given by a Dutch researcher on the state of the coral reefs. The presentation was held at the Council on International Educational Exchange (CIEE) Bonaire, an American marine research station based on Bonaire. As I glanced through the room I noticed, unsurprised, that the presentation was almost only attended by students from the institute, some biologists who worked at STINAPA, a couple of dive shop owners, and some elderly American or Dutch residents interested in the topic. Although this was a public presentation, the general public of Bonaire was not represented in the attendees. Furthermore, the presentation was full of complex scientific jargon that excluded non-academic audiences and would have probably remained opaque to the fishers had they attended.

On the island governmental level, in addition to these studies, a local policy plan at the level of the public entity of Bonaire that addresses the fisheries sector was developed, called *Beleidsvisie Landbouw Veeteelt en Visserij Bonaire 2014-2029 (*Policy vision Agriculture Livestock and Fisheries Bonaire 2014-2029*)*. This plan formulated a general vision and a series of ambitions and corresponding actions for the three areas of livestock, agriculture, and fisheries. It should be noted that there was substantially less emphasis placed on fisheries in comparison to the development and management of agriculture and livestock. The goal that was formulated for fisheries was to create an economically and ecologically sustainable sector with the objective of improving the fisheries infrastructure. The actions required to achieve these ambitions goals were identified. They were: conducting research on existing fisheries; developing specific fisheries policies and legislation; and developing an implementation plan for sustainable reef and pelagic fisheries. Moreover, in this plan, the lack of capacity within the LVV department and the need to hire a fisheries policy worker to support the work being done by the LVV department was clearly stated. The need for these additional personnel was repeated in several research reports on the fisheries sector of Bonaire, including the first report in 2009 written by Wageningen University for the LVV department, called *Herstructureringsadvies voor de Dienst LVV op Bonaire — Een analyse van de sectoren Landbouw, Veeteelt en Visserij (Advice for Restructuring the LVV Service on Bonaire — An analysis of the Agriculture, Livestock, and Fisheries Sectors).* It was not until 2019 that the first tangible efforts were made towards bringing in this additional support, and a vacancy was advertised.

The lack of priority given to fisheries by the government is not only visible on the island level, but also on the level the government of the Netherlands. Whereas specific fisheries data were lacking, such as fish stocks, there were insights and existing policy plans available regarding the natural environment of Bonaire (and the Dutch Caribbean in general).

In anticipation of the constitutional reforms, baseline studies were subsidized by the Netherlands to determine the state of the natural (marine) environment of the Caribbean Netherlands (Debrot & Bugter, 2010; Debrot, Henkens & Verweij, 2017; Debrot, De Graaf, Henkens, Meesters & Slijkerman, 2011; Debrot, Witte, Scheidat & Lucke, 2011). The insights gained from these studies led to the development of two plans on a national level which also (indirectly) affect the management of fisheries of Bonaire, namely: the EEZ management plan and the Nature Policy Plan Caribbean Netherlands. In anticipation of the constitutional reforms in 2010, an EEZ management plan was developed for the EEZ of the Caribbean part of the Kingdom. The development of the plan was a joint effort between the former Netherlands Antilles, Aruba, and the Netherlands, with the reasoning for this combination being that despite the fragmented character of the Dutch Caribbean, the EEZ should always be integrally and collaboratively managed. The plan stems from the policy plan *Natuurbeleid van de Nederlandse Antillen (*Nature policy on the Netherlands Antilles) and focusses on the safeguarding and the prevention of the decline in biodiversity in the EEZ waters (Meesters, Slijkerman, De Graaf & Debrot, 2010). The nature policy plan was developed by the Ministry, as well, and, like the EEZ management plan, was based on the evaluation of the nature policy plan of the Netherlands Antilles. The policy plan is framed by a perspective that emphasizes the economic importance of nature (from the perspective of eco-system services). This policy plan was designed as an instrument to promote socio-economic and human well-being and encourage the integration of nature conservation in public and socio-economic sectors, ensuring that nature conservation enters the mainstream of society. In this regard, the plan addresses or affects fisheries, as it promotes the development of legislation and management plans regarding marine biodiversity, (internationally) protected marine species and the implementation of marine protected areas (Anon, 2013). Both plans were written by the Dutch research institute IMARES (Institute for Marine Resources & Ecosystem Studies) and financed by the Ministry of LNV. Thus, the government of the Netherlands paid extensive attention to and made the resources available that were required for the development of, policy plans aimed at safeguarding the natural environment and biodiversity of Bonaire's (marine) environment.

Despite the absence of an overarching policy plan for fisheries on a national level and a clear policy and implementation plan for sustainable fisheries at the local level, since 2010 several concrete fisheries management actions were taken by the Ministry of LNV on Bonaire, in addition to the extensive revision of fisheries legislation and the

aforementioned studies. Some of these were conducted in collaboration with the public entity of Bonaire and NGOs[31].

In 2015, for example, the YarariMarine Mammal and Shark Sanctuary was established and a "Save our Sharks campaign" was launched[32]. This proceeded two of the key goals identified in the EEZ management plan, namely, to develop a marine mammal sanctuary and the effective implementation of shark protection (DCNA, 2019; Meesters, Slijkerman, De Graaf & Debrot, 2010). The Yarari sanctuary encompasses all the waters of Bonaire, Saba, and Sint Eustatius. It is intended to provide "a fine place" for marine mammals, sharks, and rays, where they will receive the necessary attention to ensure their protection. While the sanctuary is not legally binding, it is a political commitment from all governments who signed the Yarari sanctuary declaration. In 2019, the Ministry of LNV created the International Shark Strategy (*Internationale Haaien Strategie 2019*, IHS-19), in which the waters of the Caribbean Netherlands were included. The IHS-19 formulates a series of policy goals and actions aimed to better manage and restore the shark and ray populations within national and international waters, including the waters of the Caribbean Netherlands. Both the Yarari sanctuary and the IHS-19 were established and implemented per the request of the Dutch Elasmobranch Institute (NEV) (Anon, 2019).

A second action was the extensive communication campaign focused on nature conservation and environmental management set up within the public entity called *Nos ta Biba di Naturalesa* ("We live from nature").[33] The campaign promotes the sustainable use of the natural environment on Bonaire. The campaign also explains how the economy of Bonaire is primarily dependent on the natural environment, as it is a tourist island, serving tourists from all over the globe who visit Bonaire for its natural environment. Communication is managed through a website, Facebook page, and television programs. The campaign also communicates the measures and policies that have been or are now being taken to manage the environment, and update residents on the latest developments in this area.

Attention was also paid to educating and professionalizing the fishers with the aim of stimulating closer collaboration with fishers in fisheries management efforts, to stimulate more sustainable fishing behavior, and include them in the registration catch landings (for example by means of using sustainable fishing gear reducing the chance of bycatch). On several occasions, financing was made available to send fishers to a regional fisheries conference and new attempts were made to establish a fisheries cooperative.

---

31 It should be noted that actions were, of course, also taken on Saba and Sint Eustatius. On Saba, for example, the Saba Bank Management Unit was installed and on Sint Eustatius a Data Monitoring Officer was hired to improve research and monitoring of catch landings. The Ministry of LNV is required to divide its resources and attention over all three islands.

32 "Yarari" is a Taíno Indian word, meaning "a fine place".

33 [32] www.bibadinaturalesa.com

Again, despite these efforts, fishers remained hesitant to switch to more sustainable fishing techniques and failed to successfully professionalize themselves. Consequently, structural inclusion of the fishers and their support in management efforts remained a big challenge. In a final attempt to include the fishers in the management procedures, WWF-NL funded the reestablishment of a fisheries cooperative (PISKABON), in which I, as mentioned in the Introduction, ended up playing a major role. This endeavor will be discussed in more detail in Chapter 6.

5.3.3 From Simple Exploitation to Complex Conservation?

The description of Bonaire's management efforts in the previous sections reveal three important findings. First, these descriptions illustrate that, contrary to the dominant argument made by the fishers that the government neglected the sector, there have, in fact, been several attempts to expand the sector and invest in its development. However, there seems to be a detrimental mismatch between the wishes and capabilities of the fishers on the one hand, and the vision of the government and the complex levels of bureaucracy and professionalization required to realize these projects on the other hand. Moreover, it also becomes clear that non-fisher stakeholders with an interest in marine resources tend to be more capable than fishers to follow the increasingly complex bureaucratic guidelines and thus are better able to achieve their goals.

Second, the analysis on past and current management efforts reveals how over time the vision of the government for the sector has shifted from exploitation and economic growth towards more sustainable and conservation-focused measures. This shift took place long before 10/10/10, which is in line with a growing global awareness on the detrimental effects of overfishing. Another much heard argument is that with the constitutional changes of 10/10/10 and, with them, the dominant presence of the government of the Netherlands, the state of the fishers has significantly worsened because the primary focus of the government is now to implement measures that protect the environment. However, the description of management of the sector prior to the constitutional reforms reveals that, in fact, this focus was already part of the vision and policies of the island government long before 10/10/10. Moreover, while increasing attention is paid to conservation measures, economic opportunities are not entirely dismissed by the government of the Netherlands: the leading objective is sustainable development, but fish are still considered an important and accessible source of food and income for the poorer communities. Furthermore, the transition after 10/10/10 has increased the available resources and capacity available for fisheries management and, therefore, has sped up the pace at which certain developments are taking place.

Lastly, it becomes apparent that the current formal structure and division of roles and responsibilities strongly builds on the structure that existed prior to 10/10/10. As I explained in the previous chapters, in the Caribbean every social and cultural trait and therefore also the way the environment is interacted with is shaped by the island's

colonial history. As I noted in earlier chapters, not only are the dominant players in the arena of nature conservation in the Caribbean Netherlands politically and historically determined; it is also affected by the extreme small scale of the islands and the fact that the constitutional reforms led to the reproduction of colonial inequality and resentment of perceived "re-colonization". The Caribbean Netherlands went from being colonies, to becoming part of the Netherlands Antilles as an autonomous country within the Kingdom, to now once again losing autonomy as they are yet again strongly integrated in the Netherlands because of their status as special municipalities. While the governance structure of the Caribbean Netherlands always fell under the "regime" of another country, the constitutional changes of 10/10/10 further fragmented and complicated the managerial landscape of government agencies locally and at the level of the Kingdom. It also shows how their mandates overlap with other public and private regulating bodies. This has made involvement in fisheries (or environmental) management more complex for local fishers. In sum, the current section provides insights into the success and failures of these past and more recent fisheries management efforts, which help to explain current perceptions of fishers and their (un-)willingness to engage in new projects. There is a similar attitude on the part of the government, who are also frustrated with the situation of fishers and the situation of Bonaire's fishery sector.

5.4 DISCUSSION

Notwithstanding the small size and the insignificant economic value, the marine environment does face several ecological threats (including overfishing), resulting in smaller and fewer catches and thus affecting the fishery sector. These changes are visible and felt by local fishers. There is a growing concern voiced by the fishers and the community in general that Bonaire's fishery is a dying part of the culture because it is becoming increasingly difficult to make a living from fishing. Moreover, this decline is affecting one of the poorest groups within Bonairean society who, due to their limited levels of education, feel they have little to fall back on. While the number of professional fishers seems to be decreasing, the number of recreational fishers is increasing, as are the number of resource users with somewhat conflicting interests in the marine environment (e.g., divers, snorkelers, coastal developers). Consequently, it seems as though the fishers are reluctant to openly acknowledge that their local fishing practices contributed to the declining fish stocks as they fear the implementation of measures that would directly limit their fishing freedom.

This chapter described the many developments that have taken place in the fishery sector of Bonaire over time. It is difficult to determine the extent to which past efforts to develop or manage the sector have failed or succeeded. However, the general impression within the fishery community is that more efforts have been made to introduce protective environmental measures (such as legislation, regulation and prohibition of fishing gears,

implementation of restricted fishing zones, species moratoriums, etc.) than attempts to economically develop or stimulate the sector. Furthermore, the failure of past attempts in terms of the economic development of the sector has had a strong effect on the faith of stakeholders, who doubt whether new attempts will be more successful. This negatively impacts their willingness to participate in new management and/or development initiatives. Moreover, where policy documents and research prior to 10/10/10 tended to emphasize the healthy state of the coral reefs and marine ecosystems of Bonaire, more and more evidence has been found that even though the coral reefs of Bonaire might be among the most pristine and healthiest in the world, they too are experiencing a steady decline. Thus, there seems to be a growing trend to approach fisheries management from a resource conservation perspective and less from a solely economic growth perspective. Even though this shift took place long before the constitutional reforms, it does contribute to the overall sentiment among fishers that the government neglects the fishers and the fisheries sector.

This shift from economic growth to nature conservation was also visible in the rhetoric of stakeholders I interviewed to gain insight into the efforts made to manage the fisheries sector. Talking with the various stakeholders revealed that there are many differences in the perceptions they have about fisheries and how the sector should be managed. How stakeholders perceive Bonaire's fishery, their relationship with the sector, and how they view the sector in relation to other sectors on Bonaire affect their views on measures to be taken in terms of fisheries management and development. I noticed that most stakeholders consistently made a distinction between the terms "management" and "development" when talking about the sector. While the two terms greatly overlap, and are generally used interchangeably, they have an unmistakably different connotation in relation to the fisheries sector among stakeholders in Bonaire's fishery sector. The term *management* was used when referring to measures taken by (semi) private organizations, government, institutions, and individuals towards sustainability, environmental protection, and/or the prevention of or reversing of resource exploitation. *Development*, in contrast, was used when talking about investments made by (semi) private organizations, government, institutions, and/or individuals to promote growth, increase economic profit, and improve working conditions (i.e., efficiency, safety, quality). Thus, it seemed that management had a more restrictive connotation and refers to actions taken in direct favor of the natural environment, while development implies expansion, which gives a sense of freedom or opportunity and benefits in direct favor of the fishers (i.e., more fish caught, more income). I came across a clear example in the minutes of the Fisheries Commission BES in which the development of a national fisheries management plan was being discussed. One of the members of the commission emphasized that it was important not to call the policy document a "management plan", but rather a "sustainable fisheries plan". He argued that the use of the word "management" could scare off fishers in the process of the development and lead to less support among the fishers for the plan.

It is also important to state that the past failures to expand the fishery sector are likely to be a strong argument for the government to steer clear of making similar investments and with it, large losses, as has happened in the past. Moreover, these past failures also negatively affected the levels of trust the fishers tended to have in the state.

The analysis of past and present management efforts of Bonaire's fisheries further revealed that the current managerial structure of fishery on Bonaire shares many similarities with the structure prior to 10/10/10. In fact, despite the sentiment that exists among the general community and some fishery stakeholders, the current post-10/10/10 fisheries legislation is largely or even entirely based on pre-10/10/10 legislation. One of the biggest differences between the two timeframes and governmental management of the fisheries sector seems to lie in the availability of capacity and resources with the increased presence of the Dutch government. In addition, it became clear that these resources are seemingly only available for issues or projects for which the national government of the Netherlands feels direct responsibility or when they are fully in line with the visions of the different ministries.

While legislation is in place, a clear vision for Bonaire's (and Saba's and Sint Eustatius') fisheries sectors is still absent. Not only can this be ascribed to the lack of statistical data on the sector, but it is also due to the fact that on a national level, from the perspective of the Ministry of LNV, the fisheries sectors of Bonaire, Sint Eustatius, and Saba differ greatly from each other. This implies that the sector of each island has different needs, possibilities, and challenges which need to be adequately addressed. The sector's minor importance to Bonaire's economy compared to other sectors was reflected in the minimal way fisheries are included in Bonaire's L.V.V. policy plan (Pakus en Wayaka Advies, 2014).

We can conclude that despite the increased availability of resources that could be invested in fisheries, up until now, most funding from the national government of the Netherlands was spent on the execution of scientific studies to get a better view on the state of Bonaire's marine environment and its fisheries. While these are of importance for the development of sound policy and management measures, these studies and their outcomes made fishers increasingly distrustful towards researchers. They had been more willing to collaborate at first, but after learning about the implications the findings of these studies might have on their sense of freedom and the recommendations for changes in fishing techniques, they were less willing to participate in management efforts or research over time.

I also experienced this resentment towards researchers during my fieldwork. I was introduced to a fisher during the first weeks of my fieldwork, and I carefully asked him if he would be willing to talk to me about his experience as a professional fisher of Bonaire. During that first meeting, he agreed that I could give him a phone call to set up a meeting. When I approached him again about a month after our first meeting

to ask if we could set up a date, he became quite hostile and refused to talk to me. He kept saying that he would never talk with researchers because they just come up with rules and ruin everything for the fishers. Of course, his second reaction might also have stemmed from the fact that the second time I called him he was with friends and family to which he might have something to prove. Nevertheless, his response to my request for a talk the second time around does reflect the sensitivities surrounding fishers and their participation in or collaborations with scientists (and ENGOs).

A final important finding is the lack of structural inclusion of the fishers in management and development efforts. This does not mean that attempts were not made to include the fishers, but the developments I have discussed do illustrate that these attempts were only marginally successful, if at all. There have been several attempts to include the fishers in management efforts. As I already mentioned, several of these efforts focused on the establishment of a fisheries cooperative, but other measures to include the fishers in management procedures have been taken as well. The executive Board member position of STINAPA was not successfully filled — the reasons for this being unclear. Other times when fishers were approached and included in management efforts. They repeatedly used the argument that that they (as an individual) were not able to speak for all fishers as a reason to decline to serve or involve themselves.

Moreover, besides the "formal" institutions responsible for fisheries management, there are increasingly numerous stakeholders with an interest in, or a degree of responsibility for, the marine area of Bonaire and who are therefore also concerned with the actions taken to manage fishing activities. These stakeholders include, for example: the diving industry; fish distributors such as hotels, restaurants, and supermarkets; other marine related NGOs such as Reef Renewal Bonaire (RRB) and Sea Turtle Conservation Bonaire (STCB); and other tourism nature-related service providers such as The Mangrove Info Center, who provide kayak tours through Bonaire's mangrove forests. The success garnered from the establishment of the marine sanctuary, which was strongly lobbied for by the NEV, exemplified the large impact Dutch ENGOs can have on the islands, particularly because they are able to navigate the spaces of Dutch bureaucracy. In Chapter 6 the impact of Dutch NGOs and their resources will become evident once more as I describe how WWF-NL hired me to establish a fisheries cooperative on Bonaire.

What can be concluded from the description of the fisheries sector of Bonaire and its management and development over time, is that Bonaire's fisheries face much of the challenges which have been argued could best be addressed by co-management. Literature and practice have shown that small scale fisheries on small islands almost demands co-management due to the limited infrastructure, capacity, and resources available, as I will discuss at greater length and in more detail in Chapter 6. This is even more the case for low-value fisheries as the financial return of effective management cannot be covered by the sector. Consequently, management officials often have little

incentive to make the adequate investments effective management requires. Studies have argued and shown that co-management can bridge the gap caused by the shortcomings of management efforts by the government in these cases (Pomeroy & Williams, 1994; Trimble & Berkes, 2015).

However, based on the description of past management efforts, it seems that some form co-management of fisheries has in fact existed for many years on Bonaire. Here I refer to the finding that multiple parties have been responsible to some degree for the management of Bonaire's fisheries. Prior to the constitutional reforms in 2010 the main stakeholders were the government of the Netherlands Antilles, the island government of Bonaire, and the local NGOs. Currently, there are several other stakeholders involved with fisheries management. The biggest new stakeholder is the government of the Netherlands. While the current formal structure and division of roles and responsibilities strongly build on the structures that existed prior to 10/10/10, the constitutional changes further fragmented and complicated the managerial landscape of government agencies locally and at the level of the Kingdom. Consequently, the need for co-management has intensified since 10/10/10 because the government of the Netherlands now holds the final responsibility over the fisheries of the three islands. The sector is now facing the reality of a distant powerful authority with relatively little knowledge about local fisheries, its needs, requirements, and struggles. Moreover, the current institutional structure requires collaboration between national government ministries. Considering the low levels of education and professionalization of the fishers, this has made involvement in fisheries (or environmental) management more complex for local fishers.

Considering the fact that a limited amount of co-management with several stakeholders was already taking place, but the fishers seemed to be the structurally neglected party within management efforts, a specific form of co-management was repeatedly proposed as a solution by government officials, ENGOs, researchers, and even the fishers themselves, namely co-management through a fisheries cooperative. Moreover, it was argued that the management efforts that were initiated by or that did successfully include fishers throughout the process have been the most successful, for example, the abolition of spearfishing and the installment of the marine reserves based on the exchange with fishers from St. Lucia. In the next chapter, I will describe how my involvement contributed to the establishment a (semi)successful fisheries cooperative on Bonaire. While I argue that organizing the fishers greatly aids formal institutions in structurally involving fishers in management efforts, simply having a fishery cooperative within the current managerial structure is far from sufficient to ensure the creation of equal and effective inclusion of fishers in efforts towards environmental preservation.

Establishing a Fishery Cooperative on Bonaire: The Silver Bullet to All Fishery Management Problems?

6.1 INTRODUCTION

In Chapter 5, I gave an in-depth overview of the history and institutional framework of fisheries management and the resulting challenges to instituting effective oversight of, and cooperation with, this sector. Based on this analysis it can be concluded that Bonaire's fishery sector faces many challenges in terms of its management. These challenges are mutually reinforcing and are visible at three levels; namely: a) institutional (i.e., inadequate legislation, ambiguity concerning roles and responsibility); b) economic (i.e. lack of capacity and resources for enforcement, policy development, monitoring of catch landings); c) socio-psychological (i.e. lack of perceived priority to act, mixed sense of urgency to act, lack of sense of ownership, feelings of unfairness and neglect among fishers, distrust among fishers towards government and ENGOs). Moreover, the growing, global, importance of nature conservation, the growing importance of a pristine marine environment to Bonaire's economy, and the growing and vocal group of stakeholders in favor of environmentally protective measures has led to an increase in the implementation of these protective measures while, simultaneously, there has been a (perceived) neglect of the immediate needs of the fishers. Related to this, one of the main conclusions drawn from the previous chapter was that there had been an insufficient inclusion of the fishers in past management efforts.

These issues are not uncommon for small scale fisheries like that of Bonaire. These are places where the costs or effective management of natural resources such as fisheries presents wicked problems, and do not often meet the economic revenue derived from the sector.[34] Nevertheless, and despite this lack of immediate economic viability, small scale fisheries do require management. Marine resources can become overfished, even with small scale fisheries. In addition, management is required because fishers are generally economically and socially low income and poorly educated members of the community. Moreover, fishing is culturally important to a degree that far outweighs either its economic value or the percentage of the population actively involved in it. A solution can be found in co-management as I described in the Introduction to this part of the thesis. Co-management is argued to be effective for small scale, low value, artisanal, fisheries as it can address the shortcomings associated with governing from a single institutional level alone.

The quest for understanding what might be an effective, sustainable, and broadly acceptable management structure for fisheries led me to the following research questions that I will address in the current chapter, namely, can a fisheries cooperative help resolve the existing (co-)management challenges present in the fisheries sector of Bonaire? Even though the initial plan for my collaboration with WWF-NL was for me to conduct a

34 "Wicked problems" meaning particularly complex, open-ended, and intractable issues, in which both the nature of the "problems" and the preferred "solutions" may be strongly contested and are not clear cur (De Fries & Nagendra, 2017; Head, Ross & Bellamy, 2016).

series of interviews with fishers and other local fisheries stakeholders, WWF-NL and I concluded early on that it would be more useful and insightful to change this approach to a participatory action research where I would attempt to help the fishers establish a fisheries cooperative. Granted, the idea of establishing a fishery cooperative was not new as became evident in Chapter 4. However, none of the earlier attempts lasted nor had they led to effective co-management of the sector with the fishers. It was therefore decided that a participatory action approach would be of both high scientific and societal relevance because:

1) It would allow me to get an in-depth understanding of ways to establish and maintain a fishery cooperative on Bonaire through which existing co-management strategies could be strengthened;
2) It would allow me to experience and therefore clearly identify the struggles of fisheries co-management from the perspective of the fishers and indirectly also those from other management stakeholders (i.e., the government of the Netherlands, the public entity, ENGOs);
3) It would allow me to work closely with the fishers in a non-intrusive manner and to gain valuable insights by building a relationship of trust with them;
4) It would allow me to test to what extent a fishery cooperative was indeed the missing link to effective inclusive co-management of the sector with the fishers;
5) It would provide the opportunity to produce a tangible outcome, not only for the government and ENGOs, but also and, in particular, for the fishers.

After several months of work with the fishers, I succeeded in establishing a fisheries cooperative called PISKABON. To answer the main question of this chapter, I formulated the following sub-questions: a) *What challenges does a fishery cooperative encounter during its establishment and involvement in co-management efforts of Bonaire's fishery?*; b) *What management challenges does a fishery cooperative resolve regarding co-management of the sector?* Considering that co-management should not be seen as an end result, but, rather, a management process or strategy, I also investigated a second main question namely: c) *How is Bonaire's fishery co-management strategy through a fisheries cooperative affected by notions of belonging, small scale, and the constitutional reforms of 10/10/10?*

In this chapter, I first describe some of the theories behind co-management and include a more detailed discussion of Ostrom's principles and their relationship to co-management structures. I then describe the methodology used to answer my research questions. Next, I share a detailed description of the establishment of the fisheries cooperative PISKABON spanning a period of 1,5 years. I have divided this into two narratives. The first account describes the first general member meeting with the fishers which launched the formalization process for the establishment of PISKABON. The second narrative focusses on the months following this meeting during which PISKABON had to formalize their establishment and their role as co-management partner of Bonaire's fisheries. These two ethnographic accounts clearly illustrate the challenges

and complexities of fisheries co-management through a fishery cooperative. The accounts are analyzed in the Results section where I answer my two sub questions and identify which management struggles the cooperative still faces and which ones it helped to overcome. In the Discussion, I move on to answering the two main questions, namely: 1*) how these challenges are amplified by three specific characteristics of the local context of Bonaire, namely its small scale, the constitutional reforms of 10/10/10, and the island's colonial past and how these challenges relate to notions of belonging?; and, 2) if a fisheries cooperative can indeed alleviate or resolve the management challenges the sector faces or not?* Lastly, I reflect on the question of *3) if the fisheries co-management strategies on Bonaire adhere to the CPR design principles?*

6.2 CO-MANAGEMENT

Co-management is a form of management that can be defined as "a partnership by which two or more relevant social actors collectively negotiate, agree upon, guarantee and implement a fair share of management functions, benefits and responsibilities for a particular territory, area or a set of natural resources" (Borrini et al, 2007, p. 103) An important element in co-management is thus not only the sharing of responsibilities, but that benefits are also shared. Different forms or hierarchies of co-management exist, meaning it can involve different degrees of management responsibility and authority between the local level (resource user) and the state level (national or island government). Sen and Nielsen (1996), for example, classified five types of (co-)management, visualized in Figure 32:

1. *Instructive management* is not a form of co-management as it refers to decisions made by the government and resource stakeholders merely receive instructions on these decisions.
2. *Consultative co-management* refers the process where resource stakeholders are consulted on management measures before decisions are taken.
3. *Cooperative co-management* means the process where resource stakeholders and government authorities are equal partners in the development of management measures.
4. *Advisory co-management* refers to a form of management where resource users advise the government on the required measures and the government approves of these recommendations.
5. *Informative co-management* is used to describe the situation where the government delegates its authority to resource users who are then responsible for (elements of) the resource and inform the government about their management decisions (Sen & Nielsen, 1996).

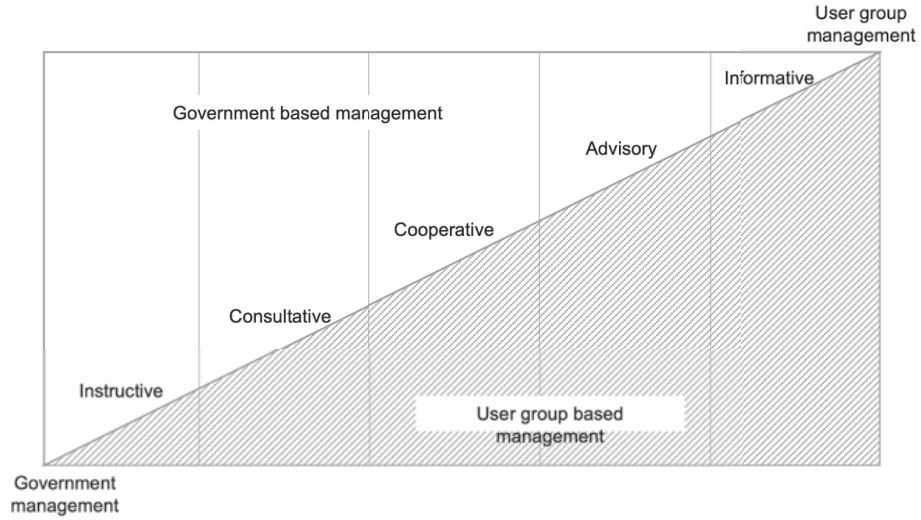


Figure 32 . Range of co-management arrangements categorized by Sen & Nielsen (1996) (Original figure adapted from McCay 1993 and Berkes 1994).

Co-management has been argued to be effective for small scale, low value, artisanal, fisheries as it can address the shortcomings associated with governing from a single institutional level alone. Because co-management is a participatory management model in which multiple resource users are actively involved, it is able to develop measures that cater to multiple needs (i.e., biological, social, and economic) related to fisheries, the marine resource, and its users (Costanza, et al., 1998; Gutiérrez, Hilborn, & Defeo, 2011; Jentof, 1989; Pinkerton, 1989). This, in turn, can also result in more equally shared (economic) benefits between the involved stakeholders (Finkbeiner & Basurto, 2015; Tietze, 2016; d'Armengol et al, 2018; Oldekop, Holmes, Harris & Evans, 2016; Pomeroy & Williams, 1994). Wiederkehr, Berghöfer and Otsuki (2019) used the adapted version of the principles from Pomeroy, Katon and Harkes (2003) to assess their proactive guiding abilities for fisheries co-management programs. Wiederkehr, Berghöfer and Otsuki (2019) concluded that while the eleven principles as formulated by Pomeroy and Williams (1994; see Appendix G) were applicable, they lacked a key element, namely the availability of sufficient, fair, transparent, and adequate financing. Hence, I added this additional element to the eleven principles and included it in my analysis of Bonaire's fishery co-management program in the current chapter. The definitions of these twelve principles are presented in Appendix G.

Studies using the principles have critiqued the incompleteness of these principles, which is greatly influenced by characteristics of the resource and the specific context (Cox, Arnold & Villamayor Tomás, 2010; Baggio et al., 2016). Consequently, scholars have refined and adjusted the principles, creating differing variants of Ostrom's design principles. The guidelines were also adapted and specified for (small scale) fisheries co-

management (Serafini, Medeiros & Andriguetto-Filho, 2017; Wiederkehr, Berghöfer & Otsuki, 2019; Trimble & Berkes, 2015; Levine & Richmond, 2015). The CPR principles I have presented did not guide the data collection process I described in Chapter 5 but I did use them as an analytic tool for the purpose of gaining a deeper understanding of the environmental management struggles present in the Caribbean Netherlands. Thus, my objective was not to conduct an exhaustive analysis of the compliance with the design principles in Bonaire's fisheries, but rather to use the principles as a tool to shed light on the opportunities and barriers for effective fisheries co-management

Co-management is believed to have many advantages, including, but not limited to, enabling more inclusive and transparent decision making processes, more effective collective action and conflict resolution through the inclusion of relevant fishery stakeholders, more support and compliance with management measures, reduced management costs, and increased sensitivity to local realities and conditions which can, thereby, lead to the development and adequate implementation of fitting, supported, credible measures (Berkes, 2009; Evans, Cherrett & Pemsl, 2011; Gutiérrez, Hilborn & Defeo, 2011; Pomeroy & Williams, 1994).

While there are many forms of co-management and, indeed, as became evident in Chapter 4, some co-management strategies had already taken place on Bonaire, specifically the delegation of management of the national marine park to STINAPA, one particular approach was believed to be crucial for breaking the impasse of ineffective fisheries management on Bonaire. This was the inclusion of the fishers in management efforts by means of a fisheries cooperative. There are numerous reasons why fisheries cooperatives or organizations can more efficiently facilitate fishers' participation than approaches that focus on the individual fishers in fishery management efforts. Pollnac (1994), for example, identified four main reasons, namely: 1) it eases the coordination of meetings to discuss management matters; 2) working with smaller representative groups increases the chances of achieving agreement on management decisions; 3) it can create fairer representation for individuals affected by the proposed changes, as organizations can help effectively represent the less privileged and educated groups; and lastly; 4) it reduces the pressure placed on individual participants as organizations are often better able to defend themselves against (il)legal threats. While numerous researchers have provided evidence for the effectiveness of fishers' cooperatives or organizations as facilitators for fishers' inclusion in fishery management (McCay, 1980; Berkes, 1986; Jentof, 1989; Bailey & Jentof, 1990), it has also been stressed that the existance of cooperatives does not guarantee successful co-management. The latter depends greatly on the effectiveness and the success of the cooperative and the cooperation among fishers. Or as Pollnac (1994) stated: "… the mere existance of a cooperative does not guarantee either successful cooperation among fishers or successful co-management. It could, however, be a beginning as well as influence members' willingness to manage the resource" (p. 101-102).

The awareness of the value of co-management to small-scale fisheries and the acknowledgement of the fact that fishers had been insufficiently heard and involved as active stakeholders in fisheries management efforts on Bonaire, led to the strong belief among (mostly Dutch) experts and institutions on Bonaire who strive for sustainable fisheries that the missing link to effective management was the inclusion of the fishers themselves. Moreover, learning from past experiences, it was argued that fishers should be included in an organized form and not individually. Past efforts to collaborate with fishers had shown that if fishers were approached and included individually, other fishers would argue that the collaborating fisher did not represent all of the fishers, and, furthermore, it has been seen that there were also reputational concerns for the fisher, as my discussions in the first section of this dissertation illustrated. For example, it has been the case that a fisher who closely and actively collaborated with STINAPA or the government would be called a traitor by the fishing community. I encountered this at the very beginning of my fieldwork on Bonaire when I was introduced to a well-known fisherman at the cultural market at *Magazina di Rei*. He came from a long line of fishers — both sides of his family had been involved in fisheries activities for many generations. He, himself, had noticed the decline in fish stocks and size over the years and had collaborated with the government and STINAPA in the past to bring more awareness among the fishers about this issue. When I asked him if he was interested in starting a fishery cooperative on Bonaire, he made it very clear that even though he supported the idea he personally did not want to be involved anymore. He shared with me that he was not trusted anymore among the fishers, that they said he sided too much with STINAPA, and that it would be unwise for me to include him in the process. This is a perfect illustration of the dynamics at play in small-scale insular societies.

6.3 METHODS

In the current chapter, I describe the process of the establishment of the fisheries cooperative PISKABON and the cooperative's journey to becoming an equal co-management partner for Bonaire's fisheries sector. Through my description of this journey, and the struggles the fishers involved in the cooperative faced, I will highlight how and why merely having a fisheries cooperative is not sufficient for the elimination of all institutional, physical, and/or psychological barriers involved in fisheries management. I helped to establish and closely and formally worked with PISKABON on Bonaire from October 2017 through January 2018 at the request of WWF-NL. However, I continued to provide weekly voluntary support to PISKABON for the remainder of 2018 and the beginning of 2019.

The establishment of the fisheries cooperative was through a so-called participatory action research approach (Stringer, 2013). This means that the researcher observes a situation and/or identifies a problem, comes up with a way to change the situation or

solve the problem, implements this solution, and evaluates the new situation. This cycle repeats for the duration of the project (illustrated in Figure 33).

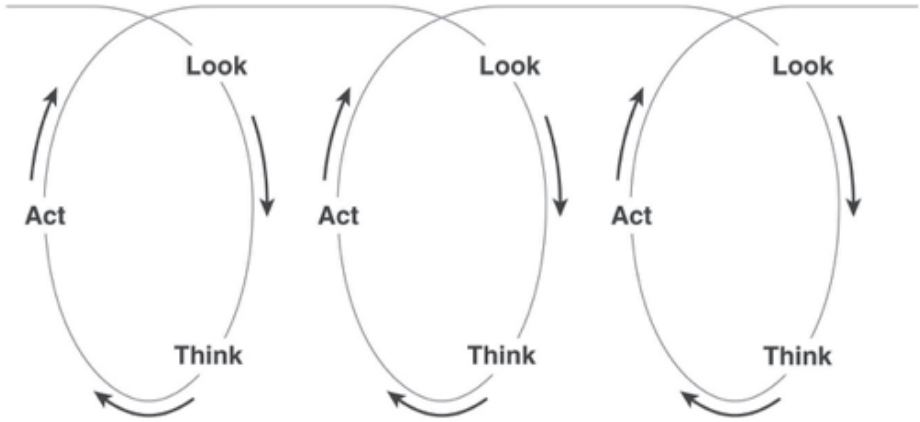


Figure 33. Action Research Interacting Spiral (Stringer, 2007).

Aware of the need to include fishers in the management of the sector, my action research focused on setting up a fisheries cooperative. I chose this approach based on the literature review and insights derived from the preliminary interviews. Initially the intervention was aimed at organizing a meeting with fishers in order to involve them in fisheries management practices. Because the desire for a fisheries cooperative was expressed by various stakeholders, including the fishers themselves, I decided to shift my focus to helping the fishers establish a fisheries cooperative.

I chose this approach for several reasons. First, researchers who conducted research on fisheries on Bonaire in the past shared that fishers, in particular, place little value on research and extensive interviews as they feel that these have little effect or impact on improving the sector. Instead, fishers expressed a need for "real" action in order to improve the sector. Second, having a fisheries cooperative in the view of WWF-NL as well as of other local fisheries stakeholders, is essential to ensure the proper representation of fishers as a group in fisheries management decisions and discussions. Third, several attempts had been made in the past to set up a fishery cooperative but had been unsuccessful thus far. Thus, it was crucial to find out in what manner the fishers could be effectively organized. Lastly, working closely with the fishers and, particularly, the Board of the cooperative would give me in-depth insights into the bottlenecks facing the sector and create for me the opportunity to experiment with solutions for achieving a management climate in which the fishers are structurally and equally involved.

In addition to this participatory action research, I conducted interviews with 27 experts and twelve fishers. The experts include local and national government representatives, and ENGO representatives, and they were consulted both for explorative purposes

and to enhance data triangulation. In Table 14 I present an overview of the number of interviews held with the different stakeholders concerned with, or affected by, fisheries management on Bonaire. Interviews focused on several topics, including the importance of Bonaire's fishery sector to the island, views on past, current, and planned management efforts for the sector, and the roles and responsibilities of the various marine resource users regarding its management. Thirty-two of the interviewees were male and seven were female. All key informants referred to in the following chapter have been given a pseudonym to safeguard their anonymity.

Table 14. Stakeholder interview sample: overview.

Stakeholder level / Representatives	Number of interviews
National government	2
Island government	8
ENGO representatives: park managers, rangers & scientists	12
Fishers: commercial & recreational	12
Other: private sector, consultancies	5

6.4 CO-MANAGEMENT OF FISHERIES THROUGH A FISHERIES COOPERATIVE: THE ESTABLISHMENT OF PISKABON

Before delving into the analysis of Bonaire's fishery co-management strategy and its effectiveness and the concomitant implications for natural resource management in the Caribbean Netherlands, I will describe two crucial events during my fieldwork on Bonaire. The first event revolves around one evening at the very beginning of my fieldwork. This was the first general member meeting during which the fishing community needed to support the plans for establishing a cooperative and vote for a Board to represent Bonaire's fishers in fishery management and development activities through the cooperative. I will describe the events of the evening of the general member meeting in detail. The second event was not actually one specific event and took place over a prolonged period of time. I will describe the various events taking place during the months leading up to the moment when the newly established cooperative received a subsidy granted by the Ministry of Agriculture, Livestock and Food Quality (Ministry of LNV).

Both events exemplify the important social and political challenges Bonaire faces when it comes to fisheries co-management; specifically, fisheries co-management in the form of collaboration between the government and the fishers through a fishery cooperative. As I was closely involved in both these trajectories with the Board members of PISKABON, both events are shared from my perspective of, and experience with, the fishers. While my participation allowed me to experience the challenges and figure

out ways to overcome these, it also impeded me from viewing the happenings from the perspective of other key stakeholders, particularly from the government's perspective.

6.4.1 The First Member Meeting

A couple of days after my introduction to the fishers at the pier in Kralendijk, a meeting was organized with a carefully selected group of fishers at a fish restaurant run by a former cooperative Board member. The group was comprised of three commercial professional fishers, two of whom fished part-time and one who fished full-time. In addition, there were two recreational fishers. During this meeting I introduced myself and my reasons for being on Bonaire. I explained that I was asked by WWF-NL to assist them with a study on the social bottlenecks of fishery management on Bonaire and that I was conducting this study as an independent researcher. Moreover, I stated that I would be present on Bonaire for a period of three months and that I would be available to assist the fishers with establishing a cooperative if they desired one.

Once the five fishermen met up with each other and decided they would take on the challenge of re-establishing a fisheries cooperative on Bonaire, we only had a couple of days to make all the necessary arrangements for a first general member meeting. This meeting was crucial because it was here that it would be officially decided whether or not the fishing community was in favor of having a cooperative to represent them, whether or not they, as individuals, were willing to become a member of cooperative, and if the fishers who volunteered to become Board members would be approved of by the rest of the group.

Using past experiences and all the advice I could collect from previous cooperative initiators; I went to work. I wrote and printed personal invitations for all commercial boat owning fishers, and these were personally delivered to the fishers by Pedro, one of the fishermen who offered to become the president of the cooperative. A neutral, low key, and familiar spot was chosen to hold the gathering and catering and drinks were arranged. On the day of the meeting, I made a PowerPoint presentation for the spokesperson and vice-president of the still to-be-elected Board members. I made this PowerPoint presentation the morning of the general member meeting when it occurred to me that having some visuals would help structure the meeting. Using the minutes of the meeting we had held with the aspiring Board members a couple of days before, I quickly made a couple of slides which included a slide that laid out the goal of PISKABON and the importance of having a fishery cooperative, a slide presenting the membership guidelines, a slide to present the aspiring Board members, a slide presenting a logo, and, lastly, a slide briefly presenting the planned next steps for the newly established cooperative. While it felt a bit strange that I made the presentation by myself, there was no time to do it any other way, and I felt confident enough to make a simple presentation based on the meeting I had already had with the Board. For me, it felt as if I were merely summarizing and structuring what they had already shared with me. About fifteen

minutes before the meeting started, I quickly showed the slides to the spokesperson and luckily, he was happy with the presentation and easily made use of it during the meeting.

In addition to making the presentation I arranged a beamer, a laptop, and arranged for all other logistical necessities to ensure that the gathering would run smoothly. We also invited the island Lieutenant (Lt.) Governor to show the fishers that the government supported the establishment of the cooperative. Moreover, we knew the Lt. Governor had a strong affinity with fishing and for the fishing community. Lastly, there was one final secret weapon used to entice the fishers: the promise of receiving funding to buy and install a series of Fish Aggregating Devices (F.A.D.s) from the Ministry of LNV. This time the F.A.D.s would be built according to the latest technological developments which had been tried and tested and thus had a higher guarantee for success than had the previous ones used on the island.

As the hour of the meeting approached and all chairs and presentations were in place, the tension was building, and nerves were clearly visible. I was not the only one who felt this tension. The prospective Board members felt it too. Would the fishers even show up? What state would they be in? Would they support the initiative, or would they boo us out of the room? One prospective Board member, Willem, was the most visibly nervous. Willem worked as both a commercial fisher and with commercial recreational fishers, the latter as an employee of one of the larger fishing charter services of Bonaire. Right before the meeting started Willem shared some of his concerns with me. He was not sure if any fishers would show up. He had been to several fisher folk meetings in the past and could only recall the heated debates during these past gatherings. A few days before the meeting, he also shared with me that he had little faith in Pedro's ability and reliability to even be the president of the cooperative. When I asked him if he would rather be the president, he stated that "I did not want to be the only white, Dutch guy in the group and then also take the lead**.** I had to work hard enough for my status as a true Bonairean fisherman as is". Being raised on the island from a very young age helped his status and reputation, as did the fact that he almost solely spoke Papiamentu. He had learned the fishing trade from the best-known fishers on the island as a boy, and he also had a local partner. However, all of this did not change the color of his skin.

Despite these concerns, a large number of fishers ended up attending the meeting. These were primarily boat owners who also fished themselves, or boat owners who had other fishers who would do the actual fishing for them on their boats (see the boat owner agreement as described in Chapter 5). These boat owners were a specific target group for the evening, as they tend to have more weight in the fishing community due to their ownership of the boats making them the ones who concretely provide work for the fishing community. Hence, it was reasoned that if this group would be willing to support the idea of a fisheries cooperative and the prospective Board members, the rest of the fishing community would very likely follow.

Figure 34. Opening the first official general member meeting with the goal of choosing the Board members for the fisheries cooperative PISKABON (Credits: Arjan de Groene).

I opened the gathering in Papiamentu, welcomed the fishers, and briefly shared the program with the attendees (Figure 34). This was followed by a warm welcome from the Lt. Governor, who also expressed how happy he was to see so many fishers present. He stressed that the government that he whole-heartedly supported this gathering and that he hoped the meeting would be fruitful and lead to great developments for the fishers in the future. Next, the aspiring spokesperson and vice-president of the cooperative took the floor. It became immediately clear that he had a way with words and could present quite well. Even though he is not a commercial fisher or boat owner — he is in fact a police officer by day — he does fish recreationally, is from a long established Bonairean family, and has years of experience on the boards of various associations. He explained to the attendees how important it was that the fishers join forces and organize themselves through a cooperative. He strategically avoided lingering on the topic of past failures in terms of organizing the fishers and their (lack of) involvement in management efforts. As soon as he noticed the fishers becoming a bit restless, he guided the discussion back towards the future. This was followed by the request for members to sign up to become a member because a cooperative could not be formed without members. I prepared a simple form for the fishers to fill out through which they could become a member. On the form fishers had to share their name, address, email address, phone number, as well as some information about their boats so that I could get an indication of the types of fishers PISKABON would be representing. This was the moment I was confronted with the reality that many fishers are illiterate, in particular the older generation of fishers. Many fishers required assistance with filling out the form, most fishers did not have

an email address, and some where only just able to put down a simple signature. That evening, a total of 20 fishers signed up to become a member of the cooperative.

This was followed by the most crucial moment of the evening: would the new members approve of the nominated Board members and supervisory Board? The spokesperson introduced all the candidates and their respective function on the Board. It would be an all-male group, each Board member representing a different type of fisher, each member with his own set of skills, experience, and network. Prior to the meeting, I had discussed this moment of voting with the aspiring Board members, as well as with several of their shadow advisors. This would be the first of many formalities required to properly establish the cooperative, but this was one of the most important ones. Since the earlier failed attempts at establishing a cooperative in the early 1990s and 2000s, it had taken years for fishers to once again be willing to make a new attempt to do so. While efforts were made many times by various community members, the biggest struggle had been to find fishers who would be willing to take a seat on the Board, and for the Board to be approved of by the fishing community. No one was ready to take the risk of failing and hence harming their own reputation along the way.

I later learned that the main reason the aspiring Board members were willing to take on the challenge this time around was because of the promise I made to assist and guide them along the way. The vice-president even openly expressed to me and other stakeholders that the only reason he accepted the challenge was because he felt I would be able to help them. In addition, several developments on the island that directly affected the fishers worked as an important incentive to make an effort once more. A few weeks before the Board members were approached, the public entity and STINAPA informed restaurants and hotels (the biggest customers for professional fishers) that they were no longer allowed to buy a list of protected species from fishers. This had a direct impact on the fishers' market, and they were angry. This regulation had direct consequences for the income and fishing habits of the fishers. Moreover, the fishers felt it was unclear which fish species were no longer allowed to be caught (i.e., there exists disagreement on the names of certain species of fish) and why these fish are protected. Second, the Ministry of Agriculture, Nature and Food Quality agreed to subsidize a project for the fishers (F.A.D.s) that would immediately improve the fishing conditions of the fishers. The fishers were promised a sum of 20,000 euros from the Ministry of Agriculture, Nature and Food Quality if they were able to formally organize themselves. Most fishers were aware of the success of these devices because the local governmental department responsible for fisheries (LVV) had placed several F.A.D.s in the past. Considering their declining catches, the placement of F.A.D.s could lead to significant catch increase and a resulting improvement in their income.

Then the moment arrived for the spokesperson to present the question to the attendees: Do they agree with the nominated Board members? After a brief silence two of the

elder fishermen raised their hands and voted yes. Their assent was quickly followed by a younger fisherman who stated: "Well, I think they just spoke for us all" after which all hands were raised (Figure 35).

Figure 35. The crucial moment: the brand-new members vote for the nominated fishers to form the new Board of PISKABON (Credits: Arjan de Groene).

After this successful moment, the brand-new members and Board were given the opportunity to choose the logo for PISKABON. Some pictures of the new Board members were taken, and they were congratulated. The plans for the coming months were discussed and this was followed by celebratory drinks and snacks afterwards. That all fishers and organizers of the meeting were relieved and happy was very clear, as was the realization that the actual work had only just begun.

6.4.2 Luring In Fish and Fishers: The F.A.D. Project.

While the first big hurdle of choosing the Board was an important one that was overcome, this was to no extent a guarantee for the success of the cooperative. This became clear very quickly in the weeks after this meeting. The day after the Board was chosen by the new members of the co-operative, I informed the national government, specifically the policy workers responsible for the fishery sector of Bonaire (and Saba and Sint Eustatius), about this accomplishment. Not even a week later, one of the Board members (hereafter called James) received a letter from the Ministry requesting that he submit a formal project proposal for the execution of the promised F.A.D. project. I later learned that

James had been working with the Ministry for several years to realize the F.A.D. project.[35] It was thus not surprising that the request for the proposal was sent so speedily. As all proposals submitted to the national government do, this proposal had to meet a series of requirements (i.e., detailed description of the approach, budget, of risks, planning, reporting obligations, and of the experts responsible for the execution). In addition, the proposal was required to report the official name of the cooperative according to its registration at the Chamber of Commerce, the Chamber of Commerce registration number, and bank account information. All of this had to be submitted to the Ministry within one week. Writing the proposal itself required some time, however this was not the biggest challenge. I agreed with the Board that I would take on the writing of the proposal in close collaboration with James who had done extensive research on the F.A.D.s and who was deemed to be the island F.A.D. expert.

This time the real challenge was to formally establish the cooperative within a time span of one week. Forms had to be filled in, paperwork and signatures had to be collected, and invoices had to be paid. To open a bank account, the Board had to be registered at the Chamber of Commerce and was required to have a business plan and bylaws, Board members required a bank reference, and all addresses had to be verified. For the registration at the Chamber of Commerce, all Board members had to be (financially) cleared and official notary approved by-laws were required. While the Board already had a concept version of by-laws, these still had to be adapted to the wishes of PISKABON and finalized at the notary. Moreover, while the Board members where not illiterate, the by-laws were written in Dutch and used a lot of complex legal jargon, whereas the language of most of the fishers is Papiamentu. Even if the Board members took the time to read the by-laws, the chances of them understanding what was written was very small. Moreover, all these activities required funding, meaning that the Board members were required to personally fund all these costs. Determined to receive the funding, we worked tirelessly to get all the paperwork done. We were just able to manage it due to the collective effort of the Board, the high sense of urgency, my assistance in all practical matters which reduced the bureaucratic barriers for the fishers — including paying invoices whenever required — expenses which ended up being reimbursed by WWF-NL — and by fully utilizing the personal network and connections of the (supervisory) Board within all the institutions[36]. Because of the personal network of the Board members exceptions were made by the institutions which made it possible for the cooperative to temporarily meet the minimum requirements for all the paperwork — the finalized documents required additional paperwork and signatures which could be arranged at

35 He was also one of the recreational fishermen who attempted to establish a cooperative several years before my arrival. However, his attempts failed as the approach was business oriented with the primary goal to increase his personal revenue and not to represent the fishers of Bonaire. Consequently, he did not manage to gather a group of fishers willing to form the Board of the cooperative as they felt his intentions were questionable.

36 These institutions include the the bank, the Chamber of Commerce, and notary. In Figure 36 I present an overview of the assistance I provided during my fieldwork.

a later date. In addition, we received assistance from the locally based policy advisors working for the Ministry who reviewed the written proposal before its official submission to ensure we did not omit any crucial information.

Another perceived hurdle was overcome by the Board members once the proposal was submitted. Just a couple of days afterwards, we received an email response from the Ministry that the cooperative would only receive the money if they would agree with a set of collaboration agreements, including monthly monitoring and reporting of catch landings by the fishers. Initially, only James was aware of these conditions, but he did not discuss them with the Board as the focus was to complete the formalization of the cooperative so the proposal could be submitted before the stated deadline. When the Ministry of LNV learned about my assistance to the Board, I was included in later email correspondence with the Ministry of LNV, as well, in which I was made aware of the conditions stipulated. Although these agreements seemed reasonable, the Board members were unaware of these conditions and James ignored my requests to inform and include the remaining Board members in this process as he felt the conditions stipulated by the Ministry were more than reasonable.

However, when I received yet another email from the Ministry of LNV in which more conditions for the execution of the F.A.D. project (i.e. closely collaborate with STINAPA regarding the collection of other fishery related data surrounding the F.A.D.s and the phased introduction of circle hooks) and proposing to organize meetings with the fishers during the upcoming visit of the policy officer responsible for Bonaire's fisheries in little over a week, I decided to no longer wait on James but to inform the remaining Board members myself. I carefully presented and explained the conditions, stressing that we could still discuss these with the Ministry.[37] At first it seemed as though they took this well, however, later that evening during the Board meeting it became obvious the Board members were furious. They were angry at James that he did not inform them about this beforehand and angry at the government for trying to trick them into making these agreements. Another member also started to express his concerns regarding me, questioning my integrity and honesty towards the fishers. After much debating and cursing the group settled down and apologies were made by the Board members for lashing out at James, and by James towards the Board for withholding crucial information regarding the F.A.D. project.

In subsequent conversations with the Board, they confided in me that they already expected something like this to happen. They stated that the government cannot be trusted, and that they always try to trick you in situations. Eventually the Board decided they did not object to some form of collaboration, however the general sentiment was

37 A different type of fishing hook that reduces the chance of by-catch but also requires different fishing techniques.

that the presented preconditions were made unilaterally without consultation with the fishers. Consequently, all Board members were concerned with notifying the members of the cooperative about these preconditions. They shared that they would only be willing to work with the Ministry if this happened in a transparent way and on an equal basis. If not, they would retreat from all requests for collaboration.

Despite the Ministry's hesitation in withdrawing the preconditions, the policy workers at the Ministry of LNV responsible for fisheries management in the Caribbean Netherlands were eager to formalize the collaboration. After several discussions with the policy workers during their visit to Bonaire, the fishers were able to come to a new agreement with the government which they felt was more feasible: they would receive (financial) assistance from the Ministry to hire an expert to develop a F.A.D. management plan together with the Board of PISKABON. This plan would contain clear agreements on the use of the F.A.D.s (including agreements on monitoring, data collection, and evaluations on the effectiveness of the F.A.Ds to be carried out by PISKABON) (F.A.D. Management Plan PISKABON, 2018; *Jaarverslag PISKABON*, 2018). This plan was finalized in November of 2018. The policy workers of the Ministry of LNV also agreed to finance the purchase of an ice machine for the cooperative so the expected increased catch due to the F.A.D.s could be handled and stored properly by the fishers.

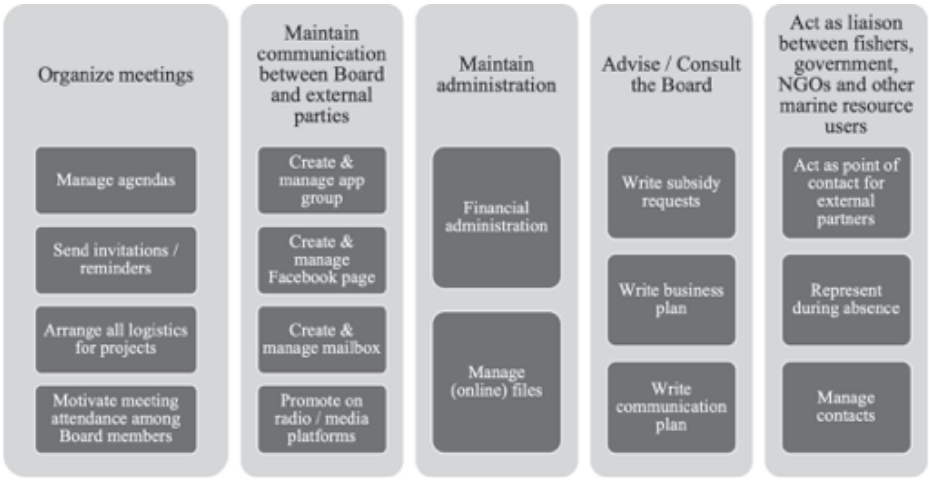


Figure 36. Overview of my assistance required for PISKABON establishment and management.

For a while it seemed that all the arrangements with the Ministry of LNV were finalized. However, the cooperative still had to formalize them: complete the development of a business plan, finalize the by-laws, and activate their bank account. It was also important to find someone to replace my assistance to the Board members, as my time on Bonaire was coming to an end. Despite my efforts to make all the arrangements for the cooperative's formal establishment, we were not able to complete this task. In addition to these arrangements, I focused on setting up introductory meetings with

representatives of the public entity of Bonaire. The aim of these meetings was to come up with some kind of agreement between the public entity and PISKABON through which PISKABON would receive financial compensation for their start-up costs, receive funding to take on a series of projects the government had failed to execute (i.e., repair of piers, construction of a slipway) and to fund the necessary assistance to and for the Board.[38] Despite the many meetings, with the exception of some vague promises, no concrete agreements were realized with the public entity.

From the very first meeting I had with the Board members of PISKABON and all the other involved parties, I had made it clear that my time on Bonaire was limited. I would be on the island for three months, and there was no possibility for me to extend my stay as I had other obligations to attend to. Everyone I spoke to was concerned with this from the outset, stating that even if I would be able to book some progress this would all come crumbling down with my departure. While I acknowledged this concern, I was also stubborn and did not want to let these risks keep me from trying to achieve as much as possible with the fishers while I was there. My goal was to build as solid a foundation as possible so that the incentive to stop would be minimal despite my departure. In addition, I asked around — both to the Board and other community members — if anyone knew of someone on the island who could possibly replace my support. Again, I was confronted with the small scale of the island which this time translated itself into the apparent absence of individuals who would be suited to serve as my replacement. As the day of my departure from Bonaire, and thus my assistance to PISKABON, neared the urgency to find someone on the island to assist the Board intensified Eventually, I was introduced to one of the fishermen's wives and I decided to ask her if she would be willing to provide some assistance to the group in terms of writing minutes, making appointments, and managing their email inbox. She was interested and we had several meetings together during which we went over all the procedures, to-do lists, and different tasks I had taken on. While her willingness was there, it was also clear that the extent to which she could be available to PISKABON was limited because she also had three children to take care of, wanted to invest in her own coaching enterprise and, most importantly, did not have any experience with administrative or secretarial work. To provide some additional support to the cooperative in order to assure the continuation of its existence without my assistance, WWF-NL offered to make one of their locally based consultants available to assist the Board, however, the Board did not feel such a close and direct collaboration with the respective consultant would be a good idea. They felt they would not be able to justify this within the fishing community. Moreover, they did not feel that the consultant would be a trustworthy partner based on experiences they had had with him in the past. Despite the pleas of the Board, the Ministry of LNV argued that they would not be able to make funds available for an assistant for PISKABON as it was not

38 Also known as a boat ramp or launch or boat deployer, which is a ramp on the shore by which boats can be moved to and from the water.

at all customary for the Ministry to directly fund an assistant for such an organization. The Ministry explained they were only able to make funding available for concrete, co-management related projects such as the completion of a strategic plan for the Board[39].

Several months after my departure I noticed that the activities of the cooperative had lessened considerably and that they were running the risk of losing the subsidy for the F.A.D.s.[40] It turned out that the formal agreement PISKABON had made with the Ministry was that they would take care of all expenses to be made for the construction and deployment of the F.A.D.s which they could then get reimbursed for with after presenting the invoices from the Ministry. However, PISKABON did not possess any capital, hence this agreement was not in any way feasible. Because of this confusion, the project was delayed and frustrations on both sides were high. Once I noticed this development (the first couple of months after my departure I attempted to take some distance from the cooperative), I decided to step in and offer my assistance — this time digitally. After a series of emails, calls, discussions, clarifications, and apologies for misunderstandings, the Board was now able to complete their formal establishment and they received the first part of the subsidy in their bank account in October of 2018. In addition, the deadline for completion was extended with another year.

In addition to these activities, PISKABON made many efforts to secure their reputation and right to exist among their members and the (fishers) community of Bonaire. Responding to requests from the fishers, PISKABON managed to put the already legally in place exemption from import taxes for imported goods for professional, commercial fishers into practice. The President and spokesman of the cooperative gave a series of radio interviews, some in collaboration with representatives of the local ENGO STINAPA, to share their position on issues and to bring attention to their work with the community, as well to demonstrate their willingness to collaborate with organizations such as STINAPA to manage the fishery in a way that was beneficial to all parties.

Meanwhile, WWF-NL offered to help PISKABON recruit and finance a manager to the Board to aid with the daily execution of their work. At first, the Board was hesitant to accept this offer as they feared the proposed conditions of WWF-NL for receiving the funds (i.e., regularly reporting their progress to WWF-NL) and they did not like the title of "manager" that WWF-NL had suggested for the position. The Board feared that they would lose authority and control if they would hire a so-called "manager". Nor were they keen on the stipulation that they report their progress to WWF-NL, again feeling that this would create a too close collaboration with an organization that, from

39 Which they did. In April of 2018, PISKABON received the assistance of an expert to develop a strategic plan. Weekly Skype meetings were arranged between the expert, the president of the cooperative, and myself to develop the strategic plan. In November of 2018, the expert visited Bonaire for a series of meetings with PISKABON and the completion of the strategic plan. The plan was completed in January of 2019.

40 I still was part of the WhatsApp group I made for the cooperative and had access to their email account.

their perspective, had interests in the shared marine resources that differed too greatly from the interests of the fishers. After months of negotiation, WWF-NL and PISKABON came to terms and PISKABON accepted a new offer from WWF-NL: Six months' worth of funding for a secretary to the Board. By January 2019, PISKABON had managed to make the following steps (since their establishment in October 2017:

- Register at the Chamber of Commerce;
- Open and activate a bank account;
- Finalize their by-laws;
- Recruit new Board members;
- Organize two general member meetings (October 2017; November 2018);
- Develop and finalize their strategic plan through ministerial subsidies;
- Purchase an ice machine and materials for the construction and installment of six F.A.D.s by means of ministerial subsidies;
- Develop a F.A.D. management plan with the help of ministerial subsidies;
- Submit a formal request at the public entity for the establishment of co-management agreements;
- Arrange import tax exemptions for the fishers;
- Attend and participate in the Gulf and Caribbean Fisheries Institute (GCFI)[41] fisheries conference together with representatives of STINAPA;
- Recruit paid part-time assistance for the Board of PISKABON through WWF-NL sponsorship.

In sum, it has been and still is a challenging journey for PISKABON and their adoption of co-management practices for Bonaire fisheries. While the establishment of PISKABON was clearly desired and vocally encouraged by all stakeholders, actually realizing the cooperative proved to be far more complicated than initially anticipated. In the following section I analyze these events in depth.

6.5 FINDINGS

While the establishment of PISKABON was clearly desired and vocally encouraged by the government and other stakeholders, my narrative in the previous section vividly illustrates that realizing the establishment of a cooperative is very challenging and requires a lot of guidance. Based on earlier attempts to establish a fishery cooperative on Bonaire and my experience and work with the fishers I can safely conclude that this is

41 A regional fisheries conference focused on applying fisheries and marine science to solving problems by bringing multiple users of ocean resources together to make informed and coordinated decisions for the sustainable use of these resources. Addressing the issues of connectivity, fisheries management, conservation, and related issues at GCFI will aid in addressing critical marine resource issues within the wider Caribbean Region.

not something the fishers are willing to achieve on their own as there are many barriers present that inhibit this process. To answer my first sub question, namely: *what challenges did the fisheries cooperative encounter during its establishment and involvement in co-management efforts of Bonaire's fishery sector*? I make a distinction between two types of mutually reinforcing barriers. Namely, structural or practical barriers and psychological or emotional barriers. I will first discuss the practical barriers and their implications and then move on to the psychological or emotional barriers. Next, I will address my second sub question by identifying the management challenges the existence of PISKABON helped resolve.

6.5.1 Practical Barriers

Availability of Adequate, Trusted Long-term Assistance

A first major practical barrier that is clearly evident is the necessity of adequate, trusted, and long-term assistance for the fishers to achieve co-management through a fishery cooperative. In Figure 36 I present an overview of all the support I provided to the cooperative and the kind of support the cooperative required long after my departure. In fact, the cooperative ran the risk of losing all its gains once I left the island and stopped my assistance. They were able to recover from this once I decided to keep assisting them from a distance until they were able to find an adequate replacement. I specifically state that this assistance needs to be adequate and trusted as PISKABON proved to be very reluctant to accept help from WWF-NL or other individuals who made themselves available to assist after my departure. This shows that the fishers do not accept just any person to provide them with assistance. To gain trust, tireless communication and transparency proved to be key. Keeping all parties, particularly the Board members, informed about the latest developments was crucial to ensure a sense of fairness and understanding among the fishers and, therefore, in the overall process of achieving co-management of the fisheries sector. Putting in the time and effort by doing what had to be done not only helped to build trust among the fishers, but also helped other stakeholders to gain confidence in the possible success of a fisheries cooperative. Lastly, the assistance needs to be long-term considering the inevitable lengthy process of realizing effective modes of co-management in which fishers are included.

Volunteering Board Members

Currently, the fisheries cooperative is still made up of volunteers with limited time to run a fisheries cooperative. In order to set up a cooperative, fishers are required to volunteer and invest their free time. However, fishers and especially part-time fishers have irregular and very diverse schedules. Fishers do not or cannot always attend organized meetings. Some fishers work all day at sea and have no interest in attending meetings after a long day of work at sea. This makes it difficult to set dates with the fishers and even more so with other stakeholders for collaboration. Lack of action among fishers is often not due to unwillingness, but due to lack of time and resources, including financing and knowledge

of organizational governance. In comparison, the various government officials (both at the level of the Ministry of LNV as well as that of the public entity) and I received payment (in the form of a salary) to achieve co-management of the fisheries sector or to establish the fishery cooperative for the benefit of fishery co-management on Bonaire. This means that other involved stakeholders and I were more motivated to invest the time and energy to work toward improved fishery management than the fishers themselves. The many hours I invested in establishing the cooperative during my months on Bonaire were not at the cost of other responsibilities I had, nor did it affect my income. On the contrary, if I were able to successfully establish a fisheries cooperative, this could have immense benefits to my reputation and create opportunities for my future professional endeavors.

Moreover, co-management has been argued to be a means to reduce the perceived costs of management for the government (Berkes, 2009; Evans, Cherrett & Pemsl, 2011; Pomeroy & Williams, 1994). While delegating management responsibility to PISKABON at this stage may reduce the costs for the government, considering their voluntary role, the fishers have had no direct financial gain as of yet. Consequently, the benefits of co-management can be questioned by the fishers — in particular by the Board members who are taking on the bulk of the work for the benefit of their members who do not yet (financially) participate (Coglan & Pascoe, 2015).

Language Barriers

While the official language on Bonaire is Dutch, like on Curaçao and Aruba, most local residents speak Papiamentu on a day-to-day basis. This is especially the case among the less educated or lower-class residents. While most fishers have some understanding of the Dutch language, they primarily speak Papiamentu and are thus better able to converse, discuss, and express themselves in Papiamentu. While this is not an issue in their day-to-day lives, this does create a large barrier when having to deal with government officials — in particular those representing the Dutch ministries — and scientists or (foreign) ENGOs. The barrier is even more evident when trying to organize the fishers and create forms of government supported by co-management as this requires fishers to be able to read, understand, and write often complex (or advanced) Dutch texts. For example, when formally establishing a fisheries cooperative, fishers are required to create and approve of the by-laws which are generally written in complex, legal language. Similarly, it is a major challenge for fishers to write government approved proposals to receive subsidies. Another example is that the fishers are required to defend and explain their standpoint and views to the government officials and foreign non-Papiamentu speaking representatives of ENGOs. While fishers can clearly and confidently express their concerns in Papiamentu, expecting them all to do this in Dutch is not realistic and can be argued to be unfair.

Educational and Experience Differences Between Stakeholders

That fishers tend to have a disadvantageous position in organized co-management efforts in terms of their educational level was clearly evident during the first meeting of PISKABON when some fishers were struggling with filling out the membership form. Of course, not all fishers are illiterate — this is mostly the case for the older fishers. However, the educational and experiential disadvantage is visible on many levels. Despite their commitment and enthusiasm, the five fishermen who were willing to take a seat in the Board lacked experience and knowledge about how to run a cooperative. In addition, they lacked knowledge about, and experience with, formal bureaucratic systems, and were consequently confronted with institutional barriers during the establishment of PISKABON (i.e., finalizing the required by-laws, writing a business plan). Related to this, most Board members did not realize the extent of the responsibility they took on when committing to filling a position on the Board of the cooperative. This was something they were confronted with later when they started to gain some sense of the commitment they had taken on later in the process of establishment of the cooperative. This realization tended to demotivate the Board members and this demotivation hindered the speed at which certain actions were taken. This slow pace, in turn, diverged from the pace at which the government and other stakeholders tended to work and the rate at which they expected actions to be completed.

Increased Bureaucracy with a Distant The Hague

A clearly felt practical barrier was that the practical needs on the island level do not fit with the type of support the ministries in The Hague are willing and able to provide. One could argue that prior to 10/10/10 the fishers of Bonaire were required to deal with government officials of the Netherlands Antilles based on Curaçao. While this governmental layer shares similarities with the roles and responsibilities now assigned to the Ministry of LNV (and other Dutch ministries), the fact remains that the central government of the Netherlands Antilles was significantly less distant to Bonaire and its fishers, the procedures were easier to adhere to, and the government of the Netherlands Antilles had more in-depth knowledge and understanding of the local realities than government officials of the Dutch ministries have, in general.

Moreover, while the Ministry of LNV tried to make concessions to the cooperative to simplify procedures and to meet the needs of the fishers, their ability (or willingness) to do so was limited due to rigidity of the Dutch governmental system. For example, for PISKABON to receive a subsidy to make the purchases for the F.A.D.s from the Ministry of LNV, procedures based on Dutch societal standards are required to be followed via online-forms and programs that require certain data or information which is non-existent on Bonaire. These programs (so called *e-facturen*) are not adapted to fit the realities of the island, thereby making it impossible for organizations like PISKABON to follow these required procedures. This further complicates the transfer of approved subsidies to their account. For example, when registering at the Chamber of Commerce,

organizations on Bonaire do not receive a VAT number. Without this number, it is not possible for PISKABON to declare their expenses digitally. Consequently, Dutch policy officers responsible for fisheries on Bonaire were required to facilitate this process administrative process. While the policy officers were willing to assist in this procedure, this does create an extra step and thus a potential barrier for fishers to receive subsidies from Dutch ministries through which co-management practices can be realized. Aside from these technical challenges, the Ministry of LNV is also required to stick to strict financial procedures dictated by the Dutch government. In the case of the collaboration with PISKABON, the terms presented by the Ministry of LNV first were that only expenses which had already been made could be reimbursed (i.e., PISKABON had to hand in paid invoices to the Ministry of LNV and get reimbursed). However, this was not feasible at all as PISKABON did not possess any funds. In response to this, the Ministry of LNV agreed they would make an exception and stated that they would provide PISKABON with the funds based on the invoices of the third-party suppliers. Once PISKABON received the money from the Ministry of LNV, they then would be able to pay the suppliers. This worked for most of the invoices, right up to the final $5,000 that was allocated to the organization. Upon PISKABON's request for the final funding to pay for the invoices in order to place the F.A.D.s in the water, the Ministry seemingly changed the terms and stated that PISKABON would only receive the remaining funds after completion of the project. As PISKABON still did not possess any funding, this created another battle between the two parties.

Reluctance of the Government to Structurally and Actively Include Fishers in Management Decisions

Even though PISKABON is able to actively lobby the government for proper fisheries management and voice their concerns and demands, this does not guarantee that the fishers will be structurally and actively included in (all) difficult management decisions the government makes.

This reluctance to structurally include the fishers in management procedures was visible in the lack of active participation within the public entity in the establishment of PISKABON. The lack of the public entity of Bonaire's tangible involvement in PISKABON's establishment became especially clear in the months after my departure when PISKABON was still in the phase of securing their credibility among the community. The countless attempts made by PISKABON to receive some funding or assistance from the public entity were ignored or kept being postponed. Ultimately PISKABON has more direct contact with policy workers of the Ministry of LNV through which tangible co-management efforts were realized (i.e., the F.A.D. project) and not with the public entity which is, in theory, the party to responsible for working directly with PISKABON. Specifically, in theory the public entity is supposed to carry out the execution of policy and management plans. Instead, the Ministry of LNV took on this role more directly. The absence of the public entity in this respect proved to be a big issue

especially in the later stages of PISKABON's establishment, when the Ministry of LNV argued that the type and the extent of their assistance to PISKABON was becoming disproportionate to their legally stated role. One reason the public entity gave to explain the lack of their involvement is linked to the factor discussed below.

Unclear Roles and Responsibilities of Fishery Management Stakeholders

Once PISKABON was established, one of the challenges we faced was the ambiguity regarding to what extent which party had the (legal) responsibility to provide assistance to the Board members in their co-management efforts. As the Board members of PISKABON and I set out to receive the resources required to create forms of co-management and a shared responsibility for the management of the fisheries sector, we soon discovered that no civil servant, policy officer, or commissioner was either willing or able to assist the cooperative. Each person we spoke to applauded the establishment of the cooperative, but as soon as we would bring to their attention the topic of collaboration and the requirement of (financial) support from the government, we would be redirected to a new individual at a different office stating that that person either had the authority or the responsibility to provide assistance. At one point we had spoken to all of the individuals to whom we had been referred and our calls and pleas were no longer answered. Where previously these same civil servants, policy officers, and commissioners would argue that the fishers were not eager to collaborate, now it seemed that the various government officials at all levels were no longer willing to cooperate. They accused anyone other than themselves of being directly responsible or blamed other individuals for ignoring their responsibility towards the fisheries sector. Whenever organizations were willing to establish some form of collaboration, the ambiguity of roles and responsibilities inhibited these organizations from making concrete agreements with PISKABON. In sum, the general existing ambiguity of roles and responsibilities between the national government, public entity, and other organizations such as STINAPA and WWF-NL made it difficult for PISKABON to navigate and determine their own role regarding the management of Bonaire's marine environment and fishery.

Limited Availability of Resources: Financial and Human Resources

In terms of budgeting, the general rule is that money can only be spent once. Choices made on how to spend money are strongly affected by the urgency (or priority given to) an issue and who is responsible for certain fisheries management activities. Because the roles and responsibilities for daily fisheries management are unclear and debated, there are disagreements regarding budget allocations. The different fisheries stakeholders argue about what these priorities should be and, in some cases, have even withdrawn from financially fulfilling certain responsibilities. An example of these dynamics would be the ongoing debate about who will pay for fishing harbor maintenance: the Ministry of LNV, the Ministry of I&W, or the public entity of Bonaire?

The perceived urgency of the issues affects the priority given to, and the budget made available to, invest in fisheries management. The limited budget in combination with the perceived lack of urgency for fisheries sector management compared to other sectors results in little-to-no investment being made in the capacity of the organizations concerned with the sector, with the end result being that proper fisheries management remains elusive.

Closely related to the issue of an insufficient budget, all stakeholders, but mainly the government officials and ENGOs, shared with me that there is a lack of capacity (people and knowledge) to meet their organizations' respective roles and responsibilities. The existing personnel of the LVV department of Bonaire, for example, need to be educated and there needs to be more positions within the department in order to be able to develop and implement fisheries policy. Up until now, there have been few investments made in strengthening the LVV department's capacity to deal with the fisheries sector. Lack of capacity is also affected by the small scale of the islands: there is a very limited pool of people readily available and willing to work in the fisheries sector of the islands. This lack of human capital was also evident among the fishers during our search for eligible Board members and for the required administrative support.

Miscommunication and Different points of Departure

Another challenging reality PISKABON was confronted with was the fact that we were dealing with many parties coming from very different backgrounds, which led to a lot of miscommunications and stemmed from, and exacerbated, the existing distrust between the parties. For reference, PISKABON was only just being formed, while WWF-NL, STINAPA, and, more importantly, the Ministry of LNV (all long-standing well-established organizations) had been working on co-management strategies for several years already — including strategies to include the fishers through a cooperative. One clear example of these dynamics at play is the backstory of the F.A.D.s. While I did not fully realize this during my involvement with the fishers on Bonaire at the time, I later learned that the Ministry of LNV had been talking for years (on and off) with several different fishers' representatives about the establishment of a cooperative and the provision of F.A.D.s as a "lure" for setting up a viable cooperative.

This also meant that the specific policy worker responsible for this project had engaged in many conversations regarding the terms and agreements under which the subsidy would be granted. Thus, while these agreements came as a complete surprise to the Board of PISKABON and me in the days after the first general member meeting, several members of the supervisory Board were to some degree long aware of these terms but did not explicitly mention them to the rest of the Board members or myself. Another example is the intensity with which PISKABON was being approached by other stakeholders, for example STINAPA, all of whom were eager to set up some form of collaboration. As the establishment of the cooperative gained a lot of attention in the media and was promoted

among all marine resource stakeholders, the requests for collaboration came pouring in. However, the Board was quite aware of the fact that they were not well equipped to take on a lot of extra work. They generally lacked the knowledge and experience on how to manage a Board, and, moreover, they did not have a clear idea of what the collaboration with other stakeholders could or should look like.

6.5.2 Psychological or Emotional Barriers

Lack of Trust between Fishers and Other Stakeholders

Trust has been identified as an important factor required for co-management success (Kamiyamaa, Miyataa, Ferrer, Kurokurac & Ishikawa, 2018; Vos & Tatenhove, 2011; Ebel, Beitl, Runnebaum, Alden & Johnson, 2018). The idea that lack of trust inhibits co-management is relatively straightforward: if people do not trust each other, they are very unlikely to collaborate, support each other, or comply with legislation.

The lack of trust among the fishers towards other stakeholders was one of the most evident and destructive factors inhibiting co-management on Bonaire. Fishers generally do not want to be "controlled". They are often in the profession because of the sense of freedom it provides. Establishing a cooperative with the intention to make management agreements with the government and other resource users is thus perceived by them as a direct threat to this sense of freedom. They feared that organizing themselves and collaborating with nature organizations and/or the government would only make it easier to implement more restrictions, rules, and regulations to their detriment. The requirement presented by the Ministry of LNV to monitor the catches at the F.A.D.s, for example, created a lot of resistance amongst fishers because they were concerned that this monitoring would result in them having to pay (higher) income taxes or limit/prohibit the catch of certain species. Fishers currently do not pay income tax and have never been forced to do so. Consequently, the fishers are unfamiliar with the reasons why paying taxes is important. Nor are they familiar with the bureaucracy around tax payments such as filing tax returns, which requires that some semblance of financial administration had been kept, proper registration of income and expenses had been made, etc. If fishers were now obliged to pay income taxes, this would mean that they would lose their freedom, as they perceived it, and freedom was one of the main reasons why they choose to become fishers in the first place. Even more so, the fishers were distrustful of the government as they felt they had attempted to trick them into making agreements on measures the fishers did not support.

Not only are fishers not always willing to collaborate with other stakeholders, but also not with each other. The previous unsuccessful attempts to establish a fisheries cooperative left the fishers feeling unmotivated and skeptical as to why fisheries management is needed or even desirable. Fishers felt that there were hidden agendas involved and that the previous cooperative had not helped all fishers equally. For instance, there was the

view that Board members would only help their friends and family members in times of need rather than aiding the whole group or that the initiators of the cooperative were primarily guided by personal business endeavors and the desire to make a profit instead of advocating for the interests of all of the fishers. The incident with James not being fully open towards the Board regarding the conditions presented by the Ministry clearly illustrates this distrust, as well. Based on these events it can be concluded that while it is difficult to gain trust, losing it can happen easily.

Power Inequality between Stakeholders

The topic of power among stakeholders concerned with fishery management on Bonaire is an intricate one. On the one hand, it can be concluded that government officials and ENGO representatives have more power as they tend to have completed higher levels of education and possess both the human and financial resources required to take action. In this respect, government officials representing the Ministry of LNV tend to have the highest degree of power in comparison with other stakeholders as they have access to the largest financial resources. Fishers, and thus the Board of PISKABON, have the least power as they tend to experience the largest visible disadvantage in terms of their level of education, experience, and possession of resources compared to government officials or highly educated scientists, for example. Consequently, this tends to place them at a disadvantage when negotiating with the government about management measures.

On the other hand, this disadvantage is compensated for by the fact that all stakeholders are highly dependent on the collaboration of the fishers and thus PISKABON to realize and implement effective co-management measures. The negotiations pertaining the F.A.D. project agreements illustrated this phenomenon nicely. Initially, PISKABON and I were only focused on meeting the requirements of the Ministry of LNV to receive the promised subsidy for the execution of the project. All other obligations and requirements of the fishers were ignored in order for us to meet the stated deadline presented by the Ministry. However, when the fishers later learned about the terms and conditions accompanying the agreement to receive the funding, they threatened to back out of the collaboration completely if adequate changes were not made to these requirements. Not willing to lose this co-management momentum, the Ministry decided to respond to their objections and changed the conditions of the collaboration. Reflecting on this, it seems as though in terms of negotiating co-management on Bonaire, it is not so much a question of there being power inequality but more so a power difference meaning that the different stakeholders possess of a different *type* of power.

Personal and Organizational Reputational Concerns

Reputational concerns affected the willingness of and extent to which individuals were ready to actively engage in co-management efforts, such as instigating collaboration between the different parties. This was visible on an individual level, but also at an organizational level. Clear examples of this barrier were illustrated in the ethnographic

accounts. On the level of the individual, I describe the caution expressed by the one Board member with a Dutch background at the idea of taking on a prominent role on the Board. On a more organizational or group level, this reputational concern was shown in the reluctance of PISKABON to blindly agree to the terms and conditions accompanying the F.A.D. subsidy because they were worried that this could damage their reputation and trust among the fishing community.

Similarly, another example was visible in the reluctance expressed by the cooperative to closely collaborate with — i.e., accept funding from — WWF-NL to support PISKABON in the execution of their daily activities. The factor of reputational concern could also explain the ambivalence of the public entity of Bonaire to financially/materially support and contribute to the establishment of PISKABON. Nevertheless, reputational concern can also have a positive effect. This was somewhat visible in the extent to which the policy workers representing the Ministry of LNV were willing to accommodate and give in to the demands made by PISKABON. Meaning, aware of the strained/conflicted relationship or status/presence of the national Dutch Government/ministries on the island, by choosing to directly financially support the fisher's community of Bonaire the Ministry of LNV was able to improve the relationship, and thus their reputation within the fishers' community and perhaps also the island.

(Perceived) Conflict of Interest

Throughout my fieldwork, stakeholders shared their views about why it is difficult to manage the fisheries sector and proposed solutions on how the sector should be managed. The different views distilled from these interviews illustrate that "Fisheries management is characterized by multiple and conflicting objectives, multiple stakeholders with divergent interests and high levels of uncertainty about the dynamics of the resources being managed" (Smith, Sainsbury & Stevens, 1999; p. 965). For example, fishers focus on their livelihoods, whereas ENGOs focus more on the implications the use of this resource has for the health of the environment (i.e., healthy fish stocks, balanced ecosystems). This perception exists among fishers despite the fact that most ENGOs like WWF-NL currently do consider the livelihood of the resource user as being of equal importance to the resource itself. This shift in priorities has been driven by the fact that if the livelihood is affected, the management of the resource will not be accepted and therefore not implemented. It is important to understand that there is not one "correct" perspective, as a complex social-ecological system cannot be captured using a single point of view (Berkes, 2009; Röckmann et al., 2015). However, looking at the different perspectives does illustrate where the stakeholders' priorities lie. Consequently, this affects the willingness of these stakeholders to collaborate with each other and the ease with which stakeholders can come to collaborative concessions. Moreover, interests do not necessarily have to conflict to be harmful for achieving co-management. Even if interests are shared among stakeholders, the priority they give to each individual interest

is different, this difference can affect the willingness of stakeholders to collaborate with each other.

6.5.3 Fishery Co-management Challenges Resolved by PISKABON

Although Bonaire's fishery sector still faces many challenges regarding its management, even in its early stages the fishery co-op PISKABON has helped to address some of the issues that are required to achieve effective co-management. Namely, the cooperative proved to be an effective platform to give the fishers a voice in management decisions regarding the sector. They have been able to actively lobby the public entity of Bonaire to execute several long overdue maintenance projects on fishery facilities, such as the piers.

As the cooperative is able to represent (theoretically) all fishers, the Board creates an effective and well-organized point of contact for governmental institutes and other organizations seeking dialogue or collaboration with the fishers. Moreover, as the cooperative is formally established it creates and increases the opportunity for fishers to receive subsidies for the execution of projects.

The cooperative has also proven to be an effective way for the government to delegate certain responsibilities and tasks to the fishers (i.e., building and managing F.A.D.s). This in turn can help in working towards creating more clarity in the division of roles and responsibilities within the sector. The cooperative has been able to actively advocate for certain changes in Bonaire's fishery management; for example, informing fishers proactively on extreme weather conditions, fishery legislation, and sustainable fishing measures, which has incentivized the government to implement some of these changes as well.

Lastly, with the existence of PISKABON, fishers have been more informed about the latest developments in terms of legislation, conservation measures, and sustainable fishing techniques. This knowledge has reached the fishers through Board members of PISKABON participating in regional conferences and workshops on fishery developments and management. Receiving the information directly from a source the fishers trust increases the credibility of the information (Röckmann, Leeuwen, Goldsborough, Kraan & Piet, 2015). Enhancing fishers' knowledge and awareness on the need for management measures through credible sources can in turn help to increase their support for and adherence to other measures being implemented (Cochrane & Garcia, 2009).

6.6 DISCUSSION

The findings I have presented, above, have showed how Bonaire's fishery co-management strategy through a fishery cooperative is affected by the small scale of the island, the constitutional reforms of 10/10/10, and notions of belonging. The influence of the latter

was mainly visible in the form of reputational concerns that existed among the fishers and the Board members, in particular. This concern was aggravated by both the small scale of Bonaire (and Bonaire's fishery community). Namely, Bonaire's fishers are well-known within Bonairean society. The actions of the Board members were thus not only closely observed by the fishing community, but, in fact, by a much larger contingent of Boneirean society.

In addition, most fishers, including the actively involved Board members, are not in a position to easily leave Bonaire, either due to financial constraints or their personal desire to stay on Bonaire due to their strong bond with the island. Thus, engaging in behaviour that is not condoned by the rest of the local community can have unfavorable effects for their reputation and place within Bonairean society. Not being able or willing to leave the island heightens the fishers' need to belong and thus decreases their willingness to engage in behaviours that could negatively affect this need. The small scale of Bonaire and its islandness were also clearly visible in the limited financial and human resources throughout the process. As noted, there were few fishers who were willing and able to fill a position as Board member of the cooperative. It should be noted, however, that small scale does not only have a negative implication. The fact that PISKABON and I were able to arrange all the minimal formal requirements for the approval of the subsidy of the grant was greatly aided by the small scale of the island and the related fact that almost everyone knows each other. Namely, the network and personal relations of the Board members with the Director of the bank, the employees at the notary, the managers, and the Chamber of Commerce allowed us to accelerate the procedures enough to get the paperwork done in time. Similarly, sizeable general member meetings could be organized with sufficient numbers of attendees within a short period of time as the members were able to contact all fishers directly and in person to ensure they would show up.

Being required to collaborate with the Dutch government and Dutch NGOs such as WWF-NL also contributed to the fishers' reputational concerns. This dynamic is also related to the constitutional reforms of 10/10/10 as well as the larger shared colonial past of Bonaire and the Netherlands. Since 10/10/10 the Dutch presence and influence have visibly increased and in some instances created even more negative sentiments among the Bonairean population towards the Netherlands, the Dutch government, and other Dutch organizations. In general, the perception is that these Dutch parties place more emphasis on nature conservation and tend to neglect the needs and concerns of the fishers. Moreover, the (perceived) increasing number of implemented and enforced protective measures and legislation for nature (thus limiting the freedom of fishing) has created reluctance on the part of the fishers to collaborate with the Dutch government and nature-oriented organizations.

At the same time, precisely because of these developments, the active presence of the Dutch government also created incentives for the fishers to organize themselves as they

increasingly felt the need to collectively voice their concerns to the government. Not only did the constitutional reforms affect the willingness of fishers to create a cooperative, it also had practical consequences for the establishment of PISKABON, particularly the perceived ambiguities regarding the roles and responsibilities for the sector related to the legislative changes. While the Ministry of LNV holds final responsibility for the fishery sector of Bonaire, there remains a lot of (political) debate regarding to what extent which entity (on a national or local level) is responsible for the execution of the managerial actions required to be taken.

The final question that remains to be answered is if a fishery cooperative can indeed help resolve the existing co-management challenges that are present in the fishery sector of Bonaire. What this study has shown is that effective co-management does not automatically result from having a cooperative. On Bonaire, the real incentive for the government to pursue co-management with the fishers is to effectively reduce the fishing pressures placed on the coral reefs. This is seen as a means to help better conserve this highly threatened, economically valuable, ecosystem. In response to this, the government tempted the fishers with the F.A.D. project and made the establishment of a cooperative a requirement for the fishers to receive the funding for the F.A.D.s. The willingness of fishers to accept this co-management offer was most likely due to their experience of declining fish catches and the ensuring decline in their revenues coupled with the additional concern that the fishing profession and Bonaire's fishing tradition is slowly disappearing. Even though these circumstances created the conditions for PISKABON's establishment and, indeed, enhanced the level of collaboration and interaction between a large, united, group of fishers and the government, many structural and psychological struggles remain between the stakeholders.

As Coglan and Pascoe (2015) concluded, including fishers in fishery management through co-operatives requires changes in both the ways fishers and the government operate. This is also the case for Bonaire's fishery and the PISKABON cooperative. Fishers are required to collectively collaborate with each other on aspects they have tackled on their own or in smaller networks in the past. They have had to realize that investing time in the cooperative (i.e., attending meetings, participating in project execution and management agreements such as monitoring and reporting their catch) and thus sacrificing their personal time will ultimately lead to greater benefits than is the case in the current system where personal freedom is central but the rewards are lower in the long run. In other words, fishers must shift their individualistic perspectives and ways of operating towards having a stronger cooperative spirit which transcend their direct family ties, friends, neighborhoods or fishing areas (Playa, Rincon, Lac) (McCay et al., 2014). Moreover, the fishers need to be willing to trust other parties — the government in particular — if they want to partake in management efforts as these efforts will require collaboration.

As I have already mentioned, with the existence of a fishery cooperative and the goal of achieving co-management, the government needs to adjust its usual ways of approaching management, as well. The government of the Netherlands, in particular, needs to be willing and able to adjust its expectations to the local realities of Bonaire's fishery and its fishers. Not only is there a substantial gap in terms of the local human and financial capacity and levels of education, the general historic relationship between the Netherlands and Bonaire should not be disregarded as playing a substantial role. All of these factors have led to substantial power differences between the stakeholders, as well as differences in how they operate, and how local parties perceive the Dutch government. In addition, the government needs to be willing to give up control over management. Moreover, it needs to be willing to be transparent about its expectations and management objectives in order to build the relationships of trust with the fishers which are essential for effective co-management. Even more so, all parties involved in fishery management need to realize and accept that the creation of co-management requires time and will experience many setbacks before becoming effective. All scholars who have studied co-management have stressed that co-management is a process and should not be considered to be an end in and of itself. It can take years before effective modes of co-management which are satisfactory to all parties involved are in place.

PISKABON is in its early stages and its success should only be stated with caution. Even though the prospects look promising and PISKABON is still standing despite the many challenges encountered, it is still too early to conclude or state that PISKABON has been a success for fishery management. There is no guarantee PISKABON will continue to exist as there are many challenges it will face. Only time can tell if PISKABON will succeed in overcoming the challenges it may encounter in the future.

6.6.1 A Fishery Cooperative as a Silver Bullet?

To summarize my findings presented in Chapters 5 and 6 and to answer the main research question of this section, I have used the CPR principles I presented in the Preface of Part 2. My analysis of whether fishery on Bonaire complies with CPR design principles is presented in Table 15.

In addition to the twelve design principles, I discussed in the Introduction of this section (see Appendix G), I can add a thirteenth principle based on my findings and experiences with Bonaire's fishery sector. This additional principle is the perceived urgency to effectively manage the sector. Here I refer to the urgency felt among government officials, fishers, and all other stakeholders to adequately invest in the development and implementation of effective management measures suited to the context. One of the main reasons both the government of the Netherlands and the public entity of Bonaire and, to some degree, also the fishers are reluctant to make the required investments is because they perceive the threats the sector faces to be of less importance than other challenges present on Bonaire. Based on the number and types of actions taken by the government

to protect the natural marine environment and the number of actions taken to better manage the fishery directly, it is clear that the (perceived) urgency to effectively manage Bonaire's fishery is minimal.

Consequently, insufficient financial resources and capacity were - and are - prioritized towards fishery management. In addition, this lack of urgency affects the speed with which action is taken to address fishery management challenges. Based on this it seems as though none of the stakeholders feel enough urgency to implement effective and collaborative management measures. Can PISKABON create this sense of urgency? I would argue they can do so, at least partially. With PISKABON, fishers can actively lobby the government and thus stress the need to take action on effective fishery management. However, this does not guarantee there will be an increased sense of urgency among all stakeholders to act.

The analysis presented in Table 15 shows that Bonaire's fishery sector still faces many challenges that cannot be resolved by a fishery cooperative alone. Except for enabling the participation of the fishers in the management process (design principle 5) and creating cooperation and leadership at a community level (design principle 8), PISKABON only partially contributes to meeting some of the design principles for effective fishery co-management formulated by Pomeroy and Williams (1994). It can thus be concluded that, in spite of what many stakeholders believed at the time, a fishery cooperative alone is not the silver bullet to resolve all of the management challenges Bonaire's fishery sector faces.

Table 15. Analysis CPR principles on Bonaire's fishery sector.

Design principle	Present in the management of reality of Bonaire's fishery sector?	Design principle present due to the existence of PISKABON?
1. Clearly defined boundaries	**No**. The boundaries are defined, but the ocean is large, and the visibility of boundaries is difficult. E.g., 60-meter depth of the marine park, special equipment is needed and is difficult to control by enforcers at which depth a fish is caught. Bonaire's is a multi-species fishery and many of the targeted fish migrate. Thus, management that takes place only in, for example, the marine parks is not sufficient for maintaining healthy fish stocks. Moreover, there is insufficient enforcement capacity and management technology available to adequately manage their fishing grounds.	**No**. PISKABON can assist in terms of reporting violations and executing social control; however, they are not an enforcement body.
2. Membership is clearly defined	**No**. Everybody is allowed to fish. It is not clear how many commercial / professional fishers are present and the absence of permit- or registration system complicates this. There is a substantial difference between commercial and recreational fishers. Not clear how many people fish recreational, only that this group most likely places highest pressure on the coral reefs.	**Somewhat**. PISKABON wants to represent all fishers of Bonaire and is reluctant to make a distinction between the types of fishers. However, through membership of PISKABON fishers can be easily located and membership can in time come with terms. In the case of the use of the F.A.D.s the agreement will be that only members who paid the membership fee are allowed to make use of the F.A.D.s. While this provides some clarity, it does not address the fact that currently all residents are allowed to fish without a permit.
3. Group cohesion	**Somewhat.** As everyone is allowed to fish, a distinction must be made between commercial and recreational fishers in terms of group cohesion. Commercial fishers are a more homogeneous group and tend to have stronger degrees of group cohesion and they do help each other out when necessary. Recreational fishers are a very diverse group with big differences in social class, creating less group cohesion. Overall, there tends to be stronger degrees of group cohesion among Bonairean fishers when they encounter challenges with foreign fishers (which is rapidly increasing and linked to Bonaire's population growth). Foreign fishers can have different fishing habits and target other species than the fishers on Bonaire which they consider important for the ecosystem (e.g., Chinese fishers catching sea urchins and sea cucumbers).	**Somewhat**. As PISKABON strives to represent ALL fishers of Bonaire, there it could be possible that through their membership of the cooperative both commercial and recreational fishers will have higher degrees of group cohesion.

Table 15. Continued

Design principle	Present in the management of reality of Bonaire's fishery sector?	Design principle present due to the existence of PISKABON?
4. Existing organization	**Somewhat.** Despite the previous attempts to establish a fishery cooperative on Bonaire, PISKABON is thus far from the only cooperative that has actively existed and collaborated with the government for a period longer than 2 years. The current Board members, except for one, have no experience with community-based systems or organizations.	**Somewhat**. PISKABON is a new organization but if it continues to exist, this is an important party for the government and other stakeholders to structurally involve in management efforts. In this respect, the existence of PISKABON should be stimulated, encouraged, and supported.
5. Participation by those affected	**Somewhat.** Most individuals affected by the management arrangements are included in the group that makes and can change the arrangements. Divisions about management arrangements are made by the same people that collect information on the fishery. This is currently not fully the case. While the government and STINAPA are directly involved, other individuals affected by the management arrangements are not or only partially included. For example, the divers and the fishers. Even in cases the latter two are involved, their level of control over changes and arrangements made is still relatively minimal. Moreover, fishers are not (yet) included in data collection of the sector in which the management arrangements are based.	**Yes**. PISKABON can represent the fishing community and as an organization can therefore participates in management developments. However, PISKABON too requires a lot of assistance and currently the role of and degree to which PISKABON can be involved is not fully clarified. Moreover, PISKABON does not always have the means to actively participate and the existence of PISKABON does not automatically remove the potential reluctance of third parties to include the fishers in management developments.
6. Management rules enforced	**Somewhat.** Due to the large area of fishing waters surrounding Bonaire and the fact the enforcement tasks of the Coast Guard also entail the waters of Aruba, Curaçao, Saba, Sint Maarten & Sint Eustatius, Bonaire's fishery, and marine management has an overall scarcity in enforcement capacity, which makes it difficult for rules to be enforced. In addition, the STINAPA rangers who are responsible for enforcement of the fishing rules in the marine parks tend to be reluctant due to the lack of support for and awareness of fishing rules among the fishers and the argued ambiguity that exists in the current legislation. Moreover, currently the fishery of Bonaire is not structurally being monitored with the fishers which also creates a lot of debate among the stakeholders regarding the management measures that are required.	**No**. With PISKABON, it is easier to involve fishers in the development and inform fishers about the existence of management measures as they function as a central, representative point of contact for third parties and the fishing community. However, it is not a certain that this will happen.

Table 15. Continued

Design principle	Present in the management of reality of Bonaire's fishery sector?	Design principle present due to the existence of PISKABON?
7. Legal rights to organize	**Somewhat.** Fishers of Bonaire have rights to organize and are encouraged to do so by external governmental authorities, but also the actual organization of fisher is complicated due to the formal procedures that need to be adhered to before institutions can/will recognize them as an eligible co-management partner (i.e., chamber of commerce, by laws, bank account etc.).	**Somewhat**. The existence of PISKABON can form an incentive for and aid in the process by the government to identify the division of responsibility and authority of fishery management more clearly.
8. Cooperation and leadership at a community level	**Yes**. PISKABON was established and the Board members expressed and showed their commitment to represent the fishers in the management process. They form the core group and take some (but not all) leadership for the management process.	**Yes**.
9. Decentralization and delegation of authority	**Somewhat.** This is only partially the case. Currently the national fishery legislation is being revised and it is still unclear to what extent (new) local, non-governmental organization will receive management responsibilities and/or authorities. Currently only STINAPA has a legally grounded mandate from the government to manage the marine parks in which some fishing activities also take place. More recently, PISKABON has received the (not legally grounded) authority to manage the to be installed F.A.D.s. Moreover, and as mentioned, the division of roles and responsibilities is still heavily debated. This ambiguity is used as political leverage, meaning there seems to be no real desire to create full clarity in division of roles and responsibilities within the government.	**Somewhat**. The government could delegate more authority and responsibility towards PISKABON. However, this is not guaranteed nor is it something PISKABON can directly arrange itself.
10. Coordination between government and community	**No.** There is no coordinating body installed, external to the local group or organization and with representation from both the fishers and the government to monitor the local management arrangements, resolve conflicts and reinforce local rule enforcement. The bodies within the government (FCBES at the level of the Ministry of LNV, and LVV at the level of the public entity) are not adequately equipped nor suited to fulfil this role.	**No**. PISKABON provides representation for the fishers but cannot fulfil a mediating and coordinating role.

Table 15. Continued

Design principle	Present in the management of reality of Bonaire's fishery sector?	Design principle present due to the existence of PISKABON?
11. Benefits exceeding costs	**Somewhat.** In terms of the different resource users: measures often directly benefit other stakeholders (e.g., tourists/divers) more than the fishers. Moreover, fishers are poor in comparison to most other stakeholders. This creates feelings of unfairness among the fishers and affects their willingness collaborate. In terms of co-management with the fishers, the Board members of PISKABON are all volunteers, while the policy officers, scientists, enforcers etc. all get paid for their management effort through stable monthly incomes. Fishers need to stop fishing for days and thus their income to do work for PISKABON. As co-management is a long-term process it requires a lot of negotiation and time before becoming truly beneficial to all parties.	**Somewhat**. PISKABON as a cooperative entity could in the future receive or generate funding to provide for its Board members. PISKABON's direct involvement and ability to receive subsidies to execute projects beneficial for the sector could lead to a situation where the benefits of co-management (e.g., higher and better-quality fish yields) start to exceed the costs (e.g. time investments of fishers to execute projects, attend meetings etc.).
12. Adequate financing	**No.** The absence of adequate financing is a large issue within Bonaire's fishery and is strongly related to coordination between governments and community. The existing debates on the division of roles and responsibilities between the Dutch government and its ministerial parties and the public entity of Bonaire directly affects the discussions on the availability of funding (i.e., who pays for what). Funding required for harbor maintenance, data monitoring, enforcement, education, and awareness programs etc.	**No**. This is not an issue that PISKABON can resolve, other than being an entity which in time could be able to create its own funding mechanisms (e.g., through membership fees) for the execution of basic fishery needs.

7

Conclusion.

Like elsewhere in the Caribbean, people in the Caribbean Netherlands depend heavily on the natural environment, both economically and for their general well-being. Meanwhile, islands all over the world are increasingly susceptible to the consequences of global climate change. These realities heighten the need to take environmental action, which requires the local community's collective effort. However, taking environmental action is not as self-evident as one might think. I opened this dissertation with the story shared by Jossy, a former resident of Bonaire who described his experiences of the changes on the island since the constitutional reforms compared to how he experienced the island in his youth. He reflected on the changes in the environment (more exotic species, more litter, more urbanization), changes in society (more Dutch "foreigners" and other migrants), and changes in how efforts to conserve the environment were received by the community (receiving praise from the (Dutch) migrants versus ridicule from locals). This dissertation, intended to help us understand the forces underlying residents' environmental protection efforts in the Caribbean Netherlands, revealed that Jossy is not alone in his experiences.

Three explanatory factors are central in this dissertation:

- The small and insular characteristics of the Caribbean Netherlands, which has implications for the composition of the population on the islands, the availability of (human) resources, and influences societal dynamics.
- The (lead up to the) constitutional reforms on the islands on the 10th of October in 2010. Specifically:
  - the colonial history the islands share with the Netherlands and the sentiments of "recolonization" brought about by the constitutional reforms;
  - the integration of environmental management responsibilities into the legal and administrative purview of the Netherlands which includes the increasing presence of Dutch and foreign ENGOs on the three islands concerned with the islands' natural environment;
  - the growing number of (European) migrants on the islands.
- Thirdly, the implications these contextual factors have on the relationship between belonging and residents' engagement in conservation actions. As illustrated with the story of Jossy, the islands' small scale and the changes the island communities experienced over the years which are related to the constitutional reforms carry implications for the usually positive relationship between belonging and pro-environmental behavior.

I combined insights and methods from environmental psychology, anthropology, and Caribbean studies in this work. The study was divided into two parts. The first part took a closer look at the motives of conservationists residing on the three islands and how their actions and motives are affected by the constitutional reforms, the islands' small scale, and notions of belonging from a social-psychological perspective. To gain deeper insights into how these three factors affect environmental management at a societal level,

the second part of the dissertation presented a case study of Bonaire's fishery sector. The two sections reveal that while the factors affecting, and motives for, environmental conservation of island residents are quite similar to those of conservationists elsewhere globally, the residents of the islands of the Caribbean Netherlands, specifically Bonaire, have faced unique experiences related to the constitutional reforms, the small scale of the islands, and notions of belonging. Moreover, these three factors appear to reinforce each other. Specifically, living and acting in small insular communities emphasizes notions of belonging as dependency and familiarity are heightened. However, notions of belonging are challenged due to the realities created by the islands' colonial history and the experienced consequences of constitutional reforms.

In this final, concluding chapter of this dissertation, I will recap the two sections and summarize, analyze, and bring them together. I briefly reiterate the research questions and present the answers to these questions that I identified during the analysis. Next, I discuss the implications of these findings for the scientific discussions on drivers for environmental behavior in the Global South, thereby contributing to the vast body of work on pro-environmental behavior conducted in the Global North. I also reflect on several methodological implications of this study. Lastly, I discuss the societal and scientific relevance of the dissertation's findings, reflect on its limitations, suggest new avenues for future research, and provide some (policy) recommendations to enhance environmental conservation in the Caribbean.

7.1 RECAPITULATION OF THE FINDINGS

I formulated the central research question presented in the Introduction of this dissertation as follows:

> *What role does the perception of belonging (or self-identification) have in how or why people engage in conservation activities in the Caribbean Netherlands?*

This research has shown that notions of belonging indeed play a significant role in the decision of residents of the Caribbean Netherlands to engage in environmental conservation actions (or not). This relationship is multilayered and highly dependent on the context of the three islands, as well as the way an individual identifies him or herself in relation to other members of the island communities. Not only does this perception of belonging have a significant influence on residents' willingness to participate in conservation actions, it also (partially) affects the type of conservation actions they choose to engage in. This interplay is strongly affected by the islands' colonial history and the more recent constitutional reforms. I elaborate on this in the paragraphs below.

To find answers to this question, in Chapter 2 I first explored what the sociopsychological drivers are of residents of the Caribbean Netherlands to protect the islands' environment. Like people elsewhere in the world, residents in the Caribbean Netherlands have a series of social-psychological factors motivating them to protect the islands' environment. Specifically, conservation actors indicated their behavior is driven both by intrinsic and extrinsic factors, including childhood and other (past) experiences with the environment, their knowledge of, and concern for, the environment, a sense of place attachment, personal values and beliefs, as well as social norms of the island communities. The conservation actors also expressed the goals they desire to achieve with their efforts (i.e., behavioral outcomes), ranging from more altruistic (e.g., the direct benefits that can be achieved for the environment) to more self-centered drivers (e.g., personal enjoyment or their career). While there were some differences between the drivers of local and non-local conservation actors and differences between the islands, all of the informants were ultimately concerned with the environment and protected it as they saw fit.

While these socio-psychological drivers are not necessarily unique for the Caribbean Netherlands, as they have been previously identified in other research, the conservation actors' motives and behavior are partly affected by the islands' socio-political and geographical context. In Chapter 3 I first explored how these motives are affected by the specific Dutch Caribbean context. The thematic analysis in Chapter 3 identified several (sub)themes that reflected and captured the debates surrounding (participation in) conservation actions and their relation to the contextual characteristics of the Caribbean Netherlands I have already discussed. The fishery case study presented in Chapters Five and Six provided several additional insights into the influence of the context on the motives of residents of the Caribbean Netherlands to protect the islands' environment. Specifically: How are the management struggles of Bonaire's fishery sector affected by the political changes brought about by the constitutional reforms instituted on10/10/10? By notions of belonging? By the small scale of the island?

In line with my expectations, the small scale of the islands affects the availability of resources and human capacity on the islands, which means that most conservationists felt a strong sense of responsibility in regard to their actions ("if we don't do something, nobody will"), but are also overwhelmed with the sheer amount of work that needs to be done by so few people. At the same time, due to the islands' small population, most residents know each other. This can both complicate and facilitate the process of nature conservation. The fishers, for example, greatly benefitted from the fact that they live in a small community and were therefore able to quickly arrange most of the formalities required for the establishment of their cooperative and, thereby, actively participate in fishery management efforts. In other cases, being well-known in the island communities also negatively affected their willingness to participate in conservation actions and this small scale at times (negatively) affected the reputation of conservation actors. Depending on the type of measure the conservation actor took and the approach

s/he used, their efforts could be more or less successful and viewed either positively or negatively within the community. This (lack of) approval by the community carries consequences for the environment and for the individual's reputation. An upside of the islands' small scale was that environmental issues were generally relatively easy to identify, and their management is seen as attainable. On the other hand, as seen in the fishery case study, the fact that the islands are small, and the environmental impact of the island communities is minimal compared to those of larger countries also diminishes the sense of control and responsibility and with it the willingness and/or the perceived need of some residents to take measures to help conserve the local environment.

The effect of the constitutional reforms instituted on10/10/10 is multifaceted. On the one hand, there are instances where the changes of 10/10/10 complicated environmental management. This was clearly visible in the fishery case study, where the legislative changes and the creation of new bureaucratic procedures complicated environmental management and conservation. Key-informants expressed how changes in legislation present loopholes, created ambiguities in governmental and organizational responsibilities, and those financial sources that were available before 10/10/10 were no longer available for the islands. Another repeatedly mentioned challenge was the big gap between the Dutch government's expectations and demands and the realities of the islands. This reflected a second prominent effect of the constitutional reforms, which is visible in the sentiments regarding environmental conservation on the islands. The Dutch migrants and Dutch government's prominent and dominant presence on the islands and their involvement in environmental conservation and management efforts triggered sentiments of "re-colonialization" and a sense of loss of ownership among some residents. This sentiment of the "Dutch taking over" is also very present among Bonaire's fishers' community. Among some local conservation actors, this development was an important reason to engage in conservation actions, while others like the fishers instead distanced themselves from conservation activities. On the other hand, the closer ties with the Netherlands gave the three islands access to new resources — financially and in terms of capacity and knowledge — for environmental conservation. This development facilitates local conservationists in their goal of protecting and conserving the natural environment of their islands.

Lastly, my research examined the effect of notions of belonging for conservation efforts in the Caribbean Netherlands. I explored this question in Chapters 3 and 4 where I asked: *Do people protect the environment partly or even primarily as a means to protect their sense of belonging within their community*? Chapter 3 revealed that the relationship between belonging and conservation action is multifaceted. For one, conservation actors' sense of belonging can be enhanced or disrupted through conservation participation. For some conservation actors, their engagement led to an enhanced sense of belonging, whereas for others, engagement led to feelings of exclusion or rejection by the community. These feelings emerged regardless of their current sense of belonging (i.e., being local or

not). Thus, both locals and non-locals can be rejected by their community due to their engagement in conservation actions. This perceived rejection depends primarily on the type of conservation actions the actor engages in and how these efforts are approached. Specifically, efforts that are considerate of local cultural values and norms tend to receive more support, just like efforts that do not focus solely on the placement of restrictions.

Chapter 4 examined the relationship between belonging and participation in conservation actions in greater depth and contrasted the Caribbean Netherlands with small, isolated communities in the United Kingdom. We tested the following hypotheses:

1. *Hypothesis 1:* A stronger desire to belong to a community leads to more participation in conservation actions;
2. *Hypothesis 2:* the effect of the desire to belong to a community on participation in conservation actions is stronger for those who have a lower current sense of belonging; and
3. *Hypothesis 3:* the effect of the desire to belong to a community on participation in conservation actions is stronger for those who have stronger reputational concerns.

While we found some indication that residents who participate in conservation efforts do so to improve their sense of belonging, this was mostly a secondary (unexpected) experienced benefit and thus not their primary motive. Nevertheless, the two studies we presented in Chapter 4 revealed that there is evidence that a person's desire to belong to a community leads to more engagement in conservation actions. This is especially the case for actors who do not yet feel they belong in the local community and was only discernable for specific forms of conservation actions (i.e., actions focused on creating environmental awareness). There was also some evidence that a stronger desire to belong to a community leads to more conservation actions when people are concerned about their reputation. We tested this effect of reputational concern in Study Two, which is a replication study of Study One in a different kind of small-scale community, namely small, isolated communities in the U.K. Nevertheless, the results are very comparable. Overall, these findings support the idea that the effect of a person's desire to belong to community on their engagement in conservation actions is especially imminent when the need to belong to a community is salient — either because people do not feel they currently belong to a community or because they are concerned about their reputation.

The complexity of the relationship between belonging and conservation actions among conservation actors in the Caribbean Netherlands can be partially explained by the islands' small scale and socio-political context. Specifically, as conservation behavior has a reputation of being a "Dutch" thing to do, engagement in these actions can lead to exclusion. Due to the colonial history of the islands and the sentiments of "recolonization" arising from the constitutional reforms of 10/10/10, conservation actors can experience resistance from the community when they try to take action to protect the environment. Moreover, the visibility of these conservation actions in small

scale communities makes conservation actors particularly vulnerable to the prevailing opinion (and thus rejection or acceptance) of the efforts they have made. Overall, my research has shown that whether or not participating in conservation efforts is beneficial for a person's sense of belonging depends on the way people approach or engage in these actions. Specifically, it is highly valued by the community when cultural beliefs, norms, and sensitivities are taken into account and worked with rather than against. In this same respect, it helps if locals are involved in conservation actions in order for these conservation efforts to receive support from the community. Their participation communicates the message that it is not solely foreigners who are concerned with the environment.

Again, the fishery case study I presented in Chapters 5and 6 provided additional insights into the relationship between belonging, the need to preserve the environment, and the societal dynamics of the islands. Most fishers agree that measures must be taken to protect the environment and safeguard the fishery sector of the island. However, the growing number of rules and regulations which are particularly disadvantageous for fishers and the perception that these rules are increasingly being put in place by the Dutch government creates resistance among fishers to cooperate with and support these environmental measures. The colonial history shared with the Netherlands and previous failed management attempts by the island government contributed to strong feelings of distrust between fishers and these respective stakeholders such as the government and ENGOs. This distrust contributed greatly to the continued internal struggles of the fishery sector and the failure to manage the marine ecosystem effectively. Moreover, as the fishers' community is small (everybody knowing everybody) and they depend on each other, it can damage their reputation with their peers if they abide by these rules. This reputational concern was also visible among the employees of the ENGOs who are responsible for enforcing fishery and marine legislation in Bonaire's Marine Park. While marine ecosystems where fishing takes place are amongst the most complex ecosystems to conserve in the world, these local circumstances on the Caribbean Netherlands have contributed significantly to complications in protecting them.

The establishment of the fishery cooperative on Bonaire, PISKABON, illustrated that giving the fishers back some sense of control and ownership through co-management creates new possibilities for cooperation between the various fishery and marine ecosystem stakeholders, and thus for successful management. This finding also underscores that fishers are more likely to participate in conservation actions if their peers support them and, therefore, they do not run the risk of damaging their reputation, i.e., their sense of belonging. Nevertheless, the establishment of the cooperative did not magically resolve all the existing inequalities between the fishers and the other stakeholders, most of whom have more formal organizational skills and experience with (complex) bureaucratic procedures.

Finally, while this was not a central focus of my research, my study revealed that there are also differences between the islands. Interestingly, tensions between the growing European Dutch and American community on Saba appeared to be less of an issue on this island because the newcomers are adhering to similar social norms related to the environment as the local community on Saba. Thus, engaging in conservation actions on Saba was less likely to have negative reputational consequences but, rather, functions as a means to enhance approval and acceptance in the local community. In contrast, the tensions created within the communities between the "Dutch" migrants and locals due to the Dutch government's dominant presence was expressed on all the islands but seemed to be most dominant on Bonaire. This is a reflection of the fact that, indeed, the visibility of the Dutch government and community on Bonaire is the greatest compared to the other two islands. While there are clear differences amongst the islands and, for example, Saba is substantially smaller than Sint Eustatius and Bonaire, the challenges and opportunities induced by small scale were expressed in similar ways by conservation actors on all three islands.

In sum, my study showed that, although the drivers of conservation actors in the Caribbean Netherlands are not necessarily unique, the role of the context should not be underestimated or neglected. Specifically, the extent or importance of certain motivations for environmental protection is visibly influenced by the island's small scale and the constitutional reforms they went through in 2010. Also, notions of belonging significantly influence conservation actors' motives and behavior in multiple directions.

7.2 IMPLICATIONS OF THE FINDINGS

This study's findings have several implications for the academic debate on drivers of pro-environmental behavior and discussions on the implications of small-scale, islandness, and non-sovereignty on the relationship between belonging and nature conservation. First, the finding that many of the social-psychological drivers of conservation actors in the Caribbean Netherlands are similar to or in line with the already identified drivers of pro-environmental behavior in studies conducted predominantly in the Global North is not surprising. While I argued in the Introduction that very few studies have been conducted in the Caribbean using theories and insights from the discipline of environmental psychology (Baptiste & Thomas, 2017), I also stated that Caribbean cultures (and thus their values and norms) are not always that different from societies in the Global North. This is because the Global North has been and remains central in the creation of Caribbean societies through colonization (Trouillot, 1992). In line with this reasoning, indeed, I found that in various cases the norms about the environment adhered to in the Global North are also prevalent in the Caribbean.

However, my study did reveal that despite the similarities shared with the Global North, the regional context and its painful history of colonialism and slavery are vital for understanding why conservation behavior gains support from some but is rejected by others in Caribbean societies. This rejection is especially interesting given the broad awareness of the importance of preserving and protecting Caribbean environments. These findings are a particularly relevant contribution to the discipline of psychology, where situational contexts are taken into consideration but tend to be untruly generalized (Milfont & Schultz, 2016; Uzzell & Rathzel, 2009). Specifically, meaning a context that can be applied to multiple instances, for example "being part of a group", "living in a green area", "working in a cubicle in an office", and/or "being religious". Generally, in psychology the origin of these contexts is not explicitly questioned or studied within the research. In contrast, my study has shown that the specific history of colonization and the ever-present remnants of this past are of substantial influence on contemporary (socio-psychological) environmental matters. The specific history that shaped the islands' cultures helps to explain why some people are more engaged in environmental actions than others and how community members perceive various efforts to protect the environment.

The contextual features also provided an explanation for why the relationship between belonging and pro-environmental behavior can differ greatly between people. The vast body of work examining this relationship presents a predominantly positive association between belonging and pro-environmental behavior and argues that engagement in conservation actions can lead to an increased sense of belonging to the respective place or community (Scannell & Gifford, 2017; Gifford & Nilsson, 2014; Lewicka, 2005; Lewicka, 2011; Manzo & Perkins, 2006; Mihaylov & Perkins, 2013; Hernández, Martín, Ruiz & Hidalgo, 2010; Stefaniak, Bilewicz & Lewicka, 2017). This is partially confirmed in my study, but the results of my work also shows the complexity of the issue. I found that while the desire to belong to the community can lead to engagement in conservation actions, this engagement can actually also lead to *reduced* feelings of belonging. My research has shown that in addition to functioning as a motive for engaging in conservation actions, the desire to belong or the fear of losing one's sense of belonging can thus also reduce the willingness to participate in conservation actions.

These findings are in line with Brick, Sherman, and Kim (2017), who concluded that anti-environmentalists (i.e., people who don't adhere to pro-environmental values) are less likely to engage in highly visible pro-environmental behavior, even if these behaviors are, for example, financially beneficial, in order to avoid signaling any association with an unwanted social identity. In comparison, pro-environmentalists increase their engagement in highly visible pro-environmental behavior, even if it costs them more financially, in order to promote that element of their social identity. Along similar lines, Coulthard et al. (2017) found that "in island contexts policy implementation processes are highly sensitive to social identity — us and them, insiders and outsiders — and

perceptions of control and autonomy, all of which can positively or negatively influence responses to [marine] conservation" (Ibid, p.306). Overall, my research findings illustrate the importance of taking both notions of islandness and (post-)colonial realities into account. This is important not only on a global ecological level but is also a vital insight when attempting to solve and act upon the urgency of environmental challenges in the Caribbean. In this way, my work has relevance for, and contributes to, larger scholarly and contemporary debates, for example on climate justice, by linking the colonial legacy to the environmental degradation we face today.

My study also contributes to the discipline of environmental psychology from a methodological perspective. Most psychological research uses extensive quantitative statistical analysis to compare and understand differences in human behavior. Often data are derived from easily reachable groups to ensure large datasets. The current study combined various methods, including qualitative surveys, qualitative semi-structured interviews, and in-depth participatory action research. The inclusion and analysis of my qualitative data and fieldwork observations allowed me to make a contribution to the traditional practice of psychology research. The case study using participatory action research, in particular, demonstrated the value of working closely with the community and gaining access to informants who are generally less likely to participate in scientific research. While insightful, some notes of caution should be exercised regarding the use of participatory action research in this dissertation. Choosing to intensively support and assist the fishers with the establishment of their fishery cooperative had consequences. For one, I became a prominent figure among the group, in general, and particularly for the Board members. While this helped me gain trust, it also affected how the community of Bonaire perceived me. I was quickly seen as someone who represented the fishers, specifically the Board members of PISKABON. Consequently, the national government, the public entity of Bonaire, STINAPA, and other organizations began approaching me in that role. These parties often contacted me instead of directly getting in touch with the Board members of PISKABON, and they tended to "use" me as a messenger. While I could share some information or help set up meetings, I was not at liberty to openly share all things that went on among the Board members. At times, this was quite challenging, considering I also had to conduct interviews and engage in conversations with stakeholders other than the fishers for my study's broader objective. Not only did this affect the way these stakeholders perceived me, but it also says a lot about the hesitation of and lack of trust among the various stakeholders.

My intensive collaboration with the Board of PISKABON also affected my ability to interview fishers who were not (yet) directly involved with PISKABON. As PISKABON still had to prove itself and gain credibility within the fishing community, the timing was not right for me to interview other fishers who most likely perceived me as a team member or representative of PISKABON. Moreover, requesting interviews with fishers could harm the trust I built within the fisher community, as previous researchers did

not have a good reputation among the fishers. This was because the outcome of the majority of these previously conducted studies, in general, was not directly beneficial for the fishers. These studies emphasized the declining state of the marine environment, the negative impact of fishing on the marine environment, and the requirement for fishers to change their fishing techniques and methods to more sustainable techniques and adhere to protective measures. Fishers therefore felt they were the sole ones blamed for the decline of the fish stocks and marine environment, while at the same time they did not have the power or leverage to advocate for their needs and interests. Due to this history fishers had with researchers, I remained wary about how I was perceived and guarded the trust I gained among the fishers. This meant that I made conscious decisions about what information I could share with other stakeholders in the field. If this is not done appropriately, the researcher can cause much damage, which can be detrimental for academia and for the local societies. While participatory action research allows the community to have a larger say in the research process, researchers must remain aware of, and sensitive to, their impact on the communities they research, especially when dealing with unequal power relations (Grove & Pugh, 2015).

Lastly, my study contributes to the literature on environmental conservation in Caribbean SIDS. The majority of studies examining nature conservation on islands looked at the physical (ecological) and political characteristics of islands. Small islands are increasingly viewed as the go-to place to find new ways of thinking and approach complex issues such as climate change (Kueffer & Kinney, 2017; Chandler & Pugh, 2020; Perumal, 2018; Ratter, 2018). Despite this interest in these islands, fewer studies have focused on the social-psychological underpinnings explaining the relationship between islanders and their environment and communities (Klöck & Nunn, 2019; Baptiste & Thomas, 2017; Baptise, 2018; Kelman, 2018; Petzold & Magnan, 2019; Nunn & Kumar, 2018). My dissertation contributes to that body of work. Specifically, my research examined how the small scale of the islands triggers debates on feelings of responsibility for conserving the environment, and on land use and ownership, which can create tensions within the community regarding the conservation of the environment. Indeed, I found that people knowing each other in small communities also has implications for people's conservation actions. Moreover, while the Caribbean region has been studied extensively, the three smallest islands of the former Netherlands Antilles have not been the focal point in most of these studies. My dissertation, therefore, specifically contributes to the Dutch Caribbean academic debate. Some might argue that the research conducted on small islands in the Caribbean is not generalizable. However, and citing the words of Beate Ratter (2018, p.211), I argue for the opposite, namely:

> *The attraction of islands as an ideal field of research is not restricted to their non-contained spaces but their relationality — their relation to the ocean and other islands and their relation as peripheries to the global centers. Their connectivity and relationality are just as important as smallness, boundedness, and isolation. Islands*

can make us pause for thought, leading us towards new questions. As such, they are ideally placed to be objects of reflection on contemporary developments and situations — ideally suited to some alternative thinking about alternatives.

7.3 SCIENTIFIC AND SOCIETAL RELEVANCE OF THE FINDINGS

My dissertation aims to contribute new insights and practical recommendations to the debate on how to balance the urgency of environmental action while remaining sensitive to (post) colonial realities in the (Dutch) Caribbean. In the Introduction, the societal and scientific relevance of this study was discussed. Specifically, situated in social history, cultural and environmental anthropology, public administration, and environmental science, my research aims to create a less compartmentalized picture and to directly address societal concerns. Based on the results of my research, I can, indeed, address several of these points. By taking into account the colonial environmental history of the three islands, their non-sovereignty, and the small scale of the communities residing on the islands, my dissertation provides an insight into conservation actors' engagement in the Caribbean Netherlands. Particularly, because of its multidisciplinary and multi-method character, my dissertation produces new insights and practical recommendations that I hope will be useful for engaging more people in environmental activities in the (Dutch) Caribbean.

For one, my findings highlight the importance of investing in the process with which nature conservation is approached. The approach adhered to, namely being sensitive to cultural values, norms, and practices with a focus on inclusiveness, is key for receiving support from the local community, and this support is determinate for the success of ecological interventions. Also, considering the importance of the need to have a sense of belonging, my research can inform planners, immigrant associations, and other community organizations that aim to integrate people within a community. Specifically, my findings showed that people engage in conservation actions not only out of concern for other people, species, or ecosystems (e.g., Bamberg & Möser, 2007) but also out of a desire to belong to the community, which can be an important motive for conservation actions. The insights I have acquired on the relationship between belonging, reputation, and conservation actions can be used to get more actors on Board, which is an absolute necessity if we are to address the islands' ecological hazards collectively.

My dissertation also contributes to the discipline of environmental psychology as it focused on a more integrated and holistic inclusion of culture as a factor of analysis and argues for its importance for understanding pro-environmental behavior. Therefore, this research responds to arguments made by Milfont and Schultz (2016) that how individuals relate to the natural environment is culturally patterned, and engages with the plea of

Uzzell and Rathzel (2009) for transformative environmental psychology, which is based on the understanding that, "our perceptions, attitudes, and actions are not formulated in an instance but have a history" (p. 348). At the same time, my research findings confirm the premise of psychologists that many psychological processes are universal, and the knowledge gained from one study is therefore transferable to other populations.

My findings also underscore the importance of addressing environmental and social issues simultaneously. For example, there is no use in demanding time-consuming pro-environmental participation from people struggling to make ends meet. This awareness and approach are not new – since the mid 80s attention has been paid to more integrated biodiversity conservation through so-called Integrated Conservation and Development Projects (ICDP). An approach that aims to combine social development needs with locally based projects that link conservation goals to development (Hughes & Flintan, 2001; Alpert, 1996). WWF was one of the organizations to adhere to this approach in its projects and still does so in various forms to this day. However, the concept of integrated conservation has evolved and gained new momentum over the past years by integrating the concept of intersectionality.

Intersectionality originated from feminism and is a framework for understanding how multiple dimensions of a person's social and political identities (e.g., gender, race, religion, sexual orientation) combine to create different kinds of privilege (Crenshaw, 1989). This concept can be linked to environmentalism (i.e., Intersectional Environmentalism) and has gained increasing amounts of attention over the past years. Intersectional environmentalism not only advocates for the simultaneous protection of both people and the planet, but also pays specific attention to the ways marginalized communities, such as Bonaire's fishers, face injustice and how they are interconnected with the earth's ecosystem (Thomas, 2022). Leah Thomas coined the term 'Intersectional Environmentalism' in the midst of the Black Lives Matter marches taking place during the Covid-19 pandemic following the murder of George Floyd in May 2020. One of her social media posts went viral and sparked a spirited conversation about placing social justice central in environmental debates. One of her main objectives was to change the "white-washed environmental narrative". While Thomas focuses strongly on the issue of race within the discourse of environmentalism, she ultimately aims for environmentalism to become more inclusive by focusing simultaneously on people's and the planet's needs. Indeed, as we saw with the fishery case study, only when experiences of injustices and other social concerns are addressed, are fishers willing to participate in conservation efforts. Moreover, my research illustrated that the legacies of colonialism need to be taken into account as they continue to influence societal dynamics on the islands, affecting residents' willingness to participate in conservation actions.

7.4 AVENUES FOR FUTURE RESEARCH

To get an even better understanding of why some people choose to engage in conservation actions in the Caribbean Netherlands as well as to find ways to encourage others to do so, future research should also include the population who are not engaged in conservation activities. While I did include a broader group in the online survey study and the fishery case-study, closely examining all layers of the community and their willingness or reluctance to protect the environment can further determine whether the challenges presented by the context identified in the current study function as a barrier for other people. Indeed, the fishery case study already revealed interesting and useful insights into the views, experiences, and opinions of people who are not typically considered conservationists.

Future research can be more comparative by including private or household behavior to examine if there are, indeed, differences in the implications of societal dynamics on people's behavioral decisions. Future research could examine the notion of being local — or not — in Caribbean communities more extensively and consider the possible implications of this part of one's identity. Identity and belonging are complex constructs to understand and pinpoint. They are multi-layered and depending on how a part of one's identity is defined affects, for example, behavioral processes and experiences. Lastly, in terms of examining the relationship between belonging and pro-environmental behavior, a truly spectacular next step would be to conduct (field) experiments to assess the causal direction of the relationship between the desire to belong to the island community and pro-environmental behavior with more certainty than is possible with correlational findings.

These avenues underscore my earlier reflections, namely the complexity of combining the epistemologies of positivist psychology with those of reflective and constructivist anthropology. In this dissertation, the struggle with combining these avenues ultimately led to a degree of 'separation' (i.e., Part One and Part Two) of the disciplines rather than a full multidisciplinary integration. Future research may work towards truly inter- or even transdisciplinary approaches to provide deeper, and perhaps more concise understandings of the complexities discussed in this dissertation, in particular those pertaining to belonging and identity.

All in all, my dissertation is both expansive and limited. Its conclusions have global applicability, yet its focus is very much on the local context of the Caribbean Netherlands, with a particular focus on the case study of fishers on Bonaire. It argues for broadening the academic approach and methodologies used in studying the environment to embrace true trans-disciplinarity. This necessarily includes a contextualization of the culture, post-colonial histories, and contexts of the societies in which environmental actions (or lack thereof) are occurring. By expanding who, what, and how we research we can have a far greater impact than if we were to stay confined to our narrow disciplinary boundaries.

7

BIBLIOGRAPHY

Abel, T. (2000). *Ecosystems, sociocultural systems and ecological economics for understanding development: the case of ecotourism on the island of Bonaire (Dissertation)*. University of Florida.

Adams, W. B., & Mulligan, M. (2012). *Decolonizing nature: strategies for conservation in a post-colonial era*. London: Routledge

Alisat, S., & Riemer, M. (2015). The environmental action scale: Development and psychometric evaluation. *Journal of Environmental Psychology*, *43*, 13-23.

Allen, R. M. (2010). The complexity of national identity construction in Curaçao, Dutch Caribbean. *European Review of Latin American and Caribbean Studies*, *89*, 117–125.

Anon. (1953). *Algemene voorlichting over de Nederlandse Antillen (Mededeling ; 72 852872623*. Voorlichtingsinstituut voor het Welvaartsplan Nederlandse Antillen.

Anon. (2009). *Elijah Fish Farm Viskwekerij op commerciële schaalgrootte op Bonaire*. Retrived from: https://www.hesy.com/files/krantenartikel-ad.pdf

Anon. (2010). *Evaluatierapport Natuurbeleidsplan Bonaire 1999-2004*. Eilandsgebied Bonaire: Eilandsgebied Bonaire.

Anon. (2012). *We are the world: Conch restoration in Lac, Bonaire. Progress report July 2011- June 2012*. Bonaire: Dutch Caribbean Nature Alliance (DCNA).

Anon. (2013). *Nature policy for the Caribbean Netherlands 2013-2017.* The Hague: Ministry of economic affairs Direction Nature and Biodiversity.

Anon. (2014). Inzetprijs veiling visfarm 650.000 dollar. *Antilliaans Dagblad*, 4.

Anon. (2017.). *Giro verliest zaak kredietnemer.* Antilliaans Dagblad.

Anon. (2019). Internationale Haaien Strategie 2019 (IHS-19). Retrieved from: https://www.rijksoverheid.nl/documenten/rapporten/2019/05/01/internationale-haaien-strategie-2019-ihs-19

Antoin, B. (1998). *E ultimo biahe di isidel: e buki aki ta dediká na Boneiru su hòmbernan di Laman*. Bonaire: National Printing Bonaire.

Alpert, P. (1996). Integrated conservation and development projects. *BioScience*, *46*, 845-855.

Antoin, F. (2018, August 13). Edifisio Koel- en Vrieshuis a pasa pa historia. *Extra Bonaire*, p. 7.

Argyrou, V. (2005). *The logic of environmentalism : anthropology, ecology, and postcoloniality*. New York: Berghahn Books.

Asah, S. T., Bengston, D. N., Westphal, L. M., & Gowan, C. H. (2018). Mechanisms of children's exposure to nature: Predicting adulthood environmental citizenship and commitment to nature-based activities. *Environment and Behavior*, *50*, 807–836.

Baggio, J. A., Barnett, A. J., Perez-Ibara, I., Brady, U., Ratajczyk, E., Rollins, N., & Janssen, M. A. (2016). Explaining success and failure in the commons: The configural nature of Ostrom's institutional design principles. *International Journal of the Commons*, *10,* 417–439.

Bailey, C., & Jentof, S. (1990.). Hard choices in fishery development. *Marine Policy, 14,* 333-344.

Baldacchino, G. (2006.). Editorial: Islands, Island Studies, Island Studies Journal. *Island Studies Journal*, *1*, 3–18.

Baldacchino, G. (2007). Islands as novelty sites. *Geographical review*, *97,* 165-174.

Baldacchino, G. (2012). Islands and despots. *Commonwealth & Comparative Politics*, *50*, 103-120.

Baldacchino, G. (2014). Small island states: Vulnerable, resilient, doggedly perseverant or cleverly opportunistic?. *Études caribéennes*, (27-28).

Baldacchino, L., Cassar, V., & Caruana, A. (2008). Start-up success in a small island state: a study among entrepreneurs in Malta. *Island Studies Journal, 3*, 73-96.

Baldacchino, G., & Fairbairn, T. I. J. (2006.). Editorial: Entrepreneurship and small business Development in small islands. *Journal of Small Business & Entrepreneurship*, *19*, 331–340.

Bamberg, S., and Möser, G. (2007). Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behavior. *Journal of Environmental Psychology*, *27*, 14-25.

Baptiste, A. K. (2018). Climate change knowledge, concerns, and behaviors among Caribbean fishers. *Journal of Environmental Studies and Sciences*, *8*,, 51–62.

Baptiste, A. K., & Rhiney, K. (2016). Climate justice and the Caribbean: An introduction. *Geoforum*, *73*, 17–21.

Baptiste, A. K., & Thomas, A. (2017). Knowledge, perceptions, concerns, and behaviors— moving forward in the Caribbean context. *Journal of Environmental Studies and Sciences*, *8*, 99–103.

Barker, D., Dodman, D., & McGregor, D. (2009). Caribbean vulnerability and global change: Contemporary perspectives. In: D. Mc Gregor, D. Dodman & D. Barker (Eds.), *Global change and Caribbean vulnerability: Environment, economy and society at risk*, (pp. 3-19). Jamaica: University of the West Indies Press.

Barton, G. A. (2002). *Empire forestry and the origins of environmentalism*. Cambridge University Press.

Bates, L., Coleman, T., Wiles, J., & Kearns, R. (2019). Older residents' experiences of islandness, identity and precarity: Ageing on Waiheke Island. *Island Studies Journal*, *14*, 171-191.

Batson, C. D. (1998). Altruism and prosocial behavior. In D. T. Gilbert & S. T. Fiske (Eds.) *Handbook of social psychology* (pp 282–316). Boston: McGraw-Hill.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497–529.

Baver, S. L., & Lynch, B. D. (2005). *Beyond sun and sand: Caribbean environmentalisms*. New Brunswick, NJ: Rutgers University Press.

Bavinck, M., Jentof, S., & Scholtens, J. (2018). Fisheries as social struggle: A reinvigorated social science research agenda. *Marine Policy*, *94,* 46-52.

Beek, v. I., Debrot, A. O., & De Graaf, M. (2012). Elasmobranches in the Dutch Caribbean: current population status, fisheries and conservation. *Proceedings of the 65th Gulf and Caribbean Fisheries Institute* (p. 12). Gulf and Caribbean Fisheries Institute.

Beersma, B., & Van Kleef, G. A. (2011). How the grapevine keeps you in line: Gossip increases contributions to the group. *Social Psychological and Personality Science, 2*, 642-649.

Bell, P. A., Green, T., Fisher, J. D., & Baum, A. (2001). *Environmental psychology.* New York: Psychology Press..

Belloc, M. (1950). The fisheries of the Antilles. *Proceedings of the Gulf and Caribbean Fisheries Institute*, 110–113.

Bénabou, R., & Tirole, J. (2006). Incentives and prosocial behavior. *American Economic Review*, *96*,1652-1678.

Berger, R. (2015). Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative research*, *15*, 219-234.

Berkes, F. (1986). *Local-level management and the commons problem. Marine Policy, 10, 215-22.*

Berkes, F. (1994). Co-management: Bridging the two solitudes. *Northern Perspect, 22,* 18–20..

Berkes, F. (2009). Evolution of co-management: role of knowledge generation, bridging organizations and social learning. *Journal of Environmental Management*, *90*, 1692–1702.

Blake, M. (2007). Formality and friendship: Research ethics review and participatory action research. *ACME: An International Journal for Critical Geographies, 6*, 411-421.

Boeke, J. (1907). *Rapport betreffende een voorlopig onderzoek naar de toestand van de Visscherij en de Industrie van Zeeproductedn in de kolonie Curaçao.* Den Haag: Belinfante.

Boer, D. D. (2011.). *Natuur als speelbal van culturele verschillen: Culturele diversiteit in het sociaal-natuurlijk landschap van Bonaire* (Unpublished master's thesis). Retrieved from: https://dspace.library.uu.nl/handle/1874/209287

Borrini, G., Jaireth, H., Farvar, M. T., Pimbert, M., & Kothari, A. (2007). *Sharing power: learning-by-doing in co-management of natural resources throughout the world*. London: Earthscan.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology, 3*, 77-101.

Braun, V., & Clarke, V. (2016). (Mis) conceptualising themes, thematic analysis, and other problems with Fugard and Potts'(2015) sample-size tool for thematic analysis. *International Journal of social research methodology, 19*, 739-743.

Bremner, L. (2016). Thinking architecture with an Indian Ocean Aquapelago. G*eoHumanities*, *2*, 284-310.

Brick, C., Sherman, D. K., & Kim, H. S. (2017). "Green to be seen" and "brown to keep down": Visibility moderates the effect of identity on pro-environmental behavior. *Journal of Environmental Psychology*, *51*, 226-238.

Briguglio, L. (1995). Small island developing states and their economic vulnerabilities. *World Development*, *23*, 1615–1632.

Brosius, J. P. (1999). Analyses and interventions: Anthropological engagements with environmentalism. *Current Anthropology*, *40*, 277-310.

Brown, B. B., & Perkins, D. D. (1992). Disruptions in place attachment. In *Place attachment* (pp. 279-304). Springer, Boston, MA.

Bruijn, W. d. (2019). *De Gouden Rots. Hoe op St. Eustatius wereldgeschiedenis werd geschreven.* Amsterdam: Uitgeverij Balans.

Burn, S. M., & Oskamp, S. (1986). Increasing community recycling with persuasive communication and public commitment. *Journal of Applied Social Psychology*, *16*, 29-41.

Burnett, K. A., & Danson, M. (2017). Enterprise and entrepreneurship on islands and remote rural environments. *The International Journal of Entrepreneurship and Innovation*, *18*, 25–35.

Byrka, K., Kaiser, F. G., & Olko, J. (2017). Understanding the Acceptance of nature- preservation-related Restrictions as the Result of the compensatory Effects of environmental attitude and behavioral Costs. *Environment and Behavior, 49*, 487-508.

Cain, A. (2017). *A sense of belonging.* Edam: LM Publishers.

Cameron, J. E. (2007). A three-factor model of social identity. *Self and identity*, *3*, 239-262.

Campbell, I. J. (2018). Animal Welfare and Environmental Ethics: It's Complicated. *Ethics & the Environment*, *23*, 49-69.

Castree, N., & Braun, B. (1998). The construction of nature and the nature of construction: analytical and political tools for building survivable futures: Nature at the Millennium. In B. Braun, & N. Castree (Eds.), *Remaking Reality: Nature at the Millennium* (pp. 3-42). Londen: Routledge.

Cavazza, N., Pagliaro, S., & Guidetti, M. (2014). Antecedents of concern for personal reputation: The role of group entitativity and fear of social exclusion. *Basic and Applied Social Psychology, 36*, 365-376.

Central Bureau for Statistics (2014, June 2017). *Caribisch Nederland; arbeidsdeelname, kerncijfers* [Data File]. Retrieved from http://statline.cbs.nl/Statweb/publication/?DM=SLNL&PA=83165NED&D1=0&D2=0&D3=0&D4=a&D5=0&D6=l&HDR=G5,G4&STB=G1,G2,G3,T&VW=T

Chandler, D., & Pugh, J. (2018). Islands and the rise of correlational epistemology in the

Anthropocene: Rethinking the trope of the 'canary in the coalmine.' *Island Studies Journal. 16,* 209-288.

Chandler, D., & Pugh, J. (2020). Islands of relationality and resilience: The shifting stakes of the Anthropocene. *Area*, *52*, 65-72.

Cheng, T. M., & Wu, H. C. (2015). How do environmental knowledge, environmental sensitivity, and place attachment affect environmentally responsible behavior? An integrated approach for sustainable island tourism. *Journal of Sustainable Tourism*, *23*, 557–576.

Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology, 58*, 1015-1026.

Cinner, J. E., Wamuk.otal, A., Randriamahazo, H., & Rabearisoa, A. (2009). Toward institutions for community-based management of inshore marine resources in the Western Indian Ocean. *Marine Policy*, *33,* 489-496.

Clarke, V., & Braun, V. (2013). Teaching thematic analysis: Overcoming challenges and developing strategies for effective learning. *The psychologist*, *26*, 120-123.

Clarke, V., & Braun, V. (2014). Thematic analysis. In *Encyclopedia of critical psychology* (pp. 1947-1952). New York, NY: Springer.

Clary, E. G., Snyder, M., Ridge, R. D., Copeland, J., Stukas, A. A., Haugen, J., & Miene, P. (1998). Understanding and assessing the motivations of volunteers: A functional approach. *Journal of Personality and Social Psychology, 74*, 1516–1530.

Clayton, S. (2003). Environmental identity: A conceptual and an operational definition. In S.

Clayton, & S. Opotow (Eds.), *Identity and the natural environment: The psychological significance of nature* (pp. 45-65). London: MIT Press.

Clayton, S., Devine-Wright, P., Swim, J., Bonnes, M., Steg, L., Whitmarsh, L., & Carrico, A. (2016). Expanding the role for psychology in addressing environmental challenges. *American Psychologist*, *71*, 199- 215.

Clegg, P., & Pantojas-García, E. (2009). *Governance in the non-independent Caribbean: challenges and opportunities in the 21st century.* Jamaica: Ian Randle Publishers.

Cochrane, K. L., & Garcia, S. M. (2009). *A Fishery Manager's Guidebook.* Chichester: Wiley-Blackwell.

Coglan, L., & Pascoe, S. (2015). Corporate-cooperative management fisheries: a potential alternative governance structure for low value small fisheries? *Marine Policy, 57*, 27- 35.

Costanza, R., d'Arge, R., Groot, R., Farber, S., Grasso, M., Hannon, B., & Belt, M. (1998). The value of the world's ecosystem services and natural capital. *Nature*, *387,* 253-260.

Coulthard, S., Evans, L., Turner, R., Mills, D., Foale, S., Abernethy, K., Hicks, C., & Monnereau, I. (2017). Exploring "islandness" and the impacts of nature conservation through the lens of well-being. *Environmental Conservation*, *44*, 298–309.

Cox, M., Arnold, G., & Villamayor Tomás, S. (2010). A Review of Design Principles for Community-based Natural Resource Management. *Ecology and Society*, *15,* 38.

Crenshaw, K. (1989). Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics. *University of Chicago Legal Forum*, *1,* 139 – 167.

Cronon, W. (1995). *Uncommon ground: toward reinventing nature*. New York: WW Norton & Company.

Cuadrado E, Tabernero C and Steinel W (2016). Determinants of Prosocial Behavior in Included Versus Excluded Contexts. *Frontiers in Psychology, 6,* 2001.

Culiberg, B., & Elgaaied-Gambier, L. (2016). Going green to fit in–understanding the impact of social norms on pro-environmental behaviour, a cross-cultural approach. *International Journal of Consumer Studies, 40*, 179-185.

CurConsult. (2012). *Samen verder bouwen": Eenmeting belevingsonderzoek Caribisch Nederland*. Retrieved from: https://www.eerstekamer.nl/overig/20121119/rapport_samen_verder_bouwen/document

DCNA (2019). Yarari Marine Mammal and Shark Sanctuary. *BioNews*, 1–66. Retrieved from: https://www.dcnanature.org/wp-content/uploads/2019/02/BioNews-Yarari.pdf

D'Armengol, L., Castillo, M. P., Ruiz-Mallén, I., & Corbera, E. (2018). A systematic review of co-managed small-scale fisheries: Social diversity and adaptive management improve outcomes. *Global Environmental Change, 52*, 212-225.

Dahl, A. L. (2017). Island conservation issues in international conventions and agreements. *Environmental Conservation*, *44*, 267.

Debrot, A. O., & Sybesma, J. (2000). The Dutch Antilles. In: C.R.C. Sheppard, (Ed.) *Seas at the millennium: an environmental evaluation: 1. Regional chapters: Europe, The Americas and West Africa*. pp. 595-614

Debrot, A. O., & Bugter, R. J. (2010). *Climate change effects on the biodiversity of the BES islands: assessment of the possible consequences for the marine and terrestrial ecosystems of the Dutch Antilles and the options for adaptation measures.* (IMARES-report; No. C118/10). Alterra. Retrieved from: https://edepot.wur.nl/156234

Debrot, A. O., Buurt, v G., & Vermeij, J. A. (2011.). *Prelimenary overview of exotic and invasive marine species in the Dutch Caribbean*. (IMARES Report number C188/11). Retrieved from: https://edepot.wur.nl/192696

Debrot, A. O., De Graaf, M., Henkens, R., Meesters, H. W., & Slijkerman, D. M. (2011). *A status report of nature policy development and implementation in the Dutch Caribbean over the last 10 years and recommendations towards the Nature Policy Plan 2012 - 2017.* (IMARES-report number C065/11). Retrieved from: https://www.dcbd.nl/document/status-report-nature-policy-development-and-implementation-dutch-caribbean-over-last-10

Debrot, A. O., Henkens, R. J., & Verweij, P. J. (2017). *Staat van de natuur van Caribisch Nederland 2017: Een eerste beoordeling van de staat (van instandhouding), bedreigingen en managementimplicaties van habitats en soorten in Caribisch Nederland*. (Wageningen Marine Research Rapport number C086/17). Retrieved from: https://research.wur.nl/en/publications/staat-van-de-natuur-van-caribisch-nederland-2017-een-eerste-beoor

Debrot, A. O., Witte, R. H., Scheidat, M., & Lucke, K. (2011). *A Proposal Towards a Dutch Caribbean Marine Mammal Sanctuary.* (IMARES Wageningen UR report number C149/11). Retrieved from: https://library.wur.nl/WebQuery/wurpubs/reports/415467

De Cremer, D. (2002). Respect and cooperation in social dilemmas: The importance of feeling included. *Personality and Social Psychology Bulletin*, *28*, 1335–1341.

De Cremer, D., and Tyler, T. R. (2005). Am I respected or not?: Inclusion and reputation as issues in group membership. *Social Justice Research*, *18*, 121-153.

De Jong, N. (2006). Joe'i Kórsou?" (Who Is the True Curaçaoan?): A Musical Dialogue on Identity in Twentieth-Century Curaçao. *Black Music Research Journal*, *26*, 165–179.

De Leon, R., Vane, K., Bertuol, P., Chamberland, V. C., Simal, F., Imms, E., & Vermeij, M. J. (2013). `effectiveness of lionfish removal efforts in the southern Caribbean. *Endangered Species Research, 22*(2), 175-182.

De Fries, Ruth, & Nagendra, Harini. (2017). Ecosystem management as a wicked problem. *Science (American Association for the Advancement of Science)*, *356*, 265–270.

De Geus, L., Mac Donald, S., Oostindie, G., Stipriaan A. & Vermeer, N. (2021). Bonairaans erfgoed: nostalgie en uitdagingen. In: *Antilliaans erfgoed; Nu en verder* (pp. 165 - 194). Leiden: Leiden University Press.

De Graaf, M., Houtepen, E., Tichelaar, E., Miller, D. C., Brunel, T., & Nagelkerke, L. A. (2016). *Status and trends reef fish and coastal fisheries Bonaire (Caribbean Netherlands): report card 2014-2015*. (Wageningen University & Research Rapport C086/17). Retrieved from: https://edepot.wur.nl/426340

Delmas, M. A., & Lessem, N. (2014). Saving power to conserve your reputation? The effectiveness of private versus public information. *Journal of Environmental Economics and Management, 67*, 353-370.

Departement van Volksgezondheid en Milieuhygiëne. (2000). Natuurbeleid van de Nederlandse Antillen: Aan de dageraad van een nieuw millennium: 2000-2005. Willemstad: Sectie Milieu en Natuur.

Dilley, R. M. (2002). The problem of context in social and cultural anthropology. *Language & Communication*, *22*, 437-456.

Dilrosun, F. (2004). *Korte inventarisatie van de visserijsector van Bonaire / Brief inventory of the fisheries sector in Bonaire*. Afdelining Milieu & Natuur (MINA) vd Directie Volksgezondheid.

Donda, S. (2017.). *Who benefits from fisheries co-management? A case study in Lake Chiuta, Malawi. Marine Policy, 80, 147-153*

Duijf, C. M. A. M., & Soons, A. H. A. (2019). Zelfbeschikking en het Koninkrijk: Bron, Reikwijdte en Betekenis van het Zelfbeschikkingsrecht in de Postkoloniale Context. *Tijdschrift voor Constitutioneel Recht*, 327.

Ebel, S. A., Beitl, C. M., Runnebaum, J., Alden, R., & Johnson, T. R. (2018). *The power of participation: Challenges and opportunities for facilitating trust in cooperative fisheries research in the Maine lobster fishery. Marine Policy, 90, 47-54*

EcoVision. (2017). *Evaluation of the Fisheries Legislation Caribbean Netherlands, Assesment report*. EcoVision N.V.

Eelderink, M., Vervoort, J. M., & van Laerhoven, F. (2020). Using participatory action research to operationalize critical systems thinking in social-ecological systems. *Ecology and Society*, *25*.

Environmental Psychology Enhancing Our World (2017). Retrieved from: https://iaps- association.org/blog/environmental-psychology-enhancing-our-world/

Evans, L., Cherrett, N., & Pemsl, D. (2011). Assessing the impact of fisheries co- management interventions in developing countries: a meta-analysis. *Journal of Environmental Management, 92, 1938-1949.*

Evertsz-Ipcedencia, N. (2020). Tien jaar Bonaire na 10-10-10: het eiland blijft verdeeld. NTR Caribisch Netwerk. Retrieved from: https://caribischnetwerk.ntr.nl/2020/08/05/tien-jaar-bonaire-na-10-10-10-het-eiland-blijft-verdeeld/

Farrow, K., Grolleau, G., and Ibanez, L. (2017). Social norms and pro-environmental behavior: a review of the evidence. *Ecological Economics*, *140*, 1-13.

Ferdinand, M. (2018). Subnational climate justice for the French Outre-mer: postcolonial politics and geography of an epistemic shift. *Island Studies Journal*, *13*, 119–134.

Ferdinand, M., Oostindie, G., & Veenendaal, W. (2020). A global comparison of non- sovereign island territories: the search for 'true equality'. *Island Studies Journal*, *15*, 43-66.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*, 117-140.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage Publications.

Finkbeiner, E. M., & Basurto, X. (2015). *Re-defining co-management to facilitate small-scale fisheries reform: An illustration from northwest Mexico. Marine Policy, 51, 433-441.* .

Finnis, E. (2004). Anthropology and Participatory Research: Ethical Considerations in International Development. *NEXUS, 17*, 32-62.

Fishbein, M., & Ajzen, I. (2010). *Predicting and changing behavior: The reasoned action approach*. New York: Psychology Press.

Freddi, A. (1994). *Aruba. Aquaculture Development Evaluation.* Rome: Food and Agriculture Organisation of the United Nations (FAO).

Gabriel, S. (2021) Reflections on the 25th anniversary of Baumeister and Leary's seminal paper on the need to belong. *Self and Identity*, *20*,1-5.

Gifford, R. (2014). Environmental psychology matters. *Annual review of psychology*, *65*, 541-579.

Gifford, R., & Nilsson, A. (2014). Personal and social factors that influence pro- environmental concern and behavior: A review. *International Journal of Psychology, 49*, 141-157.

Grenade, W. C. (2008). Sovereignty, Democracy and Going Regional–Navigating Tensions: The European Union and the Caribbean Community Considered. *The Caribbean Community in Transition Functional Cooperation as a Catalyst for Change*, 114-135.

Grove, K., & Pugh, J. (2015). Assemblage thinking and participatory development: Potentiality, ethics, biopolitics. *Geography Compass*, *9,* 1–13.

Grove, R. H. (1997). *Ecology, climate and empire: colonialism and global environmental history, 1400-1940*. Cambridge, UK: White Horse Press.

Grydehøj, A. (2020). Critical approaches to island geography. *Area*, *52*, 2–5.

Grydehøj, A., & Kelman, I. (2017). The eco-island trap: climate change mitigation and conspicuous sustainability. *Area*, *49*, 106–113.

Guadeloupe, F. (2009). De verdrijving van Hulanda: De Sabanen en hun toekomst als BES-eilanders. *Justitiële Verkenningen*, *35*, 48–62.

Gutiérrez, N. L., Hilborn, R., & Defeo, O. (2011). Leadership, social capital and incentives promote successful fisheries. *Nature*, *470*, 386–389.

Hall, S. (2001). The spectacle of the other. *Discourse theory and practice: A reader*, 324-344.

Harland, P., Staats, H., & Wilke, H. A. (2007). Situational and personality factors as direct or personal norm mediated predictors of pro-environmental behavior: Questions derived from norm-activation theory. *Basic and applied social psychology*, *29*, 323-334.

Hartog, J. (1975). *Bonaire: short history.* Aruba: De Wit.

Haviser, J. (1991). *The first Boniaieans (AANIA reports; no 10).* Curaçao: Archealogical-Anthropological Institutre of the Netherlands Antilles

Hayward, P. (2012). Aquapelagos And Aquapelagic Assemblages. *Shima*, *6*.

Head, B. W., Ross, H. & Bellamy, J. (2016). Managing wicked natural resource problems: The collaborative challenge at regional scales in Australia. *Landscape and Urban Planning*, *154*, 81–92.

Head, L., Trigger, D., & Mulcock, J. (2005). Culture as concept and influence in environmental research and management. *Conservation and Society*, 251-264.

Heger, M., Julca, A., & Paddison, O. (2008). Analysing the impact of natural hazards in small economies. In *the Caribbean case (No. 2008/25*. WIDER Research Paper).

Hensen, R. R. (1991). Development of aquaculture in the Netherlands Antilles and Aruba. *Proceedings of the Gulf and Caribbean Fisheries Institute*, 363–366.

Hensen, R. R., & Grashof, F. (1991). *Fundashon Marcultura: An innovative aquaculture research foundation is established to provide aquaculture protein for Aruba, Bonaire and Curaçao.* World Aquaculture.

Hernández, B., Martín, A. M., Ruiz, C., & Hidalgo, M. d. (2010). The role of place identity and place attachment in breaking environmental protection laws. *Journal of Environmental Psychology, 30*, 281–288.

Hertwich, E. G. (2005). Life cycle approaches to sustainable consumption: a critical review. *Environmental science & technology*, *39*, 4673-4684.

Hertwich, E. G., & Peters, G. P. (2009). Carbon footprint of nations: a global, trade-linked analysis. *Environmental science & technology*, *43*, 6414-6420.

Hughes, R. & Flintan, F. (2001). *Integrating Conservation and Development Experience: A Review and Bibliography of the ICDP Literature.* London: International Institute for Environment and Development.

Hume, Y., & Kamugisha, A. (2016). *Caribbean popular culture: Power, politics and performance*. Kingston: Ian Randle.

IES GS (2017). *Environmental Conservation at Global Level*. Retrieved from: https://iesgeneralstudies.com/environmental-conservation-global/

IUCN (n.d.). *IUCN definitions list*. Retrieved from: https://www.iucn.org/downloads/en_iucn__glossary_definitions.pdf

Jackson, J. B., Donovan, M. K., Cramer, K. L., & Lam, V. V. (2014). *Status and Trends of Caribbean Coral Reefs: 1970-2012*. Gland: Global Coral Reef Monitoring Network IUCN.

Jaffe, R. (2006). *Urban blight in the Caribbean: city, environment, and culture in Curaçao and Jamaica. Ph.D. Dissertation*. Leiden: University of Leiden.

Jaffe, R. (2016). *Concrete jungles: urban pollution and the politics of difference in the Caribbean*. Oxford: Oxford University Press.

Jaffe, R. K., Bruijne, A. D., Schalkwijk, A., & Jaffe, R. (2008). The Caribbean city: an introduction. *The Caribbean City*, 1-23.

Jason, L. A., Stevens, E., & Ram, D. (2015). Development of a three-factor psychological sense of community scale. *Journal of Community Psychology, 43*, 973-985.

Johnson, A. E. (2011). *Fish, fishing, diving and the management of coral reefd. Ph.D. Dissertation*. San Diego: University of California.

Johnson, A. E., & Jackson, J. B. (2015). Fisher and diver perceptions of coral reef degradation and implications for sustainable management. *Global Ecology and Conservation*, 890–899.

Kamiyamaa, R., Miyataa, T., Ferrer, A. J., Kurokurac, H., & Ishikawa, S. (2018). Differences in the effects of social network, trust, and co-operation on fishery co-management. *Marine Policy*, *87,* 314-320.

Kashima, Y., & Margetts, E. (2014). On human-nature relationships. In P. G. Bain, J. Vaes, & J.-P. Leyens (Eds.), *Humanness and dehumanization* (pp. 294–319). New York, NY: Psychology Press.

Kelman, I. (2007). The island advantage: Practices for prospering in isolation. *id21 insights*, *70*, 1-6.

Kelman, I. (2014). No change from climate change: vulnerability and small island developing states. *The Geographical Journal*, *180*, 120-129.

Kelman, I. (2018). Islandness within climate change narratives of small island developing states (SIDS). *Island Studies Journal, 13*, 149-166.

Kelman, I., & Khan, S. (2013). Progressive climate change and disasters: island perspectives. *Natural Hazards*, *69*, 1131–1136.

Kelman, I., & West, J. J. (2009). Climate change and small island developing states: a critical review. *Ecological and Environmental Anthropology*, *5*, 1–16.

Kitchell, A., Kempton, W., Holland, D., & Tesch, D. (2000). Identities and actions within environmental groups. *Human Ecology Review, 7,* 1-20.

Klöck, C., & Nunn, P. D. (2019). Adaptation to climate change in small island developing

states: a systematic literature review of academic research. *The Journal of Environment & Development*, *28*, 196-218.

Kollmuss, A., and Agyeman, J. (2002). Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental education research, 8*, 239-260.

Kraan, M. L., Hendriksen, A., Hoof, L. J., Leeuwen, J., & Jouanneau, C. (2014). How to dance? The tango of stakeholder involvement in marine governance research. *Marine Policy, 50,* 347-352..

Kramer, R. M., and Brewer, M. B. (1984). Effects of group identity on resource use in a simulated commons dilemma. *Journal of Personality and Social Psychology, 46,* 1044-1057.

Krieg, L. J. (2018). Entangling (non)human isolation and connectivity: Island nature conservation on Ile aux Aigrettes, Mauritius. *Island Studies Journal*, *13*, 55–70.

Kueffer, C., & Kinney, K. (2017). What is the importance of islands to environmental conservation? *Environmental Conservation, 44*, 311-322.

Kuitenbrouwer, M., Poeze, H. ., & Granger, L. (2013). *Dutch scholarship in the age of empire and beyond: KITLV - The Royal Netherlands Institute of Southeast Asian and Caribbean Studies, 1851-2011*. Leiden: Brill/KITLV Press.

Laclé, F. A. (2012). *Recreational and cultural value of Bonaire's nature to its inhabitants.Msc. Thesis.* Amsterdam: IVM Institute for Environmental Studies VU University.

Lapinski, M. K., & Rimal, R. N. (2005). An explication of social norms. *Communication Theory, 15*, 127-147.

Leendertse, K., & Verbeek, J. (1987). *Niks te maken ku nos: de Bonairiaanse visser in economisch anthropologisch perspectief (Unpublished master's thesis)*. Leiden: Leiden University.

Lely, J. A., Beukering, v P., Muresan, L., Z, C. D., Wolfs, E., & S, S. (2013). *The total economic value of nature on Bonaire: Exploring the future with an ecological-economic simulation model.* Institute for Environmental Studies VU University.

Levine, A., & Richmond, L. (2015). Using common-pool resource design principles to assess the viability of community-based fisheries co-management in American Samoa and Hawai'i. *Marine Policy, 62,* 9-17.

Lewicka, M. (2005). Ways to make people active: The role of place attachment, culturalcapital, and neighborhood ties. *Journal of Environmental Psychology, 25*, 381-395.

Lewicka, M. (2011). Place attachment: How far have we come in the last 40 years? *Journal of Environmental Psychology, 31*, 207-230.

Löfman, P., Pelkonen, M., & Pietilä, A.-M. (2004). Ethical issues in participatory action research. *Scandinavian Journal of Caring Sciences, 18*, 333-340.

Mac Donald, S. (2019). Mas Piska pa Boneiru: a social mapping study of the fisheries sectors of Bonaire, Saba and St. Eustatius. WWF – NL. Retrieved from: https://www.dcbd.nl/sites/default/files/documents/Mas%20piska%20pa%20boneiru_a%20social%20mapping%20study%20of%20fisheries%20CN_FINAL%20sept%202019.pdf

Manzo, L. C., & Perkins, D. D. (2006). Finding common ground: The importance of place attachment to community participation and planning. *Journal of Planning Literature, 20*, 335-350.

Marcha, V., & Verweel, P. (2009). *De Curaçaose vrouw... moet je ontdekken : mannen over de sociale identiteit van de Curaçaose vrouw.* Amsterdam: Carib Publishing.

Marquart-Pyatt, S. T. (2012). Contextual influences on environmental concerns cross- nationally: A multilevel investigation. *Social science research*, *41*, 1085-1099.

McCay, B. J. (1980). A fishermen's cooperative limited: indigenous resource management In a complex society. *Anthropological Quarterly, 53*, 29–38.

McCay, B. (1993). Management regimes. Property rights and the performance of natural resource systems. Background paper prepared for the September 1993 Workshop, Beijer Institute of Ecological Economics. Sept. 28-29, Stockholm.

McCay, B. J., Micheli, F., Ponce-Diaz, G., Murray, G., Shester, G., Ramirez-Sanchez, S., & Weisman, W. (2014). Cooperatives, concessions, and co-management on the Pacific coast of Mexico. *Marine Policy, 44*, 40-59.

McGregor, D., Dodman, D., & Barker, D. (Eds.). (2009). *Global change and Caribbean vulnerability: environment, economy and society at risk*. Trinidad and Tobago: University of the West Indies Press.

Meesters, E., Slijkerman, D., De Graaf, M., & Debrot, A. (2010). *Management plan for the natural resources of the EEZ of the Dutch Caribbean*. (IMARES Wageningen UR nr. C100/10). Retrieved from: https://www.wur.nl/en/Publication-details.htm?publicationId=publication-way-333937363936

Menken, S., Keestra, M., Rutting, L., Post, G., Roo, M. de, Blad, S., & Greef, L. de. (2016). *An introduction to interdisciplinary research* (Vol. 2). Amsterdam: Amsterdam University Press.

Mihaylov, N., & Perkins, D. (2013). Community Place Attachment and its Role in Social Capital Development. In L. Manzo & P. Devine-Wright (Eds.), *Place Attachment. Advances in Theory, methods and applications* (pp. 61–73). London: Routledge.

Mika, K. (2018). *Disasters, vulnerability, and narratives: Writing Haiti's futures*. London: \ Routledge.

Milfont, T. L. (2012). Cultural differences in environmental engagement. In S. D. Clayton (Ed.), *The Oxford handbook of environmental and conservation psychology* (pp. 181–200). London: Oxford University Press.

Milfont, T. L., & Schultz, P. W. (2016). Culture and the natural environment. *Current Opinion in Psychology, 8*, 194-199.

Milton, K. (1996). *Environmentalism and Cultural Theory: Exploring the Role of Anthropology in Environmental Discourse*. London: Routlegde.

Milton, K. (2003). *Environmentalism: The view from anthropology*. London: Routledge.

Ministries of Agriculture, Nature and Food Quality, Infrastructure and Water Management and Interior and Kingdom relations of The Netherlands (2020). *Plan For Land & Water. Nature And Environment Policy Plan Caribbean Netherlands 2020 -2030*. Retrieved from: https://english.rijksdienstcn.com/agriculture-nature-and-food-quality/documents/leaflets/agriculture-horticulture-and-livestock/nature-policy-plan/nature-policy-plan/nature-and-environment-policy-plan-caribbean-netherlands-2020-2030

Mountz, A., & Briskman, L. (2012). Introducing island detentions: the placement of asylum seekers and migrants on islands. *International Journal of Research, 6*, 21.

Mulich, J. (2020). *In a Sea of Empires: Networks and Crossings in the Revolutionary Caribbean*. Cambridge: Cambridge University Press.

Murphy, J. (2009). Environment and Imperialism: Why Colonialism Still Matters. *SRI PAPERS*, 1-20.

Nandan, S. N. (1987). *The exclusive economic zone: a historical perspective*. FAO publication. Retrieved from: http://www.fao.org/3/s5280t/s5280t0p.htm

Napier, V. R., Branch, G. M., & Harris, J. M. (2005). Evaluating conditions for successful co-management of subsistence fisheries in KwaZulu-Natal, South Africa. *Environmental Conservation, 32,* 165-177.

Nauta, O. (2011). *Goed bestuuur in de West: institutionele en maatschappelijke beperkingen voor goed bestuur in de Caribische rijksdelen*. BOXPress.

Newman, A., Bavik, Y. L., Mount, M., & Shao, B. (2020). Data collection via online platforms: Challenges and recommendations for future research. *Applied Psychology, 70*. 1390-1402.

Niemiec, R., Willer, R., A. N., & Brewer, F. (2019). Motivating landowners to recruit neighbors for private land conservation. *Conservation Biology, 33,* 930-941..

Nolan, J. M., & Schultz, P. W. (2013). Prosocial behavior and environmental action. In D. A.

Schroeder, & W. G. Graziano (Eds.), *The Oxford handbook of prosocial behavior*. Oxford: Oxford University Press.

Nunn, P., & Kumar, R. (2018). Understanding climate-human interactions in small island developing states (SIDS). *International Journal of Climate Change Strategies and Management, 10, 245-271*.

O'Toole, G. (2014). *Environmental politics in Latin America and the Caribbean. Volume 1: Introduction*. UK: Liverpool University Press.

Obst, P., Smith, S. G., and Zinkiewicz, L. (2002). An exploration of sense of community, Part 3: Dimensions and predictors of psychological sense of community in geographical communities. *Journal of Community Psychology, 30*,119-133.

Oldekop, J. A., Holmes, G., Harris, W. E., & Evans, K. L. (2015.). A global assessment of the social and conservation outcomes of protected areas. *Conservation Biology, 30*, 133–141.

Oostindie, G., & Klinkers, I. (2003). *Decolonizing the Caribbean: Dutch Policies in a comparative perspective*. Amsterdam: Amsterdam University Press.

Oostindie, G., & Klinkers, I. (2012). *Gedeeld Koninkrijk: De ontmanteling van de Nederlandse Antillen en de vernieuwing van de trans-Atlantische relaties*. Amsterdam: Amsterdam University Press.

Oskamp, S. (2000). A Sustainable Future for Humanity? *American Psychologist, 55*, 496- 508.

Ostrom, E. (1990). *Governing the Commons. The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.

Pagliaro, S., Cavazza, N., Guidetti, M., Alparone, F. R., & Gianella, V. A. (2016). Concern for personal reputation within groups: the effect of accountability and fear of social exclusion. *Ricerche di psicologia, 1*, 9-19.

Pakus en Wayaka Advies. (2014). *Beleidsvisie Landbouw Veeteelt Visserij Bonaire 2014- 2029.* Bonaire: Openbaar Lichaam Bonaire.

Partelow, S. (2015). Key steps for operationalizing social-ecological system framework research in small-scale fisheries: A heuristic conceptual approach. *Marine Policy, 51*. 507-511.

Passmore, J. (1974). Man's Responsibility for Nature: Ecological Problems and Western Traditions. London: Duckworth.

Patton, M. Q. (2002). *Qualitative research & evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.

Pelletier, L. G., Tuson, K. M., Green-Demers, I., Noels, K., & Beaton, A. M. (1998). Why are you doing things for the environment? The motivation toward the environment scale (mtes) 1. *Journal of applied social psychology*, *28*, 437-468.

Persoon, G. (2009). Understanding the past for making the future: Environmental history and environmental planning in Southeast Asia. *Asia-Pacific Forum, 44*, 7-38.

Persoon, G.A. and T. Minter (2011) 'Code of conduct for working with indigenous and local communities.'Wageningen: Tropenbos International. Available at: http://www.tropenbos.org/publications/code+of+conduct+for+working+with+indigenous+and+local+communities

Perumal, N. (2018). " The place where I live is where I belong": community perspectives on climate change and climate-related migration in the Pacific Island nation of Vanuatu. *Island studies journal*, *13*(1).

Petzold, J., & Magnan, A. K. (2019). Climate change: thinking small islands beyond Small Island Developing States (SIDS). *Climatic Change, 152*, 145–165.

Petzold, J., & Ratter, B. M. (2015). Climate change adaptation under a social capital approach–An analytical framework for small islands. *Ocean & Coastal Management*, *112*, 36-43.

Pierce, J. L., Kostova, T., & Dirks, K. T. (2001). Toward a theory of psychological ownership in organizations. *Academy of Management Review, 26*, 298-310.

Pinkerton, E. (1989). Attaining better fisheries management through co-management: prospects, problems, and propositions. In E. Pinkerton & E. Pinkerton (Eds.), *Co-operative management of local fisheries: new directions in improved management & community development* (pp. 3–33). University of British Columbia Press.

Pollnac, R. B. (1994). Research directed at developing local organizations for people's partcipation in fisheries management. In R. S. Pomeror & R. S. Pomeror (Eds.), *Community management and common property of coastal fisheries in Asia and the Pacific: concepts methods and experiences* (pp. 94–106). International Center for Living Aquatic Resources Management.

Polman, N., Reinhard, S., van Bets, L. K., & Kuhlman, T. (2016). Governance of ecosystem services on small islands: three contrasting cases for St.Eustatius in the Dutch Caribbean. *Island Studies Journal, 11*, 265-284.

Pomeroy, R. S., & Williams, M. J. (1994). *Fisheries co-management and small-scale fisheries: a policy brief*. International Center for Loving Aquatic Resource Management.

Pomeroy, R. S., Katon, B. M., & Harkes, I. (2003). Fisheries co-management: Key conditions and principles drawn from Asian experiences. In G. Persoon, D. M. E. V. Est, & P. E. Sajise (Eds.), *Co-management of natural resources in Asia: A comparative perspective* (pp. 258–281). Copenhagen: Nordic Institute of Asian Studies Press (NIAS)

Persoon, G., & Minter, T. (2011). Code of Conduct for working with Indigenous and Local Communities. *Wageningen: Tropenbos International*.

Prezza, M., and Costantini, S. (1998). Sense of community and life satisfaction: Investigation in three different contexts. *Journal of Community and Applied Social Psychology*, *8*, 181–194.

Rabess, G. (1998). Popular media and policy in the Eastern Caribbean. *International Journal of Cultural Policy*, *4*, 431-453.

Ratter, B. M. (2018). *Geography of Small Islands: Outposts of Globalisation*. Switzerland: Springer International Publishing.

Rauwald, K. S., & Moore, C. F. (2002). Environmental attitudes as predictors of policy support across three countries. *Environment and behavior, 34*, 709-739.

Rawles, K. (2003). Conservation and Animal Welfare. *Global Bioethics, 16*, 99-109.

Razak, V. (1995). Culture under construction: The future of native Arubian identity. *Futures, 27.*

Riquet, J. (2016). Islands erased by snow and ice: approaching the spatial philosophy of cold water island imaginaries. *Island Studies Journal*, *11*, 145-160.

Röckmann, C., Leeuwen, J. v., Goldsborough, D., Kraan, M., & Piet, G. (2015). The interaction triangle as a tool for understanding stakeholder interactions in marine ecosystem-based management. *Marine Policy*, *52,* 155-162.

Rodriquez, A. (2015). *The Rise of Women's Rights in Curaçao: the potential of the Women's Convention to the empowerment of equal rights of women in Curaçao.* Amsterdam: Carib Publishing.

Roe, A. E. (2016). *The sound of silence: Ideology of national identity and racial inequality in contemporary Curaçao*(Doctoral dissertation, Florida International University).

Roitman, J.V. (2016). The Price You Pay: Choosing family, friends, and familiarity over freedom in the Leeward Islands, 1835-1863. *Journal of Global Slavery,* 1 no. 2-3: 196-223.

Roitman, J.V. (2019) Si jamais je prenais du retard': Lettres de Mathilda Percival émigrée à son mari John. Clio. Femmes, Genre, Histoire 50 no. 2. 165-178

Rojer, A. (1997). Biological Inventory of Saba. *(Report: KNAP project 96-10).* Carmabi Foundation Curaçao.

Römer, R.A. (1977). *Cultureel mozaïek van de Nederlandse Antillen: constanten en varianten*. Zutphen: De Walburg Pers.

Salas, S., Barragan-Paladines, M. J., & Chuenpagdee, R. (2019). *Viability and Sustainability of Small-Scavle Fisheries in Latin America and The Caribbean*. Springer International Publishing.

Scannell, L., & Gifford, R. (2017). Place attachment enhances psychological need satisfaction. *Environment and Behavior, 49*, 359-389.

Schep, S., Johnson, A., van Beukering, P., & Wolfs, E. (2012). *The fishery value of coral reefs in Bonaire applying various valuation techniques.* Amsterdam: IVM Institute for Environmental Studies.

Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2007). The constructive, destructive, and reconstructive power of social norms. *Psychological Science, 18*, 429-434.

Schwartz, S. H., & Howard, J. A. (1981). A normative decision-making model of altruism. In: P. J. Rushton and R. M. Sorrentino, Eds., *Altruism and Helping Behavior: Social, Personality, and Developmental Perspectives*. Lawrence Erlbaum, Hillsdale, pp. 189-211.

Scobie, M. (2019). SIDS and environmental governance in the Anthropocene. In M. Scobie, *Global Environmental Governance and Small States. Architectures and Agency in the Caribbean* (pp. 1–13).

Sen, S., & Nielsen, J. R. (1996). *Fisheries co-management: a comparative analysis*. Marine Policy, 20, 405-418.

Serafini, T. Z., Medeiros, R. P., & Andriguetto-Filho, J. M. (2017). Conditions for successful local resource management: lessons from a Brazilian small-scale trawling fishery. *Regional Environmental Change*, *17,* 309.

Shapiro, H., Peterson, M., Stevenson, K., Frew, K., & Langerhans, R. (2017). Wildlife species preferences differ among children in continental and island locations. *Environmental Conservation*, *44*, 389–396.

Sharpley, R., & Ussi, M. (2014). Tourism and governance in small island developing states (SIDS): the case of Zanzibar. *International Journal of Tourism Research*, *16*, 87–96.

Slocum, K., & Thomas, D. A. (2003). Rethinking global and area studies: Insights from Caribbeanist anthropology. *American Anthropologist*, *105*, 553-565.

Sloot, D., Jans, L., & Steg, L. (2019). In it for the money, the environment, or the community? Motives for being involved in community energy initiatives. *Global Environmental Change, 57*, 101936.

Smith, A. D., Sainsbury, K. J., & Stevens, R. A. (1999). Implementing effective fisheries-management systems – management strategy evaluation and the Australian partnership approach. *Journal of Marine Science*, 967–979.

Sparks, A. C., Henderson, G. L., Sriram, S. K., and Smith E.R.A.N. (2020). Measuring Environmental Values and Identity. *Society & Natural Resources*, *34*, 291-310.

Spies, J.W.E., A.H.A. Soons, G.A.E. Thodé, L.F.M. Verhey & F.H.H. Weekers, (2015). *Vijf jaar verbonden: Bonaire, Sint Eustatius, Saba en Europees Nederland*. [Evaluation report.] The Hague: Ministerie van Binnenlandse Zaken en Koninkrijksrelaties.

Spoelstra, S. F. (2019) Ezels op Bonaire: Achtergrondrapport voor beleidsadvies over de toekomstige positie van ezels op Bonaire aan Openbaar Lichaam Bonaire en het Ministerie van Landbouw van Bonaire. Rapport: Stichting KibraHacha, Bonaire.

Staats, H. (2003). Understanding pro-environmental attitudes and behavior: An analysis and review of research based on the theory of planned behavior. In M. Bonnes, T. Lee, & M. Bonaiuto (Eds.), *Psychological theories for environmental issues* (pp. 171 – 202). Aldershot, U.K.: Ashgate.

Stefaniak, A., Bilewicz, M., & Lewicka, M. (2017). The merits of teaching local history: Increased place attachment enhances civic engagement and social trust. *Journal of Environmental Psychology, 51*, 217-225.

Steg, L., Bolderdijk, J. W., Keizer, K., & Perlaviciute, G. (2014). An integrated framework for encouraging pro-environmental behaviour: The role of values, situational factors and goals. *Journal of Environmental psychology*, *38*, 104-115.

Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of Environmental Psychology, 29*, 309-317.

Steinel, W., Van Kleef, G. A., Van Knippenberg, D., Hogg, M. A., Homan, A. C., and Moffit, G. (2010). How intra-group dynamics affect behavior in intergroup conflict: The role of group norms, prototypicality, and need to belong. *Group Processes & Intergroup Relations, 13*, 779-994.

Steneck, R. S., Mumby, P., Arnold, S. (2007). A report on the Status of the Coral Reefs of Bonaire in 2007 with results from monitoring 2003-2007.

Steneck, R. S., Arnold, S. N., & DeBey, H. S. (2011). *Status and trends of Bonaire's Coral Reefs and Causes for Grave Concerns*. University of Maine, School of Marine Sciences.

Steneck, R. S., Arnold, S. N., Leon, R. D., & Rasher, D. B. (2015). *Status and trends of Bonaire's Coral reef in 2015: Slow but steady signs of resilience*. University of Maine, School of Marine Sciences.

Stern, P. C. (2000). Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues, 56*, 407–424.

Stringer, E. T. (2007). *Action Research.* London: Sage Publications.

Stringer, E. T. (2013). *Action research.* Chicago: Sage Publications.

Stringer, E., & Genat, W. J. (2004). *Action research in health*. Columbus, OH: Pearson.

Tylor, E. (2010). *Primitive Culture: Researches into the Development of Mythology, Philosophy, Religion, Art, and Custom* (Cambridge Library Collection - Anthropology). Cambridge: Cambridge University Press.

Teitel, P. (2018). *A Race Against Time - Keeping Bonaire's Boto Piskado Afloat.* From Caribbean Compass: http://www.caribbeancompass.com/bonaire_boats_2018.html

Telesetsky, A., Cliquet, A., & Akhtar-Khavari, A. (2017). *Ecological restoration in international environmental law.* London: Taylor & Francis.

Thomas, L. (in press). The Intersectional Environmentalist: How to Dismantle Systems of Oppression to Protect People + Planet. New York, NY: Voracious

Thomas, A., & Baptiste, A. K. (2018). Knowledge, perceptions, concerns, and behaviors to climate change—the Caribbean context: An introduction. *Journal of Environmental Studies and Sciences*, *8*, 39–41.

Tietze, U. (2016). *Technical and Socio-Economic Characteristics of Small-Scale Coastal \ Fishing Communities, and Opportunities for Poverty Alleviation and Empowerment*. FAO.

Trimble, M., & Berkes, F. (2015). Towards adaptive co-management of small-scale fisheries in Uruguay and Brazil: lessons from using Ostrom's design principles. *Maritime Studies*, *14,* 1–20.

Trouillot, M.-R. (1992). The Caribbean Region: An Open Frontier in Anthropological Theory. *Annual Review of Anthropology, 21,* 19-42.

Tukker, A., & Jansen, B. (2006). Environmental impacts of products: A detailed review of studies. *Journal of Industrial Ecology*, *10*, 159-182.

Ussher, J. M. (1999). Eclecticism and methodological pluralism: The way forward for feminist research. *Psychology of Women Quarterly*, *23*, 41-46.

Uzzell, D., & Räthzel, N. (2009). Transforming environmental psychology. *Journal of Environmental Psychology, 29*, 340-350.

Van Buurt, G. (1984). Artisanal fisheries in the Netherlands Antilles: Fishery development planning. *Proceedings of the Gulf and Carribean Fisheries Institute*, 44–50.

Van Buurt, G. (2001). *Visserijbeleidsplan Eilandgebied Curaçao.* Curaçao: Dienst Landbouw, Veeteelt en Visserij.

Van Duin, C., van der Gaag, N. & Ekamper, P. (2019). Bevolkingsprognose Caribisch Nederland 2019-2050. CBS Publicatie. Retrieved from: https://www.cbs.nl/nl-nl/longread/statistische-trends/2019/bevolkingsprognose-caribisch-nederland-2019-2050

Van Gelderen, P. (1953). Fisheries in the Netherlands Antilles. *Proceedings of the Gulf and Caribbean Fisheries Institute 5* (pp. 57-59). Gulf and Caribbean Fisheries Institute.

Veenendaal, W. (2015). The Dutch Caribbean municipalities in comparative perspective. *10*, 15-30.

Veenendaal, W. (2016a). Smallness and Status Debates in Overseas Territories: Evidence from the Dutch Caribbean. *Geopolitics, 21*, 148-170.

Veenendaal, W. (2016b). The Ties that Bind: Smallness, Nonsovereignty, and Political Reform in St. Eustatius. *Nieuwe West - Indische Gids, 90*, 257-279.

Veenendaal, W. (2017a). Iedereen kent iedereen: De invloed van kleinschaligheid en informele politiek op bestuur in Caribisch Nederland. *Beleid en Maatschappi, 44*.

Veenendaal, W. (2017b). Why do malfunctioning institutions persist? A case study of the Kingdom of the Netherlands. *Acta Politica, 52*, 64-84.

Veenendaal, W., & Oostindie, G. (2018). Head versus heart: The ambiguities of non- sovereignty in the Dutch Caribbean. *Regional & Federal Studies, 28*, 25-45.

Vos, B. I., & Tatenhove, J. P. (2011). Trust relationships between fishers and government: N e w challenges for the co-management arrangements in the Dutch flatfish industry. *Marine Policy, 35,* 218-225.

W.I.D. (1953, December 24). Venezolaanse kustwcht brengt Antilliaanse visserschepen op. *A.N.P. Westindishe documentatie dienst*, pp. 728-729.

Wallman, D., Wells, E. C., & Rivera-Collazo, I. C. (2018). The Environmental Legacies of Colonialism in the Northern Neotropics: Introduction to the Special Issue. *Environmental Archaeology, 23*, 1-3

Walshe, R. A., & Stancioff, C. E. (2018). Small island perspectives on climate change. *Island Studies Journal*, *13*, 13-24.

Werven, v G., Jepma, C. J., & Bakker, W. (2010). *Masterplan strategische ontwikkeling Bonaire 2010-2025*. Eilandgebied.

Westermann, J. H. (1949). *Overzicht van de geologische en mijnbouwkundige kennis der Nederlandse Antillen, benevens voorstellen voor verdere exploitatie*. Amsterdam: Indisch instituut.

Wiederkehr, C., Berghöfer, A., & Otsuki, K. (2019). Ostrom's Governance Principles and Sustainable Financing of Fish Reserves. *Human Ecology,47, 13-25.*

Willig, C., & Stainton-Rogers, W. (2012). *The SAGE Handbook of Qualitative Research in Psychology*. London: SAGE Publications.

Willis, S., Nava, M., Schut, K., & Stapelton, S. (2015). *Research and monitoring of Bonaire's sea turtles: 2015 technical report.*

Wit, H. (1951.). *Suriname en de Nederlandse Antillen. Een kort overzicht van de twee rijksdelen in Amerika*. N.V. Uitgeverij W. van Hoeve.

Wohlwill, J. F. (1970). The emerging discipline of environmental psychology. *American psychologist*, *25*, 303.

Yandle, T. (2003). The challenge of building successful stakeholder organizations: New Zealands experience in developing a fisheries co-management regime. *Marine Policy, 27, 179-192.*

Zaneveld, J. S. (1961). The Fishery Resources and the Fishery Industry of the Netherlands Antilles. *Proceedings of the Gulf and Caribbean Fisheries Institute, 14th Annual Session*, 137–171.

Appendix A: Overview of personal and social drivers influencing pro-environmental behavior by Gifford & Nilsson (2014).

Type	Factor	How does this affect pro-environmental behavior?
Personal	Childhood experience	Specific childhood experiences are strong predictors for environmental concern and behavior; for example, the number of outdoor experiences or nature films watched.
	Knowledge & education	Understanding environmental problems and higher education levels tend to lead to higher levels of environmental concern and behavior.
	Personality and self-construal	Certain personality factors (openness, agreeableness, conscientious), having a personal relationship with the environment, and how people relate with others (interdependence or interconnectedness) tend to lead to greater environmental concern and behavior.
	Sense of control	The extent to which people attribute control over life events to themselves or external sources affects their pro-environmental behavior. The more control people attribute to themselves or the more they believe they can address the problem, the more likely they engage in pro-environmental behaviors.
	Values, political views, and worldviews	People with stronger biospheric, post material, liberal values and worldviews tend to have greater environmental concerns and display more pro-environmental behavior.
	Goals	Those who hold a goal to engage in environmental behavior are more likely to do so. A distinction can be made between hedonic, gain, and normative goals.
	Felt responsibility	Feeling responsible for what happens to or with the environment affects one's level of environmental concern.
	Cognitive biases	Certain biases strongly affect felt responsibility for environmental problems.
	Place attachment	How people are attached to a place affects pro-environmental behavior in that place—especially natural and physical place attachment.
	Age	Older people tend to be more engaged in pro-environmental behavior. However, there seems to be a time change in that nowadays, more and more the younger generation is concerned with the environment.
	Gender	Women tend to report more definite pro-environmental tendencies than men.
	Chosen activities	Certain activities are related to higher levels of environmental concern and behaviors (e.g., non-consumptive outdoor recreation, ecological restoration, reading newspapers, watching science shows, or documentaries).

Type	Factor	How does this affect pro-environmental behavior?
Social	Religion	While empirical research remains inconclusive about the exact impact or role of religion on environmental concerns, attitudes, and values, the general hypothesis is that religious beliefs and values lie at the root of environmental concern.
	Norms	Norms, also known as the things we believe are the usual or appropriate thing to do, affect our behavior. Hence, if one believes recycling is the normal thing to do, the likelihood of doing so is significant. The effect of norms is especially strong if different norms (personal, social, injunctive, descriptive, local) are aligned.
	Urban versus rural residence	Again, the evidence is somewhat conflicting, but one finding has been that residents of rural areas have different experiences of the environment than residents of urban environments. Here, the tendency is that rural residents have more definite pro-environmental tendencies than urban residents.
	Social class	While empirical evidence is somewhat conflicting, the general belief is that people in the middle- or upper-middle class have stronger (global) pro-environmental values and concerns, attitudes.
	Proximity to problem sites	People who live close to problem sites or believe environmental issues threaten their well-being are more likely to be concerned about that particular issue.
	Cultural and ethnic variations	While environmental concern is an important issue for many people worldwide, there exist cultural and ethnic differences in the levels of concern and the ways people think about the environment.

Appendix B: Overview of conservation actor informants.

Informant no.	Gender	Island	Local / Non-local	Organization	Age
P1	Female	Bonaire	Semi-local	NGO	30+
P2	Male	Bonaire	Local	Private	60+
P3	Female	Bonaire	Non-local	Private	40+
P4	Female	Bonaire	Semi-local	NGO	40+
P5	Female	Bonaire	Non-local	Private	40+
P6	Female	Bonaire	Local	n/a	60+
P7	Male	Bonaire	Non-local	NGO	40+
P8a/b	M /F	Bonaire	Non-local	Private	50+
P9	Male	Bonaire	Semi-local	Public	40+
P10	Male	Bonaire	Local	NGO	60+
P11	Female	Bonaire	Non-local	NGO	30+
P12	Female	Bonaire	Non-local	NGO	30+
P13	Male	Bonaire	Local	NGO	20+
P14	Female	Bonaire	Semi-local	Private	60+
P15	Male	Bonaire	Semi-local	Public	60+
P16a/b	M /F	Bonaire	Non-local	NGO	50+
P17	Male	Bonaire	Semi-local	Public	30+
P18	Female	Bonaire	Non-local	NGO	50+
P19	Male	Bonaire	Local	Private	40 +
P20	Male	Saba	Non-local	Public	30+
P21	Female	Saba	Non-local	Private	40+
P22	Male	Saba	Non-local	Private	30+
P23	Male	Saba	Local	Public	40+
P24	Male	Saba	Local	Public	40+
P25	Female	Saba	Non-local	Private	40+
P26	Male	Saba	Semi-local	Public	50+
P27	Male	Saba	Local	Public	40+
P28	Male	St. Eustatius	Non-local	Private	40+
P29	Male	St. Eustatius	Local	Public	50+
P30	Female	St. Eustatius	Local	NGO	40+
P31	Male	St. Eustatius	Local	n/a	60+
P32	Female	St. Eustatius	Non-local	Private	40+
P33	Female	St. Eustatius	Non-local	NGO	50+
P34	Female	St. Eustatius	Non-local	NGO	40+
P35	Female	St. Eustatius	Non-local	NGO	60+

Appendix C: Disadvantages of islands summarized by Briguglio (1995).

	Disadvantage / challenge
Small size	Limited natural resource endowments and high import content, creating high dependence on foreign exchange earnings.
	Limitations on import-substitution possibilities, leading to an inferior quality of products at high prices.
	Small domestic market and dependence on export markets, creating dependence on global economic conditions.
	Dependence on a narrow range of products as the small-scale limits diversifying and thus intensifying dependence on international trade.
	Limited ability to influence domestic prices due to lower volume of export and import of goods compared to large countries.
	Limited ability to exploit economies of scale.
	Limitations on domestic competition, creating oligopolistic and monopolistic island economies (e.g., only having one utility supplier creating high energy & water costs).
	Problems of public administration, due to small human resources base, high expenses (per capita) tied to public services, and people knowing each other too well, which can lead to impartiality and inefficiency in services.
Insularity and remoteness	High per-unit transport costs as islands are constrained to air and sea transport for the movement of goods and people.
	Uncertainties of supply due to time delays or unreliable transport services.
	Large stocks must be maintained if the transport is infrequent, which carries additional costs for storage.
Disaster proneness	The impact and damage of natural disasters on islands are larger than those of non-island countries due to the islands' small size. It can threaten the existence of islands and creates large disruption for local economies.
Environmental fragility	Pressures arising from economic development, i.e., growing tourism and demands for housing, rapidly deplete natural resources, leading to land loss and generate large amounts of waste for which processing facilities are absent.
	Environmental characteristics of SIDS, namely unique ecosystems due to insularity and thus greatly contributing to global biodiversity, large (low lying) coastal areas make islands particularly vulnerable to global warming, rising sea level, and erosion.
Other	Dependence on foreign sources of finance, i.e., remittances from emigrants and development assistance6 from donor countries. It can permit SIDS to attain high standards of living and to offset the trade deficit.
	Demographic factors (i.e., the emigration can lead to brain drain and social upheaval).

Appendix D: Interview questions.

1. For how long have you been actively protecting the natural environment of [island]?
2. In what way(s) do you actively protect the natural environment of [island]? Please give some specific examples of your actions.
3. Who is your target group when it comes to your active protection of the natural environment of [island]? Who do you hope to reach with your actions?
4. What do you hope to achieve with your active protection of the natural environment of [island]?
5. Are you a member of one or more natural environment organizations?
6. Does your active protection have to do with your bond with the local community?
7. Do you feel your active protection reflects the bond you have with the island?
8. Do you earn money with your active protection?
9. Have you been actively involved with protecting natural environment other Dutch Caribbean islands? If so, which one(s)? What have you done for these islands?
10. Have you actively protected natural environment in a country outside of the Dutch Caribbean? If so, could you state which country? What have you done there?
11. Are there any environmental groups or organizations on [island] who's action you do not support your actions? If so, which ones and why?
12. Are there any environmental groups or organizations who do not support your actions?
13. Why do you find it important to protect? How did you get started? What made you start protecting? What are your personal reasons for doing this?
14. Do you feel a personal obligation to protect?
15. Do you feel it's your responsibility to protect?
16. Would you feel guilty if you did not actively protect?
17. How does your protection affect your bond with the local community?
18. Do you think enough people are involved? If not, why do you think this is the case?
19. What do you see as your (dis)advantages of your active protection? What are your reasons for doing this?
20. When it comes to your active protection of the natural environment, there might be individuals or groups who think you should or should not do this. Which individuals or groups would approve of your work for the natural environment of the Dutch Caribbean?
21. Which individuals or groups would disapprove of your work for the natural environment of the Dutch Caribbean?
22. Can you mention individuals or groups that have discouraged your work for the natural environment?
23. Please list any factors or circumstances that make it easy for you or enable you to actively protect the natural environment of the Dutch Caribbean.
24. Please list any factors or circumstances that make it difficult for you or prevent you from actively protecting the natural environment of the Dutch Caribbean.

Appendix E: Online Survey

By clicking the button below, you acknowledge that your participation in the survey is voluntary, you are 18 years or older, and that you are aware that you may choose to terminate your participation in the study at any time and for any reason. Please note that this survey is displayed best on a laptop or desktop computer. Some features may be less compatible for use on a mobile device.

1. Do you wish to continue with the survey?
   - o Yes, I accept these conditions and wish to continue.
   - o No, I do not accept and do not want to continue.

We will now start with the questionnaire. First, we want to ask some questions about your personal information.

2. Please enter your Prolific ID here:

3. Where do you live? (Place type the name of your town, village, or hamlet).

4. What is your gender?
   - o Male
   - o Female
   - o Other, namely _____
   - o I'd rather not say

5. What is your age? Years _____

6. What is your highest level of education that you have completed?
   - o None / No formal qualifications
   - o Primary school
   - o Secondary school / GCSE
   - o College / A Levels
   - o Undergraduate degree (BA / BSc / Other
   - o Graduate degree (MA / MSc / MPhil / Other)
   - o Doctorate degree (PhD / MD / Other)
   - o I would rather not say
   - o I don't know

7. What is your net household income, on average per month?
   - o Less than £1000
   - o £1001 - £2000
   - o £2001 - £3000
   - o £3001 - £4000
   - o £4001 - £5000
   - o £5001 - £10.000
   - o £10.001 or more
   - o I would rather not day
   - o I don't know

8. For how long have you lived in [place of residence]?
   Years_____

Now we would like to ask some questions about the ways you take the environment into consideration around your household, during the past six months. Please answer according to what first comes to mind when reading the following questions. There are no right or wrong answers, we are merely interested in your personal reasons and opinions. Please rate the following items in response to the following question:

9. In the past six months, how often, if at all, have you engaged in the following activities?
   Scale: 0 (never) 1 (once in a while) 2 (sometimes) 3 (quite frequently) 4 (all the time)

   a) I educated myself about environmental issues (e.g., through media, television, Internet, blogs, etc.)

b) I separate paper and cardboard from the rest of my waste.
c) I separate glass from the rest of my waste.
d) I separate plastic from the rest of my waste.
e) In my house no lights are turned on in rooms where nobody is present.
f) I turn off the faucet while brushing my teeth
g) I took my own coffee cup or water bottle to work or school.
h) I use biodegradable cleaning products.

10. On average I eat a vegetarian dinner _____ day(s) a week.
- 0 (never)
- 2-3
- 4-6
- 7 (every day)

Before we continue with the questions, we will explain what is meant by "active protection" of the natural environment. With this we mean the things that you do to preserve nature and to prevent nature's destruction or disappearance are clearly visible to other people. This also includes promoting and informing others about environmental issues. Some examples are taking part in or organizing events such as neighborhood (beach) clean-up action, a protest against climate change, an extinction rebellion protest, action against over consumption, attending meetings about nature conservation. Thus, we do not refer to the personal actions that you take in your household and that we asked about earlier, such as recycling paper and the like.

Now we would like to ask you if you have in any way been involved in actively protecting the natural environment of [place of residence], even if only for a small part of your time.

11. I consider my efforts to actively protect the natural environment of [place of residence] to be____
- Totally unimportant
- Unimportant
- Not unimportant, nor important
- Important
- Extremely important

12. I experience actively protecting the natural environment of [place of residence] as_____
- Not enjoyable at all
- Not enjoyable
- Not unenjoyable, not enjoyable
- Enjoyable
- Extremely enjoyable

13. Have you engaged in any of the following nature related activities in the past six months? Please rate the following activities in response to the following question:

Scale: 0 (never) -1 – 2 (sometimes) – 3 – 4 (frequently)

In the past six months, I have….

a) Participated in an educational event (e.g., workshop or lecture) related to the environment.
b) Helped to organize an educational event (for example a lecture) related to environmental issues.
c) Talked with others about environmental issues (e.g., spouse, partner, parent(s), children, or friends).
d) Used on-line tools (e.g., YouTube, Facebook, Wikipedia, Blogs) to raise awareness about environmental issues.
e) among the community of [place of residence].
f) Used traditional methods (e.g., letters to the editor, articles) to raise awareness about environmental issues among
g) the community of [place of residence].
h) Personally wrote to or called a politician/government official about an environmental issue.
i) Became involved with an environmental group or political party (e.g., volunteer).
j) Financially supported an environmental cause.
k) Took part in a protest/rally about an environmental issue.
l) Helped to organize an environmental protest/rally.

m) Helped to organize a boycott against a company or government engaging in environmentally harmful practices.
n) Helped to organize a petition (including on-line petitions) for an environmental cause.
o) Consciously freed up my time to be able to work on environmental issues (e.g., working part time to allow time for environmental pursuits, working in an environmental job, or choosing environmental activities over other activities).
p) Participated in a community event that focused on environmental awareness.
q) Helped to organize a community event that focused on environmental awareness.
r) Participated in nature conservation efforts (e.g., planting trees, cleaning up public spaces).
s) Spent time working with a group/organization that deals with the connection of the environment to other societal issues such as justice or poverty.

14. How did you actively protect the natural environment in [place of residence] in the past six months? Please describe the things you have done.

We are also curious to learn about your motives to actively protect the natural environment of [place of residence]. Regardless of how intensively you have done so thus far. Please indicate which answer best describes your opinion in regard to the following statements. Try to answer spontaneously.
Scale: Strongly disagree - Somewhat disagree - Neither agree nor disagree - Somewhat agree - Strongly agree

15. By actively protecting the natural environmental of [place of residence], you get to interact with the community of [place of residence].
16. Actively protecting the natural environment of [place of residence] helps to build social relationships with others from [place of residence].
17. Actively protecting the natural environment of [place of residence] makes you feel included in the community of [place of residence].
18. Actively protecting the natural environment of [place of residence] makes you feel more closely connected to the community of [place of residence].
19. Actively protecting the natural environment of [place of residence] gives you the feeling you are part of [place of residence].
20. People actively protect the natural environment of [place of residence] because they are concerned about the environment.
21. By actively protecting the nature of [place of residence], improvements to the environment become visible.
22. By actively protecting the natural environment of [place of residence], you make sure this environment can also be relished in the future.
23. By actively protecting the natural environment of [place of residence], you make sure future generations can also enjoy this nature.
24. I get to enjoy my surroundings when I actively protect the natural environment of [place of residence].
25. I feel good whenever I actively protect the natural environment of [place of residence].

26. Are there any other things that come to mind when you think about your active protection of the natural environment of [place of residence]?
    - o No
    - o Yes, namely _____

We've almost reached the end of the survey. First, we would also like to know how you think about yourself as a resident of [place of residence]. In the following statements we ask if and how important it is to you to be part of the local community of [place of residence]. When we refer to the "local community", we mean the people who live in [place of residence].

Please answer each of the following questions by selecting the answer choice that best matches your opinion. Some questions might seem similar to each other, but they assess something slightly different.

27. Do you consider yourself to be a local of [place of residence]?
    - o Not at all
    - o A little bit
    - o Somewhat
    - o Quite strongly
    - o Very strongly

28. How much do you want to be member of the local community of [place of residence]?
    - o Not at all
    - o A little
    - o A moderate amount
    - o A lot
    - o A great deal

29. How important or unimportant is it to you that the local community of [place of residence] accepts you?
    - o Not at all important
    - o Slightly important
    - o Moderately important
    - o Very important
    - o Extremely important

30. How often do you think about being a member of the local community of [place of residence]?
    - o Never
    - o Very rarely
    - o Sometimes
    - o Quite often
    - o Very often

31. How important or unimportant is it to you that the local community of [place of residence] has a positive evaluation about you?
    - o Not at all important
    - o Slightly important
    - o Moderately important
    - o Very important
    - o Extremely important

32. How difficult or easy is it for you to form a bond with other members of the local community of [place of residence]?
    - o Very difficult
    - o Slightly difficult
    - o Neither difficult nor easy
    - o Slightly easy
    - o Very easy

33. Do you think it is possible for you to be(come) a member of the local community of [place of residence] by actively protecting the natural environment of [place of residence]?
    - o Not at all
    - o A little bit
    - o Somewhat
    - o Quite strongly
    - o Very strongly

Please indicate to what extent you agree or disagree with each of the following statements. Try to answer spontaneously.

Scale: Strongly disagree - Somewhat disagree - Neither agree nor disagree - Somewhat agree - Strongly agree

34. I think the local community of [place of residence] is a good community.
35. I am not planning on leaving this local community of [place of residence].
36. For me, the local community of [place of residence] is a good fit.
37. Residents of [place of residence] can depend on each other in this local community.
38. Residents of [place of residence] can count on receiving help from other residents if they need it.
39. Residents of [place of residence] can safely share their opinions or ask for advice.
40. The local community of [place of residence] is important to me.
41. I have friends in the local community of [place of residence].

42. I feel good helping the local community of [place of residence] and the residents.

Lastly, we would like to ask a couple of questions about possible concerns you may have related to your active protection of the natural environment of [place of residence].

43. Does the local community generally approve or disapprove of efforts to actively protect the natural environment of [place of residence]? These efforts are generally_____
    - o Completely disapproved
    - o Somewhat disapproved
    - o Not approved nor disapproved
    - o Somewhat approved
    - o Completely approved

44. Do you take into consideration what the local community thinks about you, when you are actively protecting the natural environment of [place of residence]?
    - o Not at all
    - o A little
    - o A moderate amount
    - o A lot
    - o A great deal

45. How likely or unlikely do you think it is that the local community will talk behind your back when you are actively protecting the environment of [place of residence]?
    - o Extremely unlikely
    - o Unlikely
    - o Neither likely nor unlikely
    - o likely
    - o Extremely likely

46. Do you take into consideration what the local community of [place of residence] might say about you when you are actively protecting the natural environment of [place of residence]?
    - o Not at all
    - o A little
    - o A moderate amount
    - o A lot
    - o A great deal

Appendix F: PCA factor loadings PSOC and Desire to Belong.

Table F1. PCA factor loadings for items of PSOC and Desire to Belong measure in Study One.

Item	Factor 1	Factor 2
PSOC 1	**.77**	-.26
PSOC 2	**.70**	.01
PSOC 3	**.81**	-.15
PSOC 4	**.81**	-.33
PSOC 5	**.82**	-.26
PSOC 6	**.64**	-.32
PSOC 7	**.81**	-.04
PSOC 8	**.69**	-.14
PSOC 9	**.69**	.17
Desire to belong 1	.42	**.60**
Desire to belong 2	.55	**.59**
Desire to belong 3	.52	**.50**
Desire to belong 4	.23	**.76**

Table F2. PCA factor loadings for items of PSOC and Desire to Belong measure in Study Two.

Item	Factor 1	Factor 2
PSOC 1	**.75**	.35
PSOC 2	**.66**	.11
PSOC 3	**.80**	.29
PSOC 4	**.78**	.30
PSOC 5	**.79**	.29
PSOC 6	**.64**	.28
PSOC 7	**.64**	.58
PSOC 8	**.58**	.19
PSOC 9	**.57**	.49
Desire to belong 1	.43	**.76**
Desire to belong 2	.24	**.87**
Desire to belong 3	.26	**.80**
Desire to belong 4	.21	**.84**

Appendix G: Ostrom's Common Resource Pool Design Principles adapted to the context of fisheries by Pomeroy & Williams (1994) and complimented with principles from Wiederkehr, Berghofer and Otsuki (2019).

Design Principle	Source	Definition
1. Clearly defined boundaries	Pomeroy & Williams (1994)	The physical boundaries of the area to be managed should be distinct so that the fishers group can have accurate knowledge of them. The boundaries should be based on an ecosystem that fishers can easily observe and understand. It should also be of a size that allows for management with available technologies i.e., transportation and communication.
2. Membership is clearly defined	Pomeroy & Williams (1994)	The individual fishers or households with rights to fish in the bounded fishing area and participate in area management should be clearly defined. The number of fishers or households should not be too large so as to restrict effective communication and decision-making.
3. Group cohesion	Pomeroy & Williams (1994)	The fisher group or organization permanently resided near the are to be managed/ there is a high degree of homogeneity, in terms of kinship, ethnicity, religion, or fishing gear types, among the group. Local ideology, customs and belief systems create a willingness to deal with collective problems. There is a common understand of the problem and of alternative strategies and outcomes.
4. Existing organization	Pomeroy & Williams (1994)	The fishers have some prior experience with traditional community-based systems and with organizations, where they are representative of all resource users and stakeholders intersected in fisheries management.
5. Participation by those affected	Pomeroy & Williams (1994)	Most individuals affected by the management arrangements are included in the group that makes and can change the arrangements. Divisions about management arrangements are made by the same people that collect information on the fisheries.
6. Management rules enforced	Pomeroy & Williams (1994)	The management rules are simple. Monitoring and enforcement are able to be affected and shared by all fishers.
7. Legal rights to organize	Pomeroy & Williams (1994)	The fisher group or organization has the legal right to organize and make arrangements related to its needs. There is enabling legislation from the government defining and clarifying local responsibility and authority.
8. Cooperation and leadership and community level	Pomeroy & Williams (1994)	There is an incentive and willingness on the part of the fishers to actively participate, with time, effort and money, in fisheries management. There is an individual or core group who takes leadership responsibility for the management process.
9. Decentralization and delegation of authority	Pomeroy & Williams (1994)	The government has established formal policy and/or laws for decentralization of administrative functions and delegation of management responsibility and/or authority to local government and local group organization levels.

Design Principle	Source	Definition
10. Coordination between government and community	Pomeroy & Williams (1994)	A coordinating body is established, external to the local group or organization and with representation from the fisher group or organization and government, to monitor the local management arrangement, resolve conflicts and reinforce local rule enforcement.
11. Benefits exceeding costs	Pomeroy & Williams (1994)	Individuals have an expectation that the benefits to be derived from participation and in compliance with community-based management will exceed the costs of investments in such activities
12. Adequate financing	Wiederkehr et al (2019)	Transparency about the financing; Adequate source of funding; Fair distribution of costs and benefits.

Appendix H: Historic overview of the management of Bonaire's fishery sector.

Note: (ED = Economic development; L = Legislation; P = Policy; FC = Fishery Cooperative.

Year (- end)	Activity	Type	Description
1918	Arrival Shell Dutch Caribbean	ED	The arrival of Shell in led to a neglect of and created a labor shortage in Bonaire fishery sector – inhibiting the industrial development of the sector.
1949 (- 1982)	Bonaire Vis Industry	ED	First and largest attempt to professionalize and industrialize Bonaire's fishery.
1950	Synthetic fish lines introduced	ED	Technological development – easier access to fishing practice.
1951	Ban Venezuelan market	ED	Loss of the fishing grounds near the coast of Venezuela and the Venezuelan market – affected the size of the sector.
1961	Minimum catch size for lobster & regulation protecting sea turtles (incl. eggs and nesting sites)	L	
1963	Regulation on the use of dragging nets	L	
1967	Environment and monument protection ordinance A.B. 1967, no. 7	L	Repealed. The nature protection and monuments ordinance is in place to protect and conserve designated natural areas and monuments on and around Bonaire.
1971	Ban on spearfishing	L	
1975	Harvesting of corals banned	L	
1979	Establishment Bonaire National Marine Park	L	
1985	Conch legally protected	L	
1986	SPAW - Specially Protected Areas and Wildlife protocol	L	The objective of SPAW is to protect rare and fragile ecosystems and species. The SPAW - protocol has several legally binding implications for fisheries in the Caribbean Netherlands. Namely, a reporting obligation on status and trends of whales and dolphins, status and quality of coral reef ecosystem, Queen conch and the Caribbean Spiny lobster. In addition, the SPAW protocol prohibits the catch of certain species and requires that certain species must have management plans.
1987 (- 1994)	Marcultura	ED	Second large attempt to professionalize and industrialize Bonaire's fishery sector.
1991	Fishery Act of the Netherlands Antilles / Visserijlandsverordening	L	Fishery legislation for the former Netherlands Antilles – repealed.

Year (- end)	Activity	Type	Description
1991	Island Ordinance Marine Environment Bonaire A.B. 1991 nr 8	L	The ordinance establishes the Bonaire Marine Park and provides for the protection of the island of Klein Bonaire. All activities damaging or potentially damaging the marine environment, or the nature of Klein Bonaire are prohibited. This Ordinance regulates the use of the Marine Park by divers, fishers and other users.
1991	Mandate STCB	L	STCB receives the legal mandate to conserve and protect all sea turtles on Bonaire at all life stages.
1991	Mandate to STINAPA to manage MPs	L	STINAPA receives the legal mandate to manage the national, legally established marine park of Bonaire
1991	Sea turtle protection at all life stages	L	
1992	CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) conch	L	CITES is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival. For fisheries in the Caribbean Netherlands, it creates a reporting obligation on trade in Queen Conch, status and trends on Queen conch population and its fishery to determine quotas. It also prohibits the export of conch and certain shark species off-island or importing them from elsewhere without a permit. Permits are only allowed to be distributed based on a non-detriment finding.
1993	Installment EFZ & TS	L	The prescriptions of the UNCLOS led to the declaration of an Exclusive Fishery Zone (EFZ) and Territorial Sea (TS) of for all Dutch Caribbean islands in 1993.
1998	Regeling visserijproducten 1998 BES	L	Series of regulations regarding the handling of fish products in the Caribbean Netherlands.
1999	Besluit visserijproducten 1999 BES	L	Series of regulations regarding the handling of fish products in the Caribbean Netherlands.
1999 (-2004)	Milieubeleidsplan Bonaire 1999 - 2004	P	First environmental policy plan of Bonaire
1999 (-2004)	Natuurbeleidsplan Bonaire 1999 -2004	P	First nature policy plan of Bonaire
2000	Kopibon	FC	First formal attempt to establish a registered fishery cooperative on Bonaire.
2000	Natuurbeleidsplan van de Nederlandse Antillen 2000-2005	P	
2001	BNMP responsible for management of Klein Bonaire	L	STINAPA receives the mandate to manage the waters surrounding Klein Bonaire

Year (- end)	Activity	Type	Description
2001	Visserijbeleidsplan Eilandgebied Curaçao 2001	P	The fishery policy plan for Curaçao which to some extent integrated the fishery sector of Bonaire.
2003	F.A.D. placement 1	ED	LVV Bonaire places the first set of F.A.Ds in the ocean.
2004	F.A.D. placement 2	ED	LVV Bonaire places the second set of F.A.Ds in the ocean.
2004	St. Lucia exchange	ED	Initiated by STINAPA and the island government, the exchange centered around topics on fishery facilities, involvement of fishery in the tourism sector, the establishment of marine protected areas (again) through the establishment of a fishery cooperative.
2004	Kopibon	FC	Second formal attempt to establish a registered fishery cooperative on Bonaire.
2004	Korte inventarisatie visserijsector Bonaire	P	Rapid assessment of Bonaire's fishery sector to determine scale, issues, and potential.
2005	Enforcement of conch increased in collaboration with fishers	L	
2008	Establishment two Fish Protection Areas and two No-Diving Zones	L	
2008	Instalment fish reserves	L	
2008	Island Ordinance Nature Management Bonaire A.B. 2008, no 15	L	The National Nature Conservation Ordinance (PB 1998, no. 49) provides integrated legislation in the area of nature conservation and protection of flora and fauna at the national level. The national ordinance also implements several treaties that the Netherlands Antilles wishes to be, or already is, party to.
2009 (- 2014)	Elijah Fish Farm	ED	Fish farm with the aim to sustainably increase the availability of fish (circa 100 ton per year). The attempt failed, due to power failure and a sequent loss in stock. Moreover, it was debated that the market deemed to be too small after all to make fish farming a profitable industry.
2009	Herstructureringsadvies voor de Dienst LVV op Bonaire	P	Report stipulating restructurings advise for the LVV department on Bonaire
2009 (- 2025)	Masterplan strategische ontwikkeling Bonaire 2009- 2025	P	Entails the vision, guidelines and strategic actions from the Public entity of Bonaire for the development of the island.
2010	Conch moratorium put in place	L	

Year (- end)	Activity	Type	Description
2010	Fisheries Act BES (FABES)	L	The main legal instrument for the fisheries sector of the Caribbean Netherlands is the Fisheries Act BES (FABES). This Act also provides for the division of roles and responsibilities between the National Government and the islands' governing bodies. The Act stipulates that by Decree certain roles of the Act must be elaborated (see Fisheries Decree BES-FDBES and the Decree on tasks and procedures for Fisheries. The FABES also provides for a legal basis to limit a fishing license to a specific period.
2010	Fisheries Decree BES (FDBES)	L	This decree gives specific regulations for fishing gear, including nets. Secondly, it prohibits fishing certain species, whereas other species are subject to restrictions. The FDBES elaborates the articles in the FABES regarding the Fisheries Commission.
2010	Decree on tasks and procedures for Fisheries Commission BES	L	See FDBES
2010	Installment EEZ & TS	L	The Exclusive Fishery Zone (EFZ) of the Dutch Caribbean was declared an Exclusive Economic Zone (EEZ).
2010	Harvesting of Parrotfish banned; harvesting of all sharks, manta ray, southern sting ray and spotted eagle ray banned; fish trap licenses phased out; new permit system for nets	L	
2010	Island Decree Marine Park Bonaire A.B. 2010, no 14	L	The ordinance establishes the Bonaire Marine Park and provides for the protection of the island of Klein Bonaire. All activities damaging or potentially damaging the marine environment or the nature of Klein Bonaire are prohibited. This Ordinance regulates the use of the Marine Park by divers, fishers and other users.
2010	Island Decree Nature Management A.B. 2010	L	This decree has two main purposes. It gives rules for the establishment of protected natural areas and it designates protected species of animals and plants. The decree also provides for management measures (delegated).
2010	Regeling gezondheidscontroles visserijproducten BES	L	Series of regulations regarding the handling of fish products in the Caribbean Netherlands.
2010	Regeling identificatie van visserijproducten BES	L	Series of regulations regarding the handling of fish products in the Caribbean Netherlands.

Year (- end)	Activity	Type	Description
2010	Regeling invoer vis of visserijproducten uit derde landen BES	L	Series of regulations regarding the shipping and handling of fish products in the Caribbean Netherlands.
2010	Regeling residuen van genees- en bestrijdingsmiddelen in visserijproducten BES	L	Series of regulations regarding the handling of fish products in the Caribbean Netherlands.
2010	Regeling verpakking visserijproducten BES	L	Series of regulations regarding the handling of fish products in the Caribbean Netherlands.
2010	Vessel registration Act BES	L	Regulations stipulating the registration of vessels in the Caribbean Netherlands.
2010	Wet grondslagen natuurbeheer en bescherming BES	L	Regulations on nature protection in the Caribbean Netherlands.
2010	Wet martiem beheer BES	L	Legislation regarding maritime management in the Caribbean Netherlands.
2010	Constitutional reform	L	
2010	Conch restoration project: what if we change?	P	
2010	EEZ Management Plan	P	In 2010, the EEZ management plan was developed to ensure proper management of the EEZ waters in the Dutch Caribbean
2010	Evaluatie Natuurbeleidsplan Bonaire 1999 -2004	P	Evaluation report of the previous nature policy plan of Bonaire, in preparation of the new nature policy plan which was to be developed.
2010	Sin kosecha no tin Simadan: cultureelbeleidsplan Bonaire	P	Cultural policy plan of Bonaire. The plan also mentions fishery as one of Bonaire's traditional and culturally relevant professions.
2011	Educating fishers (GCFI)	ED	Fishers joined the regional fisheries conference with government representatives.
2011	Kopibon (idle until establishment of PISKABON)	FC	Third formal attempt to establish a registered fishery cooperative on Bonaire. Failure due to inability to form a Board.
2013 (- 2017)	Nature policy plan Caribbean Netherlands 2013 - 2017	P	The nature policy plan was based on the evaluation of the nature policy plan of the Netherlands Antilles. Reasoning economic importance of nature (i.e., from the perspective of eco-system services), the policy plan was designed as an instrument to promote socio-economic and human well-being and encourages the integration of nature conservation in public and socio-economic sectors, ensuring that nature conservation gets into the mainstream of society.

Year (- end)	Activity	Type	Description
2014 (- 2029)	Beleidsvisie LVV Bonaire 2014 -2029	P	A policy plan at the level of the public entity of Bonaire formulating a general vision and a series of ambitions and corresponding actions for the three areas of livestock, agriculture, and fishery.
2014	Nos ta biba di Naturalesa campaign launch	P	An extensive communication campaign towards nature conservation and environmental management set up within the public entity.
2015	Establishment Yarari Shark and Marine Mammal sanctuary	P	Considering the important ecological role of marine mammals, sharks, and rays to maintain the health of coral reefs and open ocean ecosystems, the Yarari Marine Mammal and Shark Sanctuary was established on September 1, 2015. The Yarari Sanctuary encompasses all the waters of the Caribbean Netherlands
2017	Restoration old-fashioned fishing vessels regatta	ED	
2017	Establishment fishery co-op PISKABON	FC	
2017	Evaluation of fishery legislation Caribbean Netherlands	P	Evaluation of the fishery legislation executed by consultancy EcoVision in assignment of the Ministry of LNV.
2019	IHS -19	P	International shark strategy formulated by the Ministry of LNV.
2020	Nature Policy Plan Caribbean Netherlands	P	In preparation.
2020	Sustainable Fisheries Plan Caribbean Netherlands	P	In preparation.

SUMMARY

"Life in Paradise": A social-psychological and anthropological study of nature conservation in the Caribbean Netherlands.

Like the rest of the Caribbean, special Dutch municipalities Bonaire, Sint Eustatius and Saba are being confronted with changing weather patterns, leading to extensive periods of drought, more intense storms, and rising sea temperatures which affect diverse local ecosystems. Not only does the deterioration of the local environment have negative consequences for the biodiversity and the health of the population, it also has major economic consequences (Debrot et al, 2017; Nature Policy Plan CN 2020). The vulnerability of islands to environmental degradation and the effects of climate change necessitates policies to protect the environment in the Caribbean (Barker, Dodman & McGregor, 2009). This dissertation examines the efforts and motives of conservation actors on Bonaire, Saba, and Sint Eustatius, and situates these actors within the larger context of the Caribbean Netherlands. The main research question addressed is: How are the efforts of conservation actors to protect the environment of the Caribbean Netherlands affected by the recent social and political changes and their (post) colonial context? To get at these issues, this dissertation focused on residents of the Caribbean Netherlands who do make an effort to protect local environments from further deterioration. This research combines insights and approaches from environmental psychology, anthropology, and Caribbean studies to investigate how and why residents engage in conservation actions. Situated in social history, cultural and environmental anthropology, public administration, and environmental science, this research aims to create a broader, less compartmentalized, picture and will also address societal concerns. Because of its multidisciplinary and multi-method character, this dissertation produces information that will be useful in engaging more people in environmental conservation in the (Dutch) Caribbean. In other words, this research aims to contribute new insights and practical recommendations to the debate on how to act upon or even solve some of the urgent environmental challenges while also remaining sensitive to (post-)colonial realities.

Part One centers on the discipline and methodology of environmental psychology. Based on a content analysis of the interviews conducted with conservation actors on the three islands, Chapter 2 gives a description of the different social-psychological drivers of behavior of conservation actors in the Caribbean Netherlands. Building on these findings, Chapter 3 examines the motives of conservation actors in relation to the context of the small scale and the constitutional reforms realities of the islands and how these affect their notions of belonging within the island communities. I do this by means of a reflexive thematic analysis. A distinction is made between local and (new) migrants and how this aspect of their identity affects the types of conservation actions they engage in and their motives to do so. The relationship between conservation actions and of the actor's sense of belonging is explored in greater depth in Chapter 4. Here, I ask the question if engaging in conservation actions leads to better integration within the

island communities. The hypothesis addressed in this chapter is that individuals engage in actions to protect the natural and cultural environment at least partly to improve their sense of belonging to their community.

Part Two presents a case study about fishery management on Bonaire, Saba, and Sint Eustatius. In this part all the themes and topics that have been addressed in Part One and two come together, illustrating the realities of nature conservation on the three islands. Aware of the fact that managing the fishery sector is as much a social as an ecological issue, WWF-NL asked me to assist with identifying the social bottlenecks and specifically to come up with solutions for these bottlenecks. The question raised was under which circumstances it would be possible to engage fishers in an organized manner in the development of sustainable fisheries. At the time the study was conducted, it was believed the fishery management issues were most pressing on Bonaire and that that stakeholder participation would be a key element of successful fisheries management. Therefore, an intervention study on Bonaire was done in which I closely collaborated with the fishers. Based on the intervention study and interviews, the different views about fisheries and fisheries management of the stakeholders became evident. Chapter 5 describes the fishery sector on Bonaire and the different institutions, organizations, and stakeholders responsible for fishery management. The challenges the different stakeholders of fishery management are facing, and their underlying reasons are presented in this chapter. An in-depth description of the process that led to the establishment of a fishery cooperative on Bonaire is described in Chapter 6. The chapter concludes with a reflection on the roles, responsibilities of, and relationships between, the government, the (international) NGOs, fishers and citizens in general as well as my own role and presence as a researcher throughout the intervention study.

The dissertation is concluded in Chapter 7, where the research findings are summarized and used to answer the main research question of this dissertation. In addition, suggestions for future research and implications for policy development are made.

This research has shown that notions of belonging indeed play a significant role in the decision of residents of the Caribbean Netherlands to engage in environmental conservation actions (or not). This relationship is multilayered and highly dependent on the context of the three islands, as well as the way an individual identifies him or herself in relation to other members of the island communities. Not only does this perception of belonging have a significant influence on residents' willingness to participate in conservation actions, it also (partially) affects the type of conservation actions they choose to engage in. This interplay is strongly affected by the islands' colonial history and the more recent constitutional reforms.

The small scale of the islands affects the availability of resources and human capacity on the islands, which means that most conservationists felt a strong sense of responsibility

for their actions ("if we don't do something, nobody will"), but are also overwhelmed with the sheer amount of work that needs to be done by so few people. At the same time, due to the islands' small populations, most residents know each other. This can both complicate and facilitate the process of nature conservation. The effect of the constitutional reforms instituted on 10/10/10 is multifaceted. On the one hand, there are instances where the changes of 10/10/10 complicated environmental management. Informants expressed how changes in legislation present loopholes, created ambiguities in governmental and organizational responsibilities, and those financial resources that were available before 10/10/10 were no longer available for the islands.

Another repeatedly mentioned challenge was the big gap between the Dutch government's expectations and demands and the realities of the islands. This reflected a second prominent effect of the constitutional reforms, which is visible in the sentiments regarding environmental conservation on the islands. The Dutch migrants and Dutch government's prominent and dominant presence on the islands and their involvement in environmental conservation and management efforts triggered sentiments of "re-colonialization" and a sense of loss of ownership among some residents. Among some local conservation actors, this development was an important reason to engage in conservation actions, while others like the fishers instead distanced themselves from conservation activities. On the other hand, the closer ties with the Netherlands gave the three islands access to new resources — financially and in terms of capacity and knowledge — for environmental conservation.

Lastly, this research examined the effect of notions of belonging for conservation efforts in the Caribbean Netherlands. While we found some indication that residents who participate in conservation efforts do so to improve their sense of belonging, this was mostly a secondary (unexpected) experienced benefit and thus not their primary motive. Overall, we found that the effect of a person's desire to belong to community on their engagement in conservation actions is especially imminent when the need to belong to a community is salient — either because people do not feel they currently belong to a community or because they are concerned about their reputation.

The complexity of the relationship between belonging and conservation actions among conservation actors in the Caribbean Netherlands can be partially explained by the islands' small scale and socio-political context. Specifically, as conservation behavior has a reputation of being a "Dutch" thing to do, engagement in these actions can lead to exclusion. Due to the colonial history of the islands and the sentiments of "recolonization" arising from the constitutional reforms of 10/10/10, conservation actors can experience resistance from the community when they try to take action to protect the environment. Moreover, the visibility of these conservation actions in small scale communities makes conservation actors particularly vulnerable to the prevailing opinion (and thus rejection or acceptance) of the efforts they have made. Overall, my

research has shown that whether participating in conservation efforts is beneficial for a person's sense of belonging depends on the way people approach or engage in these actions.

All in all, my dissertation is both expansive and limited. Its conclusions have global applicability, yet its focus is very much on the local context of the Caribbean Netherlands, with a particular focus on the case study of fishers on Bonaire. It argues for broadening the academic approach and methodologies used in studying the environment to embrace true trans-disciplinarity. This necessarily includes a contextualization of the culture, post-colonial histories, and contexts of the societies in which environmental actions (or lack thereof) are occurring. By expanding who, what, and how we research we can have a far greater impact than if we were to stay confined to our narrow disciplinary boundaries.

NEDERLANDSE SAMENVATTING

"Leven in een Paradijs": Een sociaal psychologische en antropologische studie van natuurbescherming op Caribisch Nederland.

Net als de rest van het Caribisch gebied worden de bijzondere Nederlandse gemeenten Bonaire, Sint-Eustatius en Saba geconfronteerd met veranderende weerspatronen, langdurige droogte, hevigere stormen en stijgende zee temperaturen die de diverse lokale ecosystemen aantasten. De verslechtering van het lokale milieu heeft niet alleen negatieve gevolgen voor de biodiversiteit en de gezondheid van de bevolking, het heeft ook grote economische gevolgen (Debrot et al, 2017). De kwetsbaarheid van eilanden voor aantasting van het milieu en de effecten van klimaatverandering vereist beleid om het milieu in het Caribisch gebied te beschermen (Barker, Dodman & McGregor, 2009). Dit proefschrift onderzoekt de inspanningen en drijfveren van natuurbeschermers op Bonaire, Saba en Sint-Eustatius, en situeert deze in de grotere, sociaal maatschappelijke context van Caribisch Nederland. De hoofdvraag van het onderzoek is: Hoe worden de inspanningen van natuurbeschermers om de natuur van Caribisch Nederland te behouden beïnvloed door de recente sociale en politieke veranderingen en hun (post) koloniale context?

Om tot deze inzichten te komen, richt dit proefschrift zich op inwoners van Caribisch Nederland die zich inspannen om de lokale omgeving te beschermen tegen verdere achteruitgang. Dit onderzoek combineert inzichten en benaderingen uit omgevingspsychologie, antropologie en Caribische wetenschappen om te onderzoeken hoe en waarom bewoners zich bezighouden met natuurbehoud. Dit onderzoek, dat zich situeert in sociale geschiedenis, culturele en milieuantropologie, bestuurskunde en milieuwetenschappen, heeft tot doel een breder, minder verkokerd beeld te creëren en gaat in op maatschappelijke problemen. Vanwege het multidisciplinaire en multi-methodologische karakter levert dit proefschrift informatie op welke nuttig is om meer mensen te betrekken bij milieubehoud in de (Nederlandse) Caraïben. Met andere woorden, dit onderzoek heeft tot doel nieuwe inzichten en praktische aanbevelingen bij te dragen aan het debat over hoe een aantal van de urgente milieu-uitdagingen aan te pakken of zelfs op te lossen, en tegelijkertijd sensitief te blijven voor de (post-)koloniale realiteit.

Deel één concentreert zich op de discipline en methodologie van de omgevingspsychologie. Op basis van een inhoudelijke analyse van de interviews met natuurbeschermingsactoren op de drie eilanden, presenteert hoofdstuk twee een beschrijving van de verschillende sociaalpsychologische drijfveren van het gedrag van natuurbeschermers in Caribisch Nederland. Voortbouwend op deze bevindingen, onderzoekt hoofdstuk drie de drijfveren van natuurbeschermingsactoren in relatie tot de kleinschaligheid en de constitutionele hervormingen van de eilanden en hoe deze hun opvattingen over het behoren tot de eilandgemeenschappen beïnvloeden door middel van een reflexieve thematische analyse. Er wordt onderscheid gemaakt tussen lokale en (nieuwe) migranten en hoe dit aspect van

hun identiteit van invloed is op de soort natuurbeschermingsacties die ze ondernemen en hun motieven om dat te doen. De relatie tussen natuurbeschermingsacties en het gevoel van verbondenheid van de individu wordt in hoofdstuk vier nader onderzocht. Hier stel ik de vraag of het ondernemen van natuurbeschermingsacties leidt tot een betere integratie binnen de eilandgemeenschappen. De hypothese die in dit hoofdstuk aan de orde komt, is dat individuen acties ondernemen om de natuurlijke omgeving te beschermen, dit op zijn minst gedeeltelijk doen om hun gevoel van verbondenheid met hun gemeenschap te verbeteren.

Deel twee presenteert een casestudie over visserijbeheer op Bonaire. In dit deel komen alle thema's en onderwerpen die in deel één en twee aan bod zijn gekomen bij elkaar en illustreren de realiteit van natuurbehoud op de drie eilanden. Bewust van het feit dat het managen van de visserijsector zowel een sociaal als een ecologisch vraagstuk is, heeft WWF-NL mij gevraagd om te helpen bij het in kaart brengen van de maatschappelijke knelpunten van visserijbeheer op Bonaire. Specifiek stelden zij de vraag om voor deze knelpunten gerichte oplossingen te bedenken. Op het moment dat het onderzoek werd uitgevoerd, werd aangenomen dat de problemen op het gebied van visserijbeheer op Bonaire het meest urgent waren en dat participatie van belanghebbenden een sleutelelement zou zijn voor succesvol visserijbeheer. De primaire vraag die opkwam was onder welke omstandigheden het mogelijk zou zijn om vissers op een georganiseerde manier te betrekken bij de ontwikkeling van duurzame visserij. Daarom is er een interventieonderzoek op Bonaire gedaan waarin ik nauw heb samengewerkt met de vissers. Op basis van de interventiestudie en interviews kwamen de verschillende opvattingen over visserij en visserijbeheer van de stakeholders naar voren. Hoofdstuk vijf beschrijft de visserijsector op Bonaire en de verschillende instellingen, organisaties en belanghebbenden die verantwoordelijk zijn voor visserijbeheer. De uitdagingen waarmee de verschillende belanghebbenden van het visserijbeheer worden geconfronteerd worden in dit hoofdstuk gepresenteerd. Een uitgebreide beschrijving van het proces dat heeft geleid tot de oprichting van een visserijcoöperatie op Bonaire, wordt beschreven in hoofdstuk zes. Het hoofdstuk wordt afgesloten met een reflectie op de rollen, verantwoordelijkheden van en relaties tussen de overheid, de (internationale) NGOs, vissers en burgers in het algemeen, evenals mijn eigen rol en aanwezigheid als onderzoeker gedurende het gehele interventieonderzoek.

Het proefschrift wordt afgesloten in hoofdstuk 7, waar de onderzoeksresultaten worden samengevat en gebruikt om de hoofdonderzoeksvraag van dit proefschrift te beantwoorden. Daarnaast worden suggesties gedaan voor toekomstig onderzoek en implicaties voor beleidsontwikkeling.

Dit onderzoek heeft aangetoond dat geborgenheid inderdaad een belangrijke rol speelt bij de beslissing van inwoners van Caribisch Nederland om al dan niet natuurbeschermingsacties te ondernemen. Deze relatie is gelaagd en sterk afhankelijk

van de context van de drie eilanden, evenals de manier waarop een individu zich identificeert in relatie tot andere leden van de eilandgemeenschappen. Deze perceptie van erbij horen heeft niet alleen een significante invloed op de bereidheid van bewoners om deel te nemen aan natuurbeschermingsacties, het heeft ook (gedeeltelijk) invloed op het soort natuurbeschermingsacties dat ze kiezen om te ondernemen. Dit samenspel wordt sterk beïnvloed door de koloniale geschiedenis van de eilanden en de meer recente constitutionele hervormingen.

De kleinschaligheid van de eilanden beïnvloedt de beschikbaarheid van hulpbronnen en menselijke capaciteit op de eilanden, wat betekent dat de meeste natuurbeschermers een sterk verantwoordelijkheidsgevoel hebben met betrekking tot hun acties ("als wij iets niet doen, doet niemand het"), maar worden ook overweldigd door de enorme hoeveelheid werk die door zo weinig mensen moet worden gedaan. Tegelijkertijd kennen de meeste bewoners elkaar, vanwege de kleine bevolking van de eilanden. Dit kan het proces van natuurbehoud zowel bemoeilijken als vergemakkelijken. Het effect van de staatshervormingen van 10/10/10 is veelzijdig. Enerzijds zijn er gevallen waarin de wijzigingen van 10/10/10 het milieubeheer bemoeilijken. Informanten gaven aan dat wijzigingen in de wetgeving mazen in de wet opleveren, onduidelijkheden creëren in de verantwoordelijkheden van de overheid en de organisatie, en dat financiële middelen die vóór 10/10/10 beschikbaar waren niet langer beschikbaar waren voor de eilanden. Een andere herhaaldelijk genoemde uitdaging was de grote kloof tussen de verwachtingen en eisen van de Nederlandse overheid en de realiteit van de eilanden. Dit weerspiegelde een tweede prominent effect van de staatkundige hervormingen, dat zichtbaar is in de sentimenten over natuurbehoud op de eilanden. De Nederlandse migranten en de prominente en dominante aanwezigheid van de Nederlandse regering op de eilanden en hun betrokkenheid bij inspanningen voor natuurbehoud en -beheer veroorzaakten gevoelens van 'herkolonisatie' en een gevoel van eigendomsverlies bij sommige bewoners. Voor sommige lokale natuurbeschermingsactoren was deze ontwikkeling een belangrijke reden om zelf natuurbeschermingsacties te ondernemen, terwijl anderen, zoals de vissers, in plaats daarvan afstand namen van natuurbeschermingsactiviteiten. Aan de andere kant gaven de nauwere banden met Nederland de drie eilanden toegang tot nieuwe middelen - financieel en in termen van capaciteit en kennis - voor natuurbehoud. Ten slotte is in dit onderzoek gekeken naar het effect van noties van 'erbij willen horen' voor natuurbehoud in Caribisch Nederland. Hoewel we enige aanwijzingen vonden dat bewoners die deelnemen aan natuurbeschermingsinspanningen dit doen om hun gevoel van verbondenheid te verbeteren, was dit meestal een secundair (onverwacht) ervaren voordeel en dus niet hun primaire motief. Over het algemeen ontdekten we dat het effect van iemands wens om bij een gemeenschap te horen op zijn betrokkenheid bij natuurbeschermingsacties vooral ophanden is wanneer de behoefte om bij een gemeenschap te horen saillant is - hetzij omdat mensen het gevoel hebben dat ze momenteel niet tot een gemeenschap behoren of omdat ze zich zorgen maken over hun reputatie.

De complexiteit van de relatie tussen geborgenheid en natuurbeschermingsacties bij natuurbeschermingsactoren in Caribisch Nederland kan gedeeltelijk worden verklaard door de kleinschalige en sociaal-politieke context van de eilanden. Met name omdat natuurbehoud de reputatie heeft "Nederlands" te zijn, kan betrokkenheid bij deze acties leiden tot uitsluiting. Vanwege de koloniale geschiedenis van de eilanden en de gevoelens van 'her-kolonisatie' die voortkomen uit de staatshervormingen van 10/10/10, kunnen natuurbeschermingsactoren weerstand ondervinden van de gemeenschap wanneer ze proberen actie te ondernemen om het milieu te beschermen. Bovendien maakt de zichtbaarheid van deze natuurbeschermingsacties in kleinschalige gemeenschappen natuurbeschermingsactoren bijzonder kwetsbaar voor de heersende mening (en dus afwijzing of acceptatie) van de inspanningen die ze hebben geleverd. Over het algemeen heeft mijn onderzoek aangetoond dat het al dan niet deelnemen aan inspanningen voor natuurbehoud gunstig is voor het gevoel van verbondenheid van een persoon, afhangt van de manier waarop mensen deze acties benaderen of eraan deelnemen.

Al met al is mijn proefschrift zowel omvangrijk als beperkt. De conclusies zijn wereldwijd toepasbaar, maar de focus ligt sterk op de lokale context van Caribisch Nederland, met een bijzondere focus op de casestudie van vissers op Bonaire. Het pleit voor het verbreden van de academische benadering en methodologieën die worden gebruikt bij het bestuderen van de omgeving om echt trans-disciplinair onderzoek te omarmen. Dit omvat noodzakelijkerwijs een contextualisering van de cultuur, postkoloniale geschiedenissen en contexten van de samenlevingen waarin milieuacties (of het gebrek daaraan) plaatsvinden. Door uit te breiden wie, wat en hoe we onderzoeken, kunnen we een veel grotere impact hebben dan wanneer we ons zouden beperken tot onze nauwe disciplinaire grenzen.

CURRICULUM VITAE

Stacey Mac Donald (1989, Curaçao) attended pre-university education at the Peter Stuyvesant College in Curaçao. She obtained her bachelor's degree in pedagogical science at Leiden University in 2010, and her master's degree in social and organizational psychology at the same university in 2012. Prior to her employment as a PhD researcher at the Royal Institute of Southeast Asian and Caribbean Studies (KITLV) in 2015, she worked as a consultant at the Dutch Caribbean Management Consultancy firm in Curaçao and was a guest lecturer at the University of Curaçao. In 2017, Stacey co-established her own environmental consultancy firm, Mac & Field, that conducted assignments for the Ministry of Agriculture, Nature and Food Quality, WWF-NL and other NGOs on the Caribbean Netherlands. During her employment as a PhD researcher from 2015 – 2019, Stacey presented her work at several international conferences, including the ISISA conference in Terschelling and the ICEP conference in La Coruña.